'ASSESSING' DISCRIMINATION: THE INFLUENCE OF RACE IN RESIDENTIAL PROPERTY TAX ASSESSMENTS

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I. INTRODUCTION

Residential property in majority-minority neighborhoods is assessed at higher effective rates than similar property in majority-white neighborhoods. That is, residents of minority neighborhoods — namely, African American and Latino neighborhoods — face assessments that are, on average, significantly higher than the market value of their residences, while residents of majority-white neighborhoods are, on average, assessed at significantly less than market value. These comparatively high assessments ultimately lead to high property tax bills for residents of minority neighborhoods.

The possibility of racialized property tax assessments is startling for several reasons. Most conspicuously, it means that residents of minority neighborhoods might be paying more than their fair share of public expenses that depend on property tax revenue. Or, put another way, residents of minority neighborhoods face higher effective property tax rates.[1]

Less obvious is the effect high assessments would have on minorities who do not currently own their home: potential minority homebuyers. That is, if minorities are paying more in effective property tax rates, then, at the margin, the increased tax burden may discourage some minorities from becoming homeowners. High property taxes are a direct cost to potential homebuyers and, if too high, they will dissuade some minority non-homeowners from making home purchases. Already, minority groups nationally are far less likely to own a home than non-minorities.[2]

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1. *See generally* JENS PETER JENSEN, PROPERTY TAXATION IN THE UNITED STATES 288-92 (1931). This point is particularly salient in New Haven, where residents pay some of the highest property taxes in the state. Residential property in New Haven is taxed at a mill rate (the rate per $1,000 dollars of property owned) of $34.78. Besides that, citizens of Connecticut pay out nearly the highest property taxes in the nation. In fact, at just over $1,500 annually, the state has the second largest (after New Jersey) property tax liability per capita in the union, almost twice the national average of under $800. For comparative data on mill rates in Connecticut, see Connecticut Office of Policy and Management, Municipal Fiscal Indicators, *available at* http://www.opm.state.ct.us/database.htm (last visited May 3, 2003). For data on total revenue generated from property taxes in Connecticut and other states, see US CENSUS BUREAU, STATISTICAL ABSTRACT OF THE UNITED STATES (2002) [hereinafter 2002 STATISTICAL ABSTRACT].

2. In Connecticut, the numbers are lamentable. Only 31.4 % of African Americans and 25.9 % of Latinos are homeowners, compared to much higher national averages — 43.4 and 42.4 %, respectively. HOUSING STATISTICS OF THE UNITED STATES 240-44 (Patrick A. Simmons ed., 3d ed. 2000) (providing data on historical homeownership rates by race) [hereinafter 2000 HOUSING STATISTICS].

Lastly, minority homeowners in some cases may also suffer from relatively high tax assessments. If homeowners in, say, African American neighborhoods face unusually high property tax assessments, the value of their homes may ultimately decrease. Inordinately high property tax assessments tend to drive down the value of residential property, since property value is partly a function of the property tax liability that its owner can expect to pay. In other words, if the property tax liability is comparatively high, this expectation will be capitalized into the price of the home and prospective buyers will offer and, ultimately, pay less to the present homeowner to purchase such property.[3]

Over three decades ago, William Hendon set out to analyze whether African Americans in segregated neighborhoods in Ft. Worth were assessed at higher effective rates than whites.[4] African American homeowners, he found, paid property taxes on assessments right at market value, while white owners paid taxes on assessments that were significantly less than the market value.[5] With the insights of Hendon, one would expect other authors to have thoroughly canvassed the possibility of race-dependent property tax assessments. For instance, Hendon's study, which was based on a rigidly segregated housing market in the late sixties, warrants comparison to the more fluid housing patterns found in today's urban areas. Moreover, in a time before the ubiquity of computers, Hendon is only able to examine a small sample set of homes and only for two neighborhoods, which even a modest researcher might expand on today.

However, other analyses of the influence of race in assessments have, to date, largely amounted to merely noting the possibility of race-dependent property tax assessments. David Black, in an unpublished doctoral dissertation, explored the possibility of assessment discrimination in Boston, only to conclude that little assessment disparity, about 10%, is explained by race.[6] Also in a study of Boston, authors Oldman and Aaron, both of Harvard, concluded that commercial properties were over-assessed, as compared to residential property.[7] Importantly, the authors also

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3. Kenneth K. Baar, *Property Tax Assessment Discrimination Against Low-Income Neighborhoods*, 13 URB. LAW. 333, 335 (1981); *see* JENSEN, *supra* note 1, at 54.

4. *See* William S. Hendon, *Discrimination Against Negro Homeowners in Property Tax Assessment*, 27 AM. J. ECON. & SOC. 125, 125 (1968).

5. *Id.* at 128-29.

6. DIANE B. PAUL, THE POLITICS OF THE PROPERTY TAX 35 (1975) (citing David E. Black, Inequalities in Effective Property Tax Rates: A Statistical Study of the City of Boston 150 (1969) (unpublished Ph.D. dissertation, M.I.T.) (on file with author)).

7. Oliver Oldman & Henry Aaron, *Assessment-Sales Ratios under the Boston Property Tax*, 18 NAT'L TAX J. 36, 43 (1965).

found that Roxbury, a majority-minority neighborhood in Boston, pay taxes on some of the highest tax assessments in the city.[8] However, they never fully explore their finding of possible race-dependent assessments.[9]

Consequently, in this article, I explore the possibility of racialized property tax assessments. This is not a modern-day rehearsal of Hendon's study, but a more full and cogent analysis of race as an explanation of property assessment disparity. This article describes assessment disparity in twenty-eight neighborhoods in New Haven, Connecticut. I examined sales-ratio data for over 1400 home sales in New Haven, Connecticut in 2000-2001. Sales-ratio data compares the amount of cash a home sells for to the amount at which it is assessed (assessment/sales amount). Based on the sales data, I found that, indeed, residents of majority-minority neighborhoods are assessed at higher effective rates than residents of majority-white neighborhoods.

Although I found differential assessments against residents of minority neighborhoods, I am not so bold as to suggest abandonment of property taxes, which are regarded by most as the keystone of local public finance.[10] I do suggest, however, that perhaps it is high time to rethink our allegiance to traditional market-tied property taxation. I suggest that perhaps residential property taxation ought not to be based on the purported market value of property, as it traditionally has been in most places, but based on the property's acquisition, or purchase, costs. Such costs are the only real measure of market value, since in the vast majority of cases it is the amount an unrelated party would (and did) pay for a piece of property.

After describing the research project in Part II, in Part III I describe my findings. Shortly put, residents of majority-African American and majority-Latino neighborhoods are assessed at higher effective rates than residents of other neighborhoods. For instance, on average, residents of majority-African American neighborhoods and majority-Latino neighborhoods are assessed at an effective rate sixty percent higher than residents of majority-white neighborhoods.

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8. *Id.* at 40.

9. Provocatively, in the conclusion of the article, the authors ask, but provide no answer: "Are minority groups, the rich, the poor, or neighborhoods predominately of one race, religion, or political party systematically favored or discriminated against in property taxation? If so, do these patterns explain the Roxbury case?" *Id.* at 48.

10. *See generally* Rosewell v. LaSalle National Bank, 450 U.S. 503, 527 (1980) (noting that "[t]he property tax is by far the most important source of tax revenue for cities and counties."). *See also* WILLIAM FISCHEL, THE HOMEVOTER HYPOTHESIS: HOW HOME VALUES INFLUENCE LOCAL GOVERNMENT TAXATION, SCHOOL FINANCE, AND LAND-USE POLICIES (2001).

In Part IV, I try to put the findings in perspective, pointing to several factors that might explain the over-assessment of property tax for residents of minority neighborhoods. First, I suggest that over-assessments of minority neighborhoods might be a way to induce whites to stay in central cities, like New Haven. Second, I argue that assessment discrimination may be the result of politics, particularly the political nature of an assessor's duties. Last, I suggest that the structure of the law may disadvantage residents of majority-minority neighborhoods. In Part V, I explore the legal implications of my findings. I suggest that the current property tax regime, with all of its inequities, may be vulnerable to challenge under federal jurisprudence.

While there are many critiques on the property tax system, ideas about reforming the current system are wanting.[11] Thus, no critique of residential property taxes would truly be complete to my mind without sketching, however skeletal, the contours of a replacement. In Part VI, I begin that endeavor. I suggest that perhaps the best way to mitigate assessment discrimination, as evidenced by the case of New Haven, is to take the human element out of property taxation altogether. In other words, states and municipalities might consider replacing the market-tied assessments with "purchase assessments"; that is, assessments based on the actual cash costs (*i.e.*, purchase price) of residential parcels of property.

II. METHODOLOGY

On their face, property taxes can be described as market-tied taxes. Property tax assessments are intended to capture the market value of a particular piece of property, or how much the property would sell for in an arms-length transaction.[12] Connecticut is as good a case in point as any. According to the Connecticut code, for

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11. GEORGE E. PETERSON ET AL., PROPERTY TAXES, HOUSING AND THE CITIES 6, 120 (1973) (proposing that "one of the most urgent tax "reforms" is to implement what is already legally prescribed ....").

12. In order to come to some conclusions about the correct market value, assessors have several arrows in their quiver. Under one approach, assessors look to the sale data of other nearby comparable properties. Second, under the cost approach, assessors look to the value of the underlying improvement to land. Third, under the income capitalization approach, assessors attempt to figure out what the present expected value of a future income stream from the property will be. Finally, I should note that assessors have increasingly turned to sophisticated computerized appraisal techniques, which allow assessors to control for wide range variables in valuations. *See* CONN. GEN. STAT. § 12-62(f)(3)(f) (2003) (providing for the creation of a board to oversee computer-assisted mass appraisal techniques); JEROME R. HELLERSTEIN & WALTER HELLERSTEIN, STATE AND LOCAL TAXATION 93 (5th ed. 1988); Bonnie H. Keen, *Tax Assessment of Contaminated Property: Tax Breaks for Polluters?,* 19 B.C. ENVTL. AFF. L. REV. 885, 890-91 (1992). For a discussion of the problems with each approach, *see* Baar, *supra* note 3, at 347-52.

instance, all property in a municipality should be assessed on October 1 and at a uniform rate of seventy percent of "present true and actual value."[13] Another Section informs that the "present true and actual value" is the fair market value of the property.[14] Connecticut even places a hard cap on the amount of tax assessment that can be found at one hundred percent of a property's market value.[15] Once assessments are determined, property taxes are meted out accordingly.

The remainder of this Part is divided into two sections. First, I describe the method used to ascertain whether assessors meet this mandate. Second, I describe the situs of the data: New Haven, Connecticut, a city that, as home of Yale University, has frequently captivated both student and academic authors.[16]

A. Method

In contrast to historical data on property sales, today records of realty sales are publicly available in many states.[17] Current records of all real estate sales in the state of Connecticut are kept by the Office of Policy and Management and open to public view.[18] Thus, as one Connecticut official put it, cities are required to report to the state "every step along the way."[19] The initial data set recorded

13. CONN. GEN. STAT. § 12-62(a)(b) (2003).

14. *Id.* § 12-63(a) (2003) ("The present true and actual value of all other property shall be deemed by all assessors and boards of assessments appeals to be the fair market value therefore and not its value at a forced or auction sale."). The Connecticut statute is comparable to that found in other states. *See, e.g.*, W.VA. CODE § 11-3-1 (2003) (providing that "true and actual value" means "the price for which such property would sell if voluntarily offered for sale by the owner ….").

15. CONN. GEN. STAT. § 12-64(a) (2003) (providing that all non-exempt property "shall be liable to taxation at a uniform percentage of its present true and actual valuation, not exceeding one hundred per cent of such valuation, to be determined by the assessors.").

16. *See, e.g.*, ROBERT A. DAHL, WHO GOVERNS? DEMOCRACY AND POWER IN AN AMERICAN CITY (1961) (describing the power structure of New Haven); MALCOM M. FEELEY, THE PROCESS IS THE PUNISHMENT (1992) (analyzing the behavior of lower criminal courts by examining New Haven); Steven Gunn, Note, *Eviction Defense for Poor Tenants: Costly Compassion or Justice Served?*, 13 YALE L. & POL'Y REV. 385 (1995) (reporting the findings of a study of over 200 evictions in New Haven).

17. PAUL, *supra* note 6, at 10-12 (describing how city governments routinely keep assessment data secret from the public).

18. CONN. GEN. STAT. § 12-120(a) (2003) (providing that the Secretary shall present an annual report).

19. Interview with Terry Rodie Kennedy, Assessment Systems Manager in New Haven, Conn. (Apr. 21, 2003).

almost two thousand home sales (1,961) in New Haven in 2000, the vast majority of those (approximately 89%) were residential sales.[20] After dropping those home sales that did not include complete information,[21] commercial sales, sales of vacant land, and sales seemingly for less than full consideration,[22] the remaining data set included just over fourteen hundred residential sales (1,410).

As I have done on the following pages, one can measure how successful the market-tied taxation scheme is by comparing the assessed amount to how much homes actually sell for. Such a comparison — assessment over sales price — is usually referred to as an "assessment-sales ratio" or, more simply, "sales-ratio." To simplify things, suppose that assessments are required to equal market value, as is required in a majority of states.[23] (This is a simplification only because in Connecticut, as mentioned, assessments are required to be 70% of market value, not 100%). In that case, sales price ought to equal the amount assessed; and, in turn, the sales ratio would be 100%, reflecting a one-to-one ratio of assessment value to sales amount. Thus, homes selling for less than 100% of the sales-assessment ratio have been over-assessed and property owners selling for more than 100% of the sales-ratio have been under-assessed.

Suppose a particular home has a sales-ratio of, say, 50%. Obviously the owner is paying only half the amount of property taxes she should be paying. Total assessments in this case are exactly one half the amount such owner could sell for on the open market. Conversely, when homes have sales-ratio greater than

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Summary of Property Sales in 2000
(New Haven, CT)

Property Type	Commercial	Residential	Vacant Land	Mixed Land	Total
Number of Sales	96	1736	28	101	1961
Percentage of Total Sales	4.9	88.5	1.4	5.2	100

Source: Connecticut Office of Policy and Management (2000 Residential Sales Listing).

21. For example, some data did not include census tract information.

22. Sales for less than $10,000 were removed from the data set on the theory that such low-cash sales were probably sales between related parties, such as sales between relatives, or sales for non-cash consideration that goes unrecorded. There were twenty-four such sales. Data set, available upon request, on file with author. *See also* Connecticut Office of Policy and Management (2000 Residential Sales Listing), *available at* http://www.opm.state.ct.us/database.htm (last visited May 3, 2003) (proving raw data on home sales in 2000).

23. *See* PAUL, *supra* note 6, at 4.

100%, such homes can be said to be over-assessed — for example, 110%. In this situation, homeowners are paying too much in property taxes.[24] In New Haven, as it will be seen, homes in majority-white neighborhoods are significantly under-assessed, as compared to homes in majority-minority neighborhoods. This pattern of over-assessment of property in minority neighborhoods persists regardless of the type or residence (single family or multifamily residence), the tenure of the residents (owners or renters) or the value of the underlying property (inexpensive homes or expensive ones).

For instance, consider Table 1, which summarizes the data used in this study.[25] It shows that the highest home sale in New Haven in 2000 was over $2,000,000 (see Max.=SALEPRICE). Reading that row across, from right to left, it shows that the average or mean selling price in New Haven was just over $100,000. Meanwhile, the table also shows that average assessment was little more than $81,000 (Mean=ASSESSMENT) or only about three-fourths of the average sale amount. Thus, it suggests that average assessment were right at about 70 % of market value, the amount incidentally prescribed by state statute.[26]

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24. At this point, a numerical example is warranted. Consider the property tax treatment of a single family home with a market value of $90,000, which is the median selling price of single family homes in New Haven in 2000. Also note that the mill rate, or rate of taxation, in New Haven is $34.78 per $1,000 of Market Value. *See* Connecticut Office of Policy and Management (2000 Residential Sales Listing). Thus, if properly assessed, such a homeowner would owe property taxes of $3,130.20 ($90,000 x $34.78/$1,000). However, if the same home were slightly over-assessed by 10% of its market value (sales-ratio equals 110 %) the owner would owe $3,443.22 in taxes ($99,000 x $34.78/$1,000), a difference of more than three hundred dollars in property taxes.

25. The vast majority of data used in this study come from two sources: (1) a database of residential sales maintained by the Connecticut Office of Policy and Management; and (2) Census data maintained by the U.S. Census Bureau. *See generally* Connecticut Office of Policy and Management, Residential Sales Listings, *available at* http://www.opm.state.ct.us/database.htm (last visited May 3, 2003); U.S. Census Bureau, American Fact Finder, *available at* www.census.gov (last visited May 3, 2003).

26. CONN. GEN. STAT. § 12-62(a) (2003).

Table 1:
Summary of Data

Code	N	Mean	S.D.	Min.	Max.
Residential Type					
CONDO	226	1	0	1	1
ONEFAMILY	818	1	0	1	1
TWOFAMILY	365	1	0	1	1
THREEFAMILY	228	1	0	1	1
ASSESSMENT	1410	$81,742	35751	$3,500	$421,400
Economic Variables					
SALE PRICE	1410	$105,442	99036	$10,000	$2,007,464
SALE RATIO	1410	116.38%	100.31	2.76%	1202.92%
Race Variables					
PERCENT ASIAN	1410	3.1%	4.40	0%	20%
PERCENT AF-AM	1410	33.5%	0.22	1%	91%
PERCENT LATINO	1410	22.8%	0.18	4%	56%
PERCENT NATIVE	1410	0.04%	0.00	0	1.0%
PERCENT WHITE	1410	38.8%	0.25	2.0%	89.0%

Sources: Connecticut Office of Policy and Management (2000 Residential Sales Listing). US Census Bureau (2000 Census).

Note: All cash values rounded to nearest dollar. All percent values rounded to nearest tenth percent. Values for residential type do not sum to 1410, since the vast majority of CONDO also count as single family home sales.

However, the Table also shows that the average sales ratio was high; on average, residents were over-assessed. It was much more than seventy percent ratio, as required by law and even slightly more than the market value of the home. Specifically, the third column (SALERATIO=Mean) of the Table shows that the average sale-ratio exceeded the sales (or market) price by some sixteen percent. This suggests that at least some homes in New Haven were over-assessed. Finally, I should point out, since I have eliminated all low-end sales, the Table also shows that the minimum selling price (fifth column) for a residential property was $10,000.

B. Data Source

New Haven is ethnically and racially mixed. The city's ethnic population includes a large mix of Latinos (21.4%), African Americans (39.3%), and non-Latino whites (35.6%).[27] In fact, in addition to nine mixed-race neighborhoods,[28] seven neighborhoods in New Haven are majority-African American, eight majority-white (non-Latino), and three neighborhoods are majority-Latino[29]. The city is divided into twenty eight census tracts, which correspond, roughly speaking, to neighborhoods in the city.[30] Accordingly, the data are able to demonstrate differences in residential property tax assessments across three of the country's largest ethnic/racial groups.

27. *See* Table 2; *see also* 2002 COUNTY AND CITY EXTRA: ANNUAL METRO, CITY, AND COUNTY DATA BOOK 940 (Deirdre A. Gaquin et al. eds., 11th ed. 2002).

28. "Mixed-race neighborhoods" are neighborhoods where no ethnic/racial group is in the majority.

29. *See infra* Table 2.

30. For a complete list of the census tracts in New Haven and their corresponding neighborhood names, see Part VIII.C at Table 18.

Table 2:
Selected Racial Data
(New Haven, CT)

Census Tract	Total Population	Percent Latino	Percent White	Percent AFAM	Percent Indian	Percent Asian
1401	1919	14%	45%	25%	0%	13%
1402	1652	50%	20%	28%	0%	0%
1403	2496	47%	11%	38%	0%	1%
1404	3349	47%	19%	29%	0%	1%
1405	3430	50%	6%	41%	0%	0%
1406	4815	41%	8%	47%	0%	0%
1407	6619	21%	30%	37%	1%	9%
1408	4149	17%	16%	62%	0%	0%
1409	4684	9%	24%	60%	0%	2%
1410	3641	5%	77%	14%	0%	2%
1411	2803	4%	60%	30%	0%	3%
1412	4545	12%	27%	56%	0%	2%
1413	5313	11%	35%	51%	0%	1%
1414	4965	8%	24%	63%	0%	1%
1415	6478	5%	2%	91%	0%	0%
1416	5011	12%	12%	72%	1%	1%
1417	6042	7%	62%	8%	1%	17%
1418	4052	5%	41%	32%	0%	20%
1419	4910	8%	71%	9%	0%	8%
1420	3088	6%	72%	8%	0%	11%
1421	1446	30%	22%	44%	0%	1%
1422	1465	8%	77%	9%	0%	2%
1423	4709	55%	20%	22%	0%	0%
1424	4831	56%	17%	23%	0%	1%
1425	5329	43%	27%	27%	0%	0%
1426	11719	22%	45%	27%	0%	4%
1427	5529	26%	52%	17%	0%	3%
1428	4637	7%	89%	1%	0%	1%
Totals	123,626	21.4%	35.6%	39.3%	0%	4%

Source: US Census Bureau (2000 Census). Majority African American Neighborhoods are in bold. Majority-Latino Neighborhoods are underlined. Majority-white neighborhoods are double-underlined.

Additionally, in contrast to many urban areas, New Haven has a fairly mixed housing stock.[31] Housing sales data, in a city littered

31. *See* PETERSON ET AL., *supra* note 11, at 3 (noting the uniformity of the housing stock in

with double- and triple-decker homes, were a mix of single- and multiple-family dwellings.[32] Thus, it is possible to explore the implications of housing type of residential property tax assessment.

III. FINDINGS

There are three predominant explanations for disparities in property tax assessments, all of which omit the racial dynamic. The first non-racial explanation for assessment disparity holds that the relative value of the underlying property controls.[33] That is, high-value homes tend to get an assessment break, while low-value homes tend to be over-assessed.[34] Others, meanwhile, have pinned disparity in assessments on the type of residence in question.[35] For instance, commercial properties are customarily over-assessed as compared to residential properties. Third, some have suggested that the real discrimination is against renters and/or landlords.[36] Assessors are inclined to give owner-occupied residences a reduction, since homeowners are more likely to be politically active and keen to challenge high assessments. Renters, on the other hand, are more susceptible to over-assessment, since they face a high tax bill (if at all) only indirectly in the form of higher rent.

All that said, in the remainder of this Part I present my main findings. I compare the three most common explanations for disparity in assessments to the racial data available in New Haven. After describing each of these arguments, I demonstrate that, despite them, residents of majority-minority neighborhoods are assessed at higher percentages of market value than residents of majority-white neighborhoods.

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many urban cities).

32. *See generally* ELIZABETH MILLS BROWN, NEW HAVEN: A GUIDE TO ARCHITECTURE AND URBAN DESIGN (1976) (describing the architecture of New Haven); *see also* DON METZ, NEW ARCHITECTURE IN NEW HAVEN (rev. ed. 1973) (describing the architecture of New Haven).

33. *See, e.g.*, JENSEN, *supra* note 1, at 293-97; PETERSON ET AL., *supra* note 11, at 23.

34. *Id.*

35. *See, e.g.*, DICK NETZER, ECONOMICS OF THE PROPERTY TAX 78 (1966) (finding that larger multi-family housing and commercial property is "much more heavily taxed than single family housing."); PAUL, *supra* note 6, at 5.

36. *See, e.g.,* PAUL, *supra* note 6, at 18.

A. General Evidence of Racial Disparity in Property Tax Assessments

1. A Correlation Matrix

For starters, a general sense of the relationship of race to sales ratio can be had by referring to a correlation matrix, which simply compares the unadjusted movements among two or more variables and are routinely used to make an initial determination of the direction of a relationship.[37] Specifically, Table 3 shows the correlation between sales ratio and various variables used throughout. As seen, the relationship between sales ratio and percent minority is a generally positive one: the higher the percent minority a particular neighborhood, the higher the sales ratio. The first column, and perhaps the most important column for our purposes, suggests that every one percent increase in sales ratio corresponds with a nearly quarter percent (0.24) increase in percent African American. The same column also shows a positive relationship between sales ratios and LATINO — as the percent of Latino residents rises, so, too, does the sales ratio.

37. *See, e.g.*, Daniel E. Ho, *Compliance and International Soft Law: Why Do Countries Implement the Basle Accord?*, 5 J. INT'L ECON. L. 647 (2002). If two variables are "perfectly correlated" they move in tandem and exhibit a one-to-one correlation. Cars, it might be said, are perfectly correlated with tires, for instance — the higher the number of cars, the higher the number of tires.

TABLE 3:
Correlation Matrix

	SALES-RATIO	AF-AM	Latino	White	Asian	Native	Rent	Ass'd Value	Price
SALES-RATIO	1.00	--	--	--					
AF-AM	0.24	1.00	--	--					
LATINO	0.14	-0.13	1.00	--					
WHITE	-0.29	-0.76	-0.53	1.00					
ASIAN	-0.14	-0.27	-0.40	0.35	1.00				
NATIVE	0.11	0.20	-0.09	-0.14	0.09	1.00			
RENT	0.15	0.27	0.43	-0.58	0.16	0.23	1.00		
ASS'D VALUE	-0.04	-0.13	-0.26	0.27	0.19	0.10	-0.11	1.00	
SALES PRICE	-0.41	-0.26	-0.27	0.34	0.27	-0.02	-0.11	0.60	1.00

Sources: Connecticut Office of Management and Policy (2000 Residential Sales Listing). US Census Bureau (2000 Census).

Conversely, the table shows that WHITE exhibits generally a negative relationship to sales ratio. Put differently, increases in the "whiteness", or percent white, of a neighborhood correlates with decreases (-0.29) in sales-ratio. Thus, without considering the effects of any other variables, the table shows that percent African American and percent Latino correspond with higher effective property tax rates, while percent white and percent Asian correspond with lower effective property tax rates.

In addition, the table shows that purchase price, PRICE, is negatively correlated with sales-ratio (first column, -0.41), which means that high-price homes tend to have low sales-ratios. Also, RENT, or percent renter, is positively related to sales-ratio (first column, 0.15): the higher the number of renters, the higher the sales-ratio tends to be. Last, the penultimate column of the table shows, as can be expected, a positive relationship between sales price and assessed value. Put differently, higher assessment amounts predictably increase with the higher amounts of total cash consideration paid.

Finally, it is interesting to note that the table can also be read to suggest that neighborhoods in New Haven are segregated. For instance, the second column of the Table suggest that for every percent increase of African Americans in a neighborhood, there is a large corresponding decrease of whites (0.76). Every one percent rise in LATINO population (column four) is correlated with a 0.53

percent decrease in the white population. With the exception of Asians, minority presence is negatively correlated with white presence; the higher the presence of whites, the lower the presence of African Americans, Latinos, and Native Americans (column five).

2. Suggestive Evidence of Racial Disparity in Assessment

Even more suggestive of discrimination against minorities in assessments than the correlation matrix is Table 4. The table breaks out the data by neighborhood and majority-ethnic/racial group. As Table 4 shows, eighteen of the twenty-eight Census Tracts in New Haven are comprised of one majority ethnic or racial group.[38] A majority of these (10) are majority-minority neighborhoods.

The table also suggests (but does not prove) that residents in these majority-minority neighborhoods, on average, pay significantly more in property taxes than their property is ultimately selling for. Assessments in majority-minority neighborhoods in New Haven are, on average, 40% higher than the market value of the home. Perhaps more troubling, assessments in majority-minority neighborhoods are a staggering 70% more than what is called for by law! This finding, of course, would not be as disturbing if residents of all neighborhoods were assessed equally high rates; that is, if all neighborhoods were equally over-assessed.

However, the table also shows that residents of minority neighborhoods pay effective rates greater than residents of mixed neighborhoods and majority-white neighborhoods. Residents of mixed neighborhoods (fifth column) also pay too much in property taxes, although not as much as residents of majority-minority neighborhoods. At the same time, residents of majority-white neighborhoods are assessed, on average, 20% less than the market value.

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38. The majority-white Census Tracts (neighborhoods) in New Haven, CT are: 1410 (Westville); 1411 (Westville); 1417 (Yale); 1419 (East Rock); 1420 (East Rock); 1422 (Wooster Square); 1427 (East Shore-Annex); and 1428 (East Shore-Morris Cove). Those that are majority African American are: 1408 (Edgewood-West River); 1409 (Edgewood-West River); 1412 (Westhills); 1413 (Westhills); 1414 (Beaver Hills); 1415 (Newhallville); and 1416 (Dixwell). Those that are majority Latino are: 1405 (4 City Point); 1423 (Fair Haven); and 1424 (Fair Haven). *See* Table 18 and Table 2.

TABLE 4:
Sales Ratio by Majority Ethnic or Racial Group

	Majority White	Majority AF-AM	Majority Latino	Mixed Race	Totals
Number of Census Tracts	8	7	3	10	18
Average Sales Ratio	80.64	140.26	140.00	123.27	116.38
Average Sales Amount	$153,760	$87,814	$ 69,535	$88,130	$105,442
Number of Sales	432	315	208	453	1410

Sources: Connecticut Office of Management and Policy (2000 Residential Sales). US Census Bureau (2000 Census).

Interestingly, the table also shows that there were significantly more home sales in majority white neighborhoods than in, say, majority African American neighborhoods (432 compared to 315). Assuming that homes turnover in both neighborhoods with similar frequency, this suggests that there are more homes, as an absolute number, in majority white neighborhoods. Perhaps, as a result, assessors may be better able to judge the market in majority white neighborhoods, because there is more raw sales data to go on.[39] However, the table also shows that residents of mixed race neighborhoods (i.e., those without a single majority ethnic or racial group) are over-assessed significantly higher than the market value of the home, although such neighborhoods had more home sales than those in majority white neighborhoods (453 compared to 432). Thus, for some reason other than the sheer volume of home sales, residents of majority-white neighborhoods are, on average, significantly under-assessed, while residents of minority and mixed race neighborhoods are significantly over-assessed in New Haven.

To illustrate quickly, consider the case of two neighborhoods in the city: Edgewood-West River (census tract 1408) and East Rock (census tract 1420).[40] That is, the most over-assessed neighborhood in the city is the Edgewood-West River neighborhood. Judging by the sales-ratio data, residents there were assessed, on average, nearly two and one half times (248%) more than their homes' market value. This neighborhood is majority African American (62%) with a significant Latino presence (17%).

39. *See* NETZER, *supra* note 35, at 56.
40. The data referred to in this paragraph can be found in the Part VIII.A at Table 16.

At the same time, the data suggests that the East Rock community, one of the richest communities in the state and nation, is the polar opposite of Edgewood-West River. The data suggests that residents of East Rock have, on average, some of the lowest assessments in the city. East Rock is almost three-fourths white, with Latino and African American presences combined making up less than twenty percent of the area's residential population. It remains to be seen whether the unadjusted evidence of racial disparity in property tax assessments holds when one takes into account things such as the type of residence chosen, the relative wealth of the neighborhood, or the absolute assessment amount.

B. Residential Type

It has been suggested that differential property tax assessments are a natural consequence of different types of properties.[41] Single family homes, as others have found, are routinely under-assessed compared to other residential property types.[42] Thus, even if the law requires uniformity, since properties are of different types, there will be different evidence to base assessments upon.[43] For example, one cannot expect assessors using sales data to come up with similar results for commercial sales and residential sales, since there are very few commercial sales from year to year.[44] As noted in New Haven, there were only ninety-six such commercial sales, compared to almost two thousand residential sales.

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41. NETZER, *supra* note 35, at 78-80 (arguing that multi-family homes are over-assessed compared to single family units); PAUL, *supra* note 6, at 5 (distinguishing assessments of residential properties and income-producing properties).

42. PAUL, *supra* note 6, at 25 ("[T]he effective tax rate on residential property rises with the number of units. Single-family homes are assessed at an average of approximately 34 %, two-family at 41 %, three-to-five family at 52 %, six-or-more family at 58 %, and multi-unit residences of more than one structure at 65 %.").

43. NETZER, *supra* note 35, at 78-79.

44. *See* Interview with Terry Rodie Kennedy, *supra* note 19.

TABLE 5:
Sales Ratio by Residential Property Type

	Condo	One Family Homes	Two Family Homes	Three Family Homes	Totals
Average Sales Ratio	105.51	104.00	126.43	145.08	116.38
Average Sales Amount	$83,807	$110,478	$98,080	$98,790	$105,442
Number of Sales	226	818	365	228	1410

Source: Connecticut Office of Management and Policy (2000 Residential Sales Listing).
Note: Total number of home sales exceeds 1410, since Condo is also counted as single family homes.

As shown in Table 5, most home sales in New Haven were single family homes. However, the table shows that there were a large percentage of two family home sales (representing almost one quarter of total residential home sales), not to mention a good portion of sales of condominiums or three family residences. The table also shows the average sales ratio and sales amount for different types of residential properties.

Regardless of the type of residence, most home sales have high average assessments relative to market value, although condos and single family homes have the lowest sales ratio, assessed at only slightly more than market value. Again, this may be because they are the largest segment of the residential property population. As the data shows, for example, they represent the largest number of residential property sales (N equals 818). Thus, property tax assessments may be closer to correct market assessments (or a 100 % sales-ratio) for these sales, because there are more properties to compare.[45] It may also be the case that assessors give a break to owner-occupied homes, because such homeowners represent a large share of the voting population. Single family homes are more likely owner-occupied. Multi-family homes, by contrast, are likely disproportionately renter-occupied. Renters realize high tax bills only indirectly through higher rents and are, therefore, less likely to challenge an adverse assessment.

45. *See* NETZER, *supra* note 35, at 56 (noting that there is greater ease in assessing more numerous properties).

However, the data also shows that residents of minority neighborhoods are over-assessed, regardless of the residential type of residential home minorities chose. For instance, Table 6 shows that residents in majority-minority neighborhoods and mixed neighborhoods paid higher property taxes for each of the residential types.

TABLE 6:
Sales Ratio by Race and Residential type

Residential Type	Majority-African American Neighbor-hoods	Majority Latino Neighborhoods	Majority White Neighborhoods	Mixed-Race Neighbor-hoods
Condo	107.24 (24)	114.73 (16)	75.35 (82)	127.46 (104)
One Family	124.94 (188)	130.01 (66)	77.5 (307)	113.64 (257)
Two Family	145.91 (73)	142.72 (90)	89.31 (86)	129.06 (116)
Three Family	185.95 (54)	147.98 (52)	86.29 (39)	144.3 (83)

Sources: Connecticut Office of Management and Policy (2000 Residential Sales Listing). US Census Bureau (2000 Census).

Note: The number of residential sales is in parentheses.

For all three neighborhood types — majority-minority, majority-white, and mixed neighborhoods — the data shows that multiple family homes are assessed at higher effective rates, on average, than single family homes. Residents of both majority-African American neighborhoods and majority-Latino neighborhoods in three family residences have sales-ratios that are, on average, significantly higher than the market value of the homes. Meanwhile, residents of majority-white neighborhoods are assessed, on average, at rates lower than the market value of their home for each of the residential types. Perhaps a caveat is in order. One possible shortcoming of the data is that it does not include the age of the properties, which may also explain the disparate property tax assessments.[46] However, at least one commentator has found that age accounts for little of the variation in effective tax rates.[47]

46. *See generally* Hendon, *supra* note 4, at 131.
47. *See* PETERSON ET AL., *supra* note 11, at 26.

C. Tenure

Another story is that renters, but not necessarily minorities, are more likely to be over-assessed, because renters never physically see their tax bills and, therefore, are not likely to make a political fuss; as one commentator puts it, "renters are politically inert."[48] Similarly, landlords are less likely to challenge high assessments because they, unlike owner-occupied residents, may be able to pass along the sizeable property tax bills to tenants in the form of higher rents.[49]

In another view, since some landlords may plan to abandon their realty, in which case the relative size of their tax bill is irrelevant; such landlords do not intend to pay the property taxes in any event. More concretely put, the profitable strategy for some landlords, as Duncan Kennedy observed early on, is to collect as much revenue (in the form of rental payments) as possible, but make no payments for maintenance or upkeep, such as taxes that may accrue on the property.[50] Once they have "milked" their building of all its cash value, they simply abandon it, tax bill and all.[51] Shortly, residents of minority neighborhoods may also be adversely treated in assessments because they are more often renters, not because they are minorities per se. Consistent with this theory, the data show (Table 7) that residents of majority-owner occupied units face markedly lower sales-ratios. This holds true regardless of the residential type.

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48. PAUL, *supra* note 6, at 15.

49. *See* JENSEN, *supra* note 1.

50. Duncan Kennedy, *The Effect of the Warranty of Habitability on Low-Income Housing: "Milking" and Class Violence*, 15 FLA. ST. U.L. REV. 485, 489-92 (1987) (describing the landlord "milking" strategy).

51. *Id.*

TABLE 7: Sales Ratio by Tenure and Residential type		
	Majority-Owner Occupied Neighborhoods (N=3)	Majority-Renter Occupied Neighborhoods (N=25)
Condo	72.24 (24)	109.46 (202)
One Family	78.70 (170)	110.63 (648)
Two Family	83.26 (18)	128.67 (347)
Three Family	101.02 (3)	145.67 (225)
Total	79.48 (191)	122.16 (1219)

Sources: Connecticut Office of Management and Policy (2000 Residential Sales Listing). US Census Bureau (2000 Census).

Note: In the top panel the number of neighborhoods is in parentheses. In the bottom panel, the number of residential sales is in parentheses.

Further, Table 8 suggests that in New Haven, residents of minority groups are significantly more likely to live in renter-occupied than in owner-occupied units. Less than one-third of residents in majority-minority neighborhoods are owners, compared to nearly half of residents in majority-white neighborhoods. All three of the neighborhoods in New Haven that are majority owner-occupied are majority white neighborhoods.[52]

52. The three majority-owner occupied neighborhoods in New Haven are census tract 1410 (Westville-Eastern portion), 1411 (Westville -Western portion), and 1428 (East Shore/Morris Cove).

TABLE 8:
Ownership v. Rental by Neighborhood Type

	Majority-Black Neighbor-hoods (N=7)		Majority Hispanic Neighborhoods (N=3)		Majority White Neighbor-hoods (N=8)		Mixed Race Neighbor-hoods (N=10)	
Tenure Type	Rent	Own	Rent	Own	Rent	Own	Rent	Own
Percent Tenure Type	31.1	68.9	24.9	75.1	47.5	52.5	25.0	75.0

Source: US Census Bureau (2000 Census).

However, the fact that minorities are more likely renters and renters are more likely to be over-assessed than owners does not completely explain the initial finding of racialized disparity in assessments. As mentioned, none of the neighborhoods in New Haven that are majority-owner occupied are also majority-minority. Thus, it is impossible to compare whether owner-occupied residences across racial and ethnic groups are assessed at differential effective rates. However, it is possible to compare sales ratios for majority-rental neighborhoods, as shown in Table 8. Indeed, there are a number of "rental neighborhoods" for each ethnic group.

TABLE 9:
Sales Ratio in Majority-Renter Neighborhoods

	Majority-Black Neighborhoods (N=7)	Majority Hispanic Neighborhoods (N=3)	Majority White Neighborhoods (N=5)	Mixed Race Neighborhoods (N=10)
Sales Ratio	140.00 (315)	140.00 (208)	81.57 (241)	123.27 (453)

Sources: Connecticut Office of Management and Policy (2000 Residential Sales). US Census Bureau (2000 Census).

Note: Number of residential sales in parenthesis.

Again, racialized assessments emerge. Table 9 shows that, in rental neighborhoods, those that are majority-white are assessed at the lowest ratios. Yet, homes in both majority-African American and majority-Latino neighborhoods, which are also majority rental, are assessed at exactly double (140 %) the rate called for by law. Thus, even when one looks solely at majority-renter neighborhoods, residents of both majority-African American and Majority-Hispanic neighborhoods face higher effective rates than residents of majority-white neighborhoods.

D. Sales Price

A third plausible theory of disparate assessments is stagnant prices in low-income neighborhoods.[53] Commentators have argued that assessors simply give breaks to high-value properties.[54] Frequently trumpeted, some commentators have argued that any observed racial disparity is explained by the fact that minorities tend to live disproportionately in low-value properties.[55] Put differently, assessors tend to inflate the market value of properties in majority-minority neighborhoods, not because they are majority-minority, but because homes in such neighborhoods tend to have lower relative value. An interesting corollary to this high-value argument, as Dick Netzer has noted, is that high-value homes are under-assessed simply because there are fewer of them.[56] Thus, because assessors have fewer such homes to compare, they "minimize litigation by erring on the low side." Regardless of the reason, the argument is that property tax assessment disparity is explained by the relative price of homes.[57]

Indeed, the data I collected does seem to substantiate the claim that assessment disparity is explained, at least in part, by sales price. For example, although there were less than a handful of sales,

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53. *See* JENSEN, *supra* note 1, at 293-97 (noting discrimination against low-value properties); Baar, *supra* note 3, at 341 (also noting discrimination against low-value properties); PAUL, *supra* note 6, at 32-35 (finding under-assessment of rehabilitated neighborhoods in Boston); PETERSON ET AL., *supra* note 11, at 23 (finding under-assessment of "upward transitional" neighborhoods and over-assessment of "blighted neighborhoods").

54. JENSEN, *supra* note 1, at 293 (describing several of the earliest studies to claim discrimination in favor of high value properties and against low value properties).

55. *See* PAUL, *supra* note 6, at 34 (noting that neighborhoods with declining values tend to be African American); *see also* PETERSON ET AL., *supra* note 11, at 119 ("[I]n the older cities of our sample it was not unusual for properties in blighted neighborhoods to bear an effective tax rate ten times as great as properties in the upward transitional neighborhoods of the same city. Assuming that any or all of these tax differentials are passed along to tenants, this assessment bias is distinctly prejudicial to the poor and in most cases to the black population as well.").

56. NETZER, *supra* note 35, at 56.

57. *Id.*

the average selling price in Yale, the neighborhood with the lowest property tax assessments in the city, is spectacularly high at over $500,000. In East Rock, a majority-white community with a significant number of sales, it is more than $200,000. At the same time, the average selling price of residences in Edgewood-West River, the neighborhood paying out the highest amount in property tax assessments, was relatively low at just over $50,000.

Furthermore, Table 10 shows a nearly perfect linear relationship between sales ratio and sales price, with the highest value properties getting the lowest assessments. Specifically, the table shows that the seventeen most expensive home-sales in the cities (>$500,000) also had the lowest sales-ratio - 34.49 %. Thus, homeowners in those cases faced an effective property tax rate that was only around one-third of the actual market value, assuming the seventeen transactions were at market value. Moreover, those home-owners paid property taxes at about one-half of the 70 % required by Connecticut statute.

TABLE 10:
Sales Ratio by Sales Price

Sales Price Range	Frequency	Avg. Sales Amount	Sales-Ratio
$10,000-$50,000	24.2% (341)	$30,868	237.57
$50,001-$100,000	32.9% (464)	$76,644	94.64
$100,001-$150,000	27.0% (381)	$123,175	70.28
$150,001-$200,000	9.1% (128)	$172,422	62.78
$200,001-$250,000	2.8% (40)	$222,432	48.55
$250,001-$300,000	1.2% (17)	$276,500	45.91
$300,001-$350,000	0.9% (13)	$324,962	46.10
$350,000-$400,00	0.2% (3)	$362,900	49.06
$400,001-$450,000	0.3% (4)	$430,000	57.60
$450,000-$500,000	0.1% (2)	$487,450	37.78
>$500,000	1.2% (17)	$704,592	34.49

Source: Connecticut Office of Policy and Management (2000 Residential Sales Listing).
Note: The raw number of sales is in parenthesis. All cash values are rounded to the nearest dollar.

The table indicates that low-value homes faced the highest sales ratio. It suggests that those with homes worth between ten and fifty thousand dollars (first row) were assessed at nearly two and one-half times the actual value of their residence and, more troubling, face an effective property tax rate significantly more than three times that required by statute.

Still, even with these statistics, the relative value argument does not completely explain the over-assessment in majority-minority neighborhoods. For instance, while the average selling price in Edgewood-West River is on the low side, the area it is in is not, by far, the lowest selling priced area in the city. Residents of other neighborhoods, such as Fair Haven and East Shore, all had average selling prices below the median selling price of $89,900 ($77,146 and

$88,066 , respectively), but were both assessed at near perfect market levels (119.28 and 107.49, respectively). Residents of one Westhills neighborhood were, on average, even slightly under-assessed (98.24) even though residences there sold for less than the median ($81,248).

Furthermore, even if the data is broken out into sales for relatively little, such as those selling for less than the median of $89,900 (or "low-end home sales") and "high-end home sales." Racialized assessments emerge. For example, Tables 11 and 12 below record the major differences between these two camps.

TABLE 11:
High-End Home Sales
(Consideration>$89,900)

	Majority White	Majority AF-AM	Majority Latino	Mixed Race	Totals
Number of Census Tracts	8	7	3	10	18
Average Sales Ratio	63.57	72.94	70.74	68.87	67.28
Average Sales Amount	$180,875	$138,571	$111,267	$149,494	$158,492
Number of Sales	335	134	69	171	710

Sources: Connecticut Office of Management and Policy (2000 Re-Sales Listing); US Census Bureau (2000 Census). All cash values are rounded to the nearest dollar.

Generally, Table 11 suggests that New Haven assessors are getting the assessments very close to the 70% of the market value for relatively high-end residential properties. The average sales ratio for home sales above $89,900, which represents half of all home sales, is only less than three percentage points from the perfect statutory levels of 70 %. In majority-Latino communities assessors are dead on, levying an average assessment rate right at 70 %. However, the table still shows racialized assessments, although the differences are much smaller than in some of the other instances discussed. High-end home sales in majority-Latino neighborhoods were assessed more than in majority-white neighborhoods. And high-end homes in majority African American neighborhoods were assessed, on average, nearly 10% of what was charged in high-end home sales in majority-white neighborhoods.

TABLE 12:
Low-End Home Sales
(Consideration<$89,900)

	Majority White	Majority AF-AM	Majority Latino	Mixed Race	Totals
Number of Census Tracts	8	7	3	10	18
Average Sales Ratio	137.76	187.97	173.90	156.25	165.30
Average Sales Amount	$61,004	$51,093	$49,112	$50,919	$52,064
Number of Sales	100	185	140	282	708

Sources: Connecticut Office of Management and Policy (2000 Re-Sales Listing); US Census Bureau (2000 Census). All cash values are rounded to the nearest dollar.

Moreover, once we eyeball the other "half" of the market, homes that sell for less than $89,900, we find that these homes are assessed at higher than the market value. Homes in this half of the market are assessed, on average, greater than 65 % more than the market value of their home (last column). The two tables read together appears to claim that assessment discrimination is against low-income homeowners. As the first table shows, all high-end home sales were under-assessed, paying, on average, little more than 67 % of the market value in property taxes. At the same time, low-income neighborhoods are, on average, wildly over-assessed. Nevertheless, while all low-end residential homes are over-assessed, including residences in majority-white neighborhoods, such home sales are even more flagrantly over-assessed in majority-minority neighborhoods. Homes in majority-African American neighborhoods, for example, are assessed at nearly twice the market value of their homes and 50% more than homes in majority-white neighborhoods. In sum, each of the two tables shows a racial differential impact in property assessments. Even with the sales price argument, there is still evidence of racial differences in assessments.

E. Assessments

The natural companion argument of the sales price argument is that assessors give a break to relatively large assessments.[58] The intuition is that assessors tend to give breaks to those with comparatively high assessments, since such persons will already have a high tax bill. Table 13 provides lukewarm evidence to this argument, since it shows that homes with relative low total assessments are assessed at the highest ratios.

TABLE 13:
Sales Ratio by Assessment

Assessment Range	Sales-Ratio
$3,500-$50,000	142.09 (177)
$50,001-$75,000	118.65 (500)
$75,001-$100,000	105.75 (440)
$100,001-$125,000	107.11 (197)
>$125,000	124.91 (96)

Sources: Connecticut Office of Management and Policy (2000 Re-Sales Listing); US Census Bureau (2000 Census).

Note: The raw number of sales in parenthesis is in the respective assessment range.

Certainly those with total assessments above the median assessment of $76,352 seem to be assessed at lower rates. Table 13 seems to suggest that the vast majority of homeowners, those owning homes with total assessments between $50,001 and $125,000, were assessed at market value. Interestingly, the table also suggests that the presumed inverse relationship to total assessment and property tax liability may actually be "forward bending." Put differently, at very high levels of assessments (i.e., assessments greater than $125,000), the table suggests that

58. Regardless of "companionship," the relationship of assessment to sales-ratio is distinct, and ought not to be confused with the relationship of sales price to sales ratio. That is, assessors may give low assessments to homes in neighborhoods with high value. Alternatively, they may pass assessment breaks to homes with relatively high assessments. One does not preclude the other. Thus, homes that have relatively high unadjusted (or raw) assessments may have low sales-ratios, regardless of whether they have very high market value. Conversely, homes with relatively high value may have low sales-ratios, regardless of their unadjusted assessment. Shortly, the income and assessments arguments are somewhat different methods of explaining disparate sales ratios.

property assessments increase; consequently those few properties with extremely high total assessments are charged an exorbitant amount in property taxes.

However, when the assessment to sales-ratio results are broken down by majority-ethnic neighborhood, the same racialized effects emerge. In fact, with the exception of very low assessments, homes in majority-white neighborhoods are assessed at rates significantly less than market value. Residents of majority-white neighborhoods tend to pay out less in property taxes than residents of minority neighborhoods, for all levels of total assessments. At the lower levels of total assessments (i.e. <$100,000), residents of majority-Latino neighborhoods trail residents of African American neighborhoods, who are assessed at the highest rates. Although there were only fifteen home sales in Latino neighborhoods with total assessments above $100,000, the data suggests that at these relatively high levels residents of Latino neighborhoods face higher assessments than residents of any other neighborhood type.

TABLE 14:
Total Assessment to Sales Ratio

	Majority-African American Neighborhoods	Majority Latino Neighborhoods	Majority White Neighborhoods	Mixed-Race Neighborhoods
Assessment Range	Sales Ratio	Sales Ratio	Sales Ratio	Sales Ratio
$3,500-$50,000	151.4 (40)	134.56 (34)	100.6 (24)	153.23 (79)
$50,001-$75,000	147.51 (103)	142.03 (114)	76.74 (95)	110.40 (186)
$75,001-$100,000	122.1 (103)	122.14 (45)	78.71 (158)	119.57 (134)
$100,001-$125,000	134.1 (55)	154.74 (11)	80.86 (93)	118.48 (38)
>$125,000	212.9 (14)	288.69 (4)	83.53 (62)	167.33 (16)

Note: Number of residential sales in parentheses. All cash values rounded to the nearest dollar.

The table also shows that in both majority-white and mixed-race neighborhoods, sales ratios drop significantly for property that has a total assessment of more than $50,000. In mixed neighborhoods assessments drop, on average, from 153.23 % to 109.83 %. In majority-white neighborhoods, average assessments drop to a near

perfect 76.4 % when total assessments exceed $50,000. However, there is no similar drop in majority-minority neighborhoods. In fact, in majority-Latino neighborhoods, the sales ratio increases around 7 %.

Last, consistent with our prior inkling, the table shows that the number of sales seems to bear no relationship to the sales ratio. For instance, the first row of the table shows that homes in both majority-African American and majority-Hispanic neighborhoods were highly over-assessed (151.4 % and 134.56 %, respectively) compared to home sales in majority-white neighborhoods, although in both cases there was an absolute higher number of sales than in white neighborhoods.

F. Regression Analysis

Finally, using regression analysis, it is possible to control or equalize differences in tenure, assessment amounts, residential types and sales prices, and come to arguably more powerful conclusions. Accordingly, in this section, I have turned to regression analysis to ascertain whether the percentage of African Americans or of Latinos bears a statistically significant relationship to sales ratio. As seen in Table 15, both the percent of African Americans and the percent of Latinos exhibit a positive relationship to sales ratio, which is consistent with all my findings so far. In other words, the higher the percentage of minorities in neighborhoods in New Haven, the higher the sales ratio. Further, this relationship is statistically significant for increases in the percent of African Americans.

For example, the first column shows that for one percentage point increase in African Americans, there is a corresponding 0.698 increase in sales ratio, holding tenure, assessment amount, residential type, and sales price constant. The table implies that for one percentage point increase in Latino population there is a corresponding 0.413 increase in sales ratio. However, the putative relationship with respect to percent Latino is not statistically different from zero.

TABLE 15:
Regression: Sales Ratio

	Un-standardized Coefficient	T-Statistics	Betas
Intercept	-19.218 (14.650)	-1.31	
Explanatory Variables			
PRICE	-0.001** (0.000)	-2.32	-0.544
ASSESSMENT	0.001** (0.000)	2.25	0.325
PERCENTRENT	0.217 (0.250)	0.87	0.038
PERCENTASIAN	0.121 (0.656)	0.18	0.005
PERCENTAF-AM	0.698*** (0.200)	3.49	0.157
PERCENTLATINO	0.413 (0.277)	1.49	0.074
PERCENTNATIVE	13.417 (17.477)	0.77	0.027
R-squared	0.273		
N	1410		
*p<0.1**p<0.05		***p<0.01	

Note: Sales Ratio is the dependant Variable. Robust standard errors in parentheses. All regressions include dummies for the four main residential types (condo, single family, two family, and three family).

The table (still first column) also confirms the non-racialized arguments of most commentators on property tax assessment disparity. To be more specific, the table shows that sales price, residential type (not shown), and assessment amount are also powerfully related to the sales ratio and statistically significant. As expected, for example, sales price is negatively related to the sales ratio: high sales price is causally related to lower sales ratio. Assessments, by contrast, are positively related to sale-ratio. Although the regression suggests that the percent rent is positively related to sales ratio as predicted, the data does not show that this relationship is statistically significant.

In the third column of the table, I simply report standardized coefficients of each of the variables in order to evaluate the relative strength of each on sales ratio. As seen in that column, sales price

has the biggest effect on sales-ratio. The regression predicts that a one standard deviation increase in sales price results in a 0.55 standard deviation decrease in sales ratio. Total assessment is also much stronger than any of our race variables. Interestingly, however, the table suggests that percent Latino and percent African American have a stronger effect than tenure on the sales ratio.[59]

G. Potential Criticisms

Before continuing, it is important to preempt (to the extent possible) some of potential shortcomings of the conclusions I have drawn from the data. For one thing, I should note that my research, which includes virtually all residential sales in New Haven in 2000, does not completely eliminate error from the inclusion of some non-market sales. The data likely includes, for instance, some sales of property under duress, such as foreclosure sales and sales that follow bankruptcy proceedings.[60] Such sales are not likely for full consideration. The data also treats equally arms-length residential sales and those between related parties, such as sales between relatives. Sales between related parties, however, are not a good measure of market value, [61] since homeowners may sell to a related party for less than full consideration. Last, the sales data is the data that is reported on the deed after a sale. Since the amount reported is controlled by parties close to the sale, it is possible that parties misreport the sale amount in order to avoid taxation or some other reason.[62] For all these reasons, in some cases the sales ratio may not be as overstated as it appears to be in the data.

Admittedly, one cannot completely eliminate the possibility of some non-market sales creeping into the data. However, the data set excludes sales for obviously low value (*i.e.* <$10,000).[63] Second, the number of non-market sales is probably very small. The vast majority of home sales in the data, one suspects, sell for full consideration. Third, whatever the number of such sales, it is reasonable to presume that there are just about as many sales in majority-white neighborhoods as in majority-minority neighborhoods. For instance, there is no reason to believe, *a priori*,

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59. At this point, a brief caveat is in order. The table only explains a small proportion of the sales-ratio; the variance explained or "R-squared" only equals 0.273. Thus, it is likely that there are other variables that explain variation in sales-ratio.

60. For example, Table 1 shows the high and low sales ratio (third and fourth column respectively). These sales are likely for non-cash consideration or sales between related parties.

61. *See* Baar, *supra* note 3, at 364-67 (describing some of the problems with sales-ratio data); *see also* JENSEN, *supra* note 1, at 285-86 (same).

62. *See* JENSEN, *supra* note 1, at 285.

63. *See supra* note 22.

that there would be substantially more residential sales between related parties in majority white neighborhoods than in majority-minority neighborhoods. Thus, any errors likely offset; errors should inflate sales ratios in white and minority neighborhoods equally. Finally, despite the incidence of forced sales and sales between related parties, comparison of sales values to assessment values is the common approach to research on property tax discrimination.[64]

IV. PROBABLE EXPLANATIONS

At least three explanations give a good account for race-dependent assessments. First, assessors might instigate discriminatory practices in order to keep white residents from fleeing the city for the suburbs. Second, differential property tax assessments may be the upshot of local politics. Since assessors want to maximize public revenue, but, more important, want to stay in office, they may give favorable treatment to white homeowners whom they perceive as more likely to vote or otherwise complain if assessments go up. Third, racialized assessments could be the consequence of the legal regime, which, for instance, seems to favor large residential homeowners who are more likely to challenge erroneous over-assessments. These large residential homeowners tend to be residents of majority-white neighborhoods.

A. Assessments as Inducement

New Haven, like many cities and states,[65] explicitly grants property tax exemptions to favored groups, like Veterans and their spouses, businesses providing day care, disabled persons, the elderly or those willing to try out solar home-heating alternatives.[66] Similarly, differential property tax assessments may be a sop to another favored group: whites.[67]

As Diane Paul has observed, property assessors in central cities may be concerned with white flight to the surrounding suburbs.[68] At

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64. JENSEN, *supra* note 1, at 285-86 (noting that "a survey of a state tax system is hardly deemed complete unless it contains a comparison of sales values with assessed values"); *see also* PETERSON ET AL., *supra* note 11, at 97 (noting that, for public policy purposes, it is more important to examine sales-ratio data than other types of property tax data).

65. For example, California provides exemptions from revaluations for transfer to spouses, or transfer by elderly persons. CAL. CONST. art. XIIIA §2(g) (providing that "the terms "purchased" and "change in ownership" do not include the purchase or transfer of real property between spouses").

66. *See* NEW HAVEN, CONN., MUN. CODE §§ 28.11-17 (2003).

67. *See* PAUL, *supra* note 6, at 27.

68. *Id.* at 27-28. For one of the most thoughtful discussions of how cities compete with one another, see PAUL PETERSON, CITY LIMITS (1981). *See also* PAUL KANTOR, THE DEPENDENT CITY (1988).

the same time, African Americans are generally less able to make any real threat of leaving the city.[69] Although whites represent less than a third of the population in New Haven, more than half of all home sales were made by residents of majority-white neighborhoods, supporting the inference that whites are selling their residences more frequently and perhaps even fleeing the central city. Indeed, the city has seen a substantial decline in its white population (and simultaneous increase in the Latino population) over the last twenty-five years.[70] Thus, the perception — and indeed the reality — might be that if residents of white neighborhoods are charged too much in taxes (by way of relative high property assessments), they will move to suburbs.[71] Shortly, assessors may see favorable assessments to white homeowners as a way of retaining white residents and competing with the surrounding suburbs.[72]

B. Politics of Assessments

The differential treatment of residents in minority neighborhoods could also be the upshot of local property assessor politics. That is, assessors, as political actors, may have political incentives to over-assess residents of majority-minority neighborhoods.

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69. PAUL, *supra* note 6, at 42.

70. In fact, in 1980, the city was majority white non-Latino, while Latinos represented only around eight percent of the population. (Over the same period the city's total population has changed very little and the percentage of African Americans living in the city has increased only slightly). *See* 1983 COUNTY AND CITY DATA BOOK, at 680 (providing 1980 Census data).

71. *See* NETZER, *supra* note 35, at 82 ("Most big city officials publicly express concern at the rapid rate at which white middle-class families with children have been leaving the big cities …. Deliberately favorable treatment of the housing which such families might choose within the city limits may serve the real purpose of enhancing the city's competitive position vis-à-vis the suburbs."); *see also* PAUL, *supra* note 6, at 27-28 (noting that "city officials fear that department stores, theaters, and other central city businesses will follow the middle class to the suburb.").

72. Admittedly, favorable assessments of white neighborhoods may cut exactly the other way, since such property tax breaks may be capitalized into the costs of homes purchases in such neighborhoods. *See* NETZER, *supra* note 35, at 82-83. In other words, it is conceivable that favorable tax treatment may actually drive up the demand, and (more importantly) the price, for homes in majority white neighborhoods. However, it is not clear that homeowners or potential homeowners realize the connection, if it exists at all, between low taxes and increased purchases prices, nor that this connection is ultimately convincing taxpayers that should be apathetic or opposed to preferential tax treatment.

1. "Home-voters"

Most obvious, assessors, who are often elected, want to stay in office and may view assessments as related to their ability to maintain a good relationship with their constituency.[73] For instance, assessors have incentives to forego increases in property taxes, since increases (more so than decreases) are more likely to alienate voting constituencies.[74] If white homeowners make up a good share of voters, as they do in New Haven, assessors may rationally be inclined to under-assess their properties in order to accommodate white homeowners' interests. As one commentator notes, at the prospect of increased assessments "homeowners write complaining letters to the editor, call their city councilors, sometimes even stage demonstrations and otherwise generate unfavorable publicity, and even vote the offending politicians out of office."[75]

Another commentator has analogized homeowners to "home-voters" to suggest that changes in the market value of their most important asset, their home, will be met with keen resistance.[76] In smaller settings, the analogy of homeowners to home-voters is a particularly apt one, since such homeowners may be able to exert large amounts of influence.[77]

Indeed, in Connecticut property tax assessments seem to be politically sensational issues. For example, when the city of Norwalk, Connecticut conducted its decennial revaluation and realized that property tax liability on residential homeowners would increase, the Mayor promptly moved to postpone execution of the revaluation and ordered the city to continue to use the old numbers.[78] Similarly, in the city of New Haven, where the Mayor appoints the assessor,[79] when a revaluation would have resulted in an increase in the assessments of residential homeowners, the city took advantage of state statutes that allowed it to phase in the increases over five years, a signal that the administration was wary of political backlash for increased assessments.[80] Last, among

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73. GLENN W. FISHER, THE WORST TAX? A HISTORY OF THE PROPERTY TAX IN AMERICA 197 (1996) (providing that assessors are elected in twenty two states, appointed by municipal officers in fourteen states, and some combination in the other states).

74. *See* Baar, *supra* note 3, at 346-47 (discussing the propensity of assessors to maintain the status quo during the Great Depression).

75. PAUL, *supra* note 6, at 29 (discussing the uproar in Boston at the prospect of property tax increases).

76. FISCHEL, *supra* note 10.

77. *Id*. at 21.

78. *See* Stafford Higgins Indus., Inc. v City of Norwalk, 245 Conn. 551, 596 (1998) (Berdon, J. dissenting).

79. Interview with Terry Rodie Kennedy, *supra* note 19.

80. *See* United Illuminating Co. v. City of New Haven, 179 Conn. 627 (1980); *see also* NEW HAVEN, CONN., MUN. CODE § 28-7 (2003) (providing for staged increases in property taxation).

residential properties, my data suggests that multi-family residents pay the highest, on average, in sales ratio. At the same time, single-family homeowners pay the least, on average. This result is fairly predictable given that, as a group, single-family homeowners represent such a large share of the residential populace. Assessors are likely aware of the political repercussions that would follow charging high property taxes to such a politically influential group.

2. Minority Politics

Additionally, minority politics may play a role in explaining why minority politicians and minority interest groups do not raise the issue of differential treatment in assessments. For one thing, since such discrimination is relatively "mild," minority groups may not think it is worth the expense of political capital. There was a similar reluctance to challenge purported over-assessments in the majority African-American Roxbury community in Boston some thirty years ago, even after Oldman and Aaron found evidence that African American residents were routinely over-assessed.[81] Diane Paul suggests that Roxbury residents were more concerned about bread-and-butter issues: more police protection, jobs, and city services.[82] This argument has some undeniable force, since New Haven has one of the largest minority communities in the state and yet is one of the poorest places in terms of employment, poverty, and income.[83]

At the same time, other minority groups may view over-assessment as a net benefit, since it suggests that the property in minority neighborhoods is worth more to potential buyers.[84] Potential homeowners look to assessments as trends in home market values. Assessments, in other words, are largely self-fulfilling prophecies. That is, high market value equals high assessments; but, more importantly, high assessments can equal high market value.[85] If property in a neighborhood is over-assessed, it creates a positive impression of the value of the property in the

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81. PAUL, *supra* note 6, at 56.

82. *Id.* at 69-70 ("Interviews with black politicians and interest group representatives indicate that assessing is far down on the list of their priorities, certainly below problems of unemployment, schooling, crime, and police protection, housing, and city services such as garbage collection and code enforcement.").

83. *See* US DEPARTMENT OF COMMERCE, COUNTY AND CITY DATA BOOK: STATISTICAL ABSTRACT SUPPLEMENT 214, 702 (13th ed., 2000) [hereinafter CITY DATA BOOK].

84. For example, neighborhood groups, where property values have been on the decline, have attempted to keep assessors from reducing valuations for fear that such valuations would shatter consumer confidence in the neighborhoods. *See* PETERSON ET AL., *supra* note 11, at 68.

85. *Id.* at 67 ("Given small investors' reliance on assessed valuation as an indication of property values, if reassessment lags far behind market trends, there will be a resultant lag in investors' awareness of the declining value of their property.").

minds of the buying public and/or improves public expectations about neighborhood land values.[86] Thus, it is conceivable that even erroneously high assessments can lead to speculation and an artificially high demand for property.

C. Law

Finally, there are several different ways in which the law of property tax assessment might favor residents of majority-white neighborhoods, or, more simply put, white homeowners. At a minimum, the law might insulate racially differential property tax practices.

Until recently, Connecticut had one of the longest intervals for revaluation in the nation: 10 years.[87] As such, the last revaluation in New Haven was in 1991.[88] Revaluations in New Haven (and the rest of Connecticut) are now required once every four years.[89] Even though this is an improvement, property taxes, right or wrong, are levied based on the same numbers for four years.[90] Even worse, physical inspections, where assessors actually go out and eyeball the property, only occur once every dozen years.[91] All this means that there is an "assessment lag," although relatively small, in Connecticut that could lead to assessment disparities caused by movements in the market demand for properties, such as rising home values in some neighborhoods. In other words, assessment lag creates a "tax benefit" to those homeowners whose property values are rising and creates a "tax harm" to residents of neighborhoods where home values are declining.[92]

Conceivably, benefits of assessment lag could redound to majority-white neighborhoods, if property values in those neighborhoods rise faster than in other neighborhoods, all else being equal. Further, though the state does require that assessors be certified to perform assessments,[93] it is possible that during a long gestation time, assessor skills may become rusty.[94] Lastly, the long

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86. *See* Karl E. Case, *Volatility, Speculation, and the Efficiency of Land Markets, in* LAND USE & TAXATION 34-35 (H. James Brown ed., 1997).

87. JENSEN, *supra* note 1, at 332 (finding that as of 1930, Connecticut had one of the longest intervals between revaluation in the nation).

88. Interview with Terry Rodie Kennedy, *supra* note 19.

89. CONN. GEN. STAT. § 12-62 (b)(2) (2003). Historically, the state has had one of the longest intervals in the nation. *See* JENSEN, *supra* note 1, at 332.

90. CONN. GEN. STAT. § 12-62 (a)(1) (2003).

91. CONN. GEN. STAT. § 12-62 (a) (3) (2003).

92. Notably, this was just the argument that led a group of residents in a majority-minority neighborhood in Pennsylvania to file suit little more than a quarter century ago. *See* Garrett v. Bamford, 538 F.2d 63 (3d Cir. 1976) (seeking an order requiring annual assessments).

93. *See* CONN. GEN. STAT. § 12-40a (2003).

94. JENSEN, *supra* note 1, at 337-38.

lag in physical inspection may allow homeowners to easily not report improvements to property that ought to affect property tax liability.

Furthermore, as another author has argued, vague statutes may lead to discrimination in property tax assessment.[95] That is, the requirement that property assessments be marked to fair market value is relatively unspecific. Tax assessors, with this ambiguous charge to go by, may usurp too much discretion. This could lead back to the political incentives for differential assessments in favor of residents of white homeowners just discussed.

Also, white homeowners may be more likely to challenge high assessments. In Connecticut, residents have the right to appeal erroneous assessments to the Board of Assessment Appeals,[96] which can amend the assessment.[97] The statutes further provide that the decisions of the Board of Assessment can also be appealed to a superior court in Connecticut.[98] However, as a general matter, there are probably few challenges to assessments and even this right probably benefits residents of non-minority neighborhoods.[99] The challenges that are brought against property tax assessments are more likely brought by high-value property owners, since the incentive is greater for them to bring suit than other property owners.[100] As I have noted earlier, assessors may err on the low side for such proprieties as a way of preempting such challenges. The average home sale amount in majority-minority neighborhoods ($87,814) is significantly less than in majority-white neighborhoods ($153,760). Thus, minorities may challenge fewer assessments, since the incentives may be duller. Accordingly, assessors may overvalue since they do not expect to be challenged in minority communities.[101]

Finally, the differential impact on minority homeowners might be compounded in light of residential housing patterns that tend to segregate minority and majority communities. As Peter Schuck has

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95. *Tax Assessments of Real Property: A Proposal for Legislative Reform*, 68 YALE L.J. 335, 344-47 (1958) "A useful if elusive concept for the judiciary, "value" provides a less-than-satisfactory framework for legislative policy making." *Id.* at 356.

96. CONN. GEN. STAT. § 12-111 (2003).

97. CONN. GEN. STAT. § 12-113 (2003).

98. CONN. GEN. STAT. § 12-117(a) (2003).

99. A somewhat early study of the appeals process in Hartford, a city comparable in size to New Haven, finds that only two percent of all assessments were challenged. THEODORE REYNOLDS SMITH, REAL PROPERTY TAXATION AND THE URBAN CENTER: A CASE STUDY OF HARTFORD, CONNECTICUT 46 (1972).

100. For a review of several studies that have concluded that only owners of high value property appeal erroneous assessments, see PAUL, *supra* note 6, at 37-39. *See also* PETERSON ET AL., *supra* note 11, at 106-07.

101. In fact, this was the finding of a study. PAUL, *supra* note 6, at 6.

observed recently, the law may countenance segregated housing patterns;[102] minimally at least, laws have failed to promote residential housing diversity.[103] Where you live is, mostly, where your friends and colleagues live. In these circumstances, it is difficult for homeowners to compare property tax "prices" for similar homes in other neighborhoods and thus gain evidence to pursue a challenge. Particularly when neighborhoods are racially stratified, minority homeowners may not have good information about comparative prices in majority-white neighborhoods.[104] Since the reverse is also true — residents of majority groups may not have access to inter-neighborhood information — this might explain findings by other commentators that residents of majority-white neighborhoods all-too-frequently challenge their assessments even though they are paying out obscenely, even illegally, low rates.[105] Shortly, residents of minority neighborhoods may challenge improper assessments less frequently because they do not have access to good information about property prices in adjoining communities.

In the end, it seems that no one motive decisively explains racialized assessment practices. Rather, differential assessment by race is likely borne of several causes. As I have noted, differential treatment may be an important financial incentive for the city to encourage desirable groups (*i.e.* whites) to move in (or stay in) city limits. Additionally, assessors, like other high-ranking public officials, want to maximize public revenues, without alienating voting constituencies.[106] Finally, the law, as it presently stands, may also insulate discriminatory practices. Of course, the fact that there are several explanations may make it difficult for the Courts to grapple with assessment disparity, the subject to which I turn now.

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102. *See generally* Peter H. Schuck, *Judging Remedies: Judicial Approaches to Housing Segregation*, 37 HARV. C.R.-C.L. L. REV. 289, 293 (2002) (discussing how the residential diversity in public policy takes a backseat to ideals of nondiscrimination and "classism").

103. For a good recent review of the literature on the segregation of neighborhoods, *see id.* at 295-303.

104. PAUL, *supra* note 6, at 10, 43.

105. *Id.* at 55-56 (noting that survey of Boston renewal that "those residential neighborhoods which enjoyed the lowest assessments were those where property taxes were of greatest concern, while the only neighborhood in which less than half the residents considered property taxes a very serious problem is the most heavily over-assessed").

106. Baar, *supra* note 3, at 341 (noting the pressure from other municipal officials to keep assessments as high as possible).

V. COURT-ORDERED REFORM

Market-tied schemes, like New Haven's, may be on precarious legal footing. To remedy the over-assessment of property in minority neighborhoods, courts are not without power to order a reduction in assessments in those neighborhoods where the data show that residents are over-assessed. As a general matter, the Connecticut Supreme Court has given localities free reign to devise tax schemes that meet their own unique needs, desires, and demands.[107] However, the U.S. Supreme Court has suggested in three important decisions that a court-ordered reduction in cases of over-assessment is a real possibility, if not a probable one.

The U.S. Supreme Court, for instance, has ordered a reduction remedy for plaintiffs when they could show that their property was assessed at market value, which while consistent with statute, was almost twice as high as the assessments assigned to other property owners in the same state.[108] Additionally, the Court has ordered a reduction remedy when assessors failed to take into account market costs that reduced the value of certain parcels of property.[109] Last, the Court has ordered reduction when assessors failed to provide timely assessments to all classes of property and formulated many assessments based on stale numbers.[110] Based on such precedents, the current property tax scheme in New Haven and other municipalities may be susceptible to courtroom challenge and court-ordered reduction of assessments of property in minority neighborhoods.

A. Sioux City v. Dakota County, Nebraska

Sioux City was the first time the Court suggested that plaintiffs could receive a judicial remedy for property tax over-assessment.[111] Before *Sioux City,* the prevailing idea among many courts was that there was no cure for plaintiffs seeking to reduce their assessments below the amount mandated by statute even if the vast majority of other properties in the area were under-assessed.[112] For example, in

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107. *See, e.g.*, Stop & Shop Co., Inc. v. Town of East Haven, 210 Conn. 233, 242 (1989) (holding that personal property may be assessed annually while real property is assessed decennially); Stafford Higgins Indus., Inc. v. City of Norwalk, 245 Conn. 551 (1998) (passing off on a city plan that sought to assess residential property at lower rate than commercial properties, despite the relative market value of either).

108. *See* Sioux City Bridge Co. v. Dakota County, Neb., 260 U.S. 441 (1923).

109. *See* Cumberland Coal Co. v. Bd. of Revision, 284 U.S. 23 (1931).

110. *See* Allegheny Pittsburgh Coal Co. v. County Comm'n, 488 U.S. 336 (1989).

111. For a discussion of the cases that led up to the historical *Sioux City* decision, see Baar, *supra* note 3, at 356-60.

112. *See, e.g.*, Greene v. Louisville & Interurban R.R. Co., 244 U.S. 499; *see also Sioux City,* 260 U.S. at 446 (noting that federal authorities have frequently taken the view that the

its *Sioux City* decision, the Supreme Court of Nebraska ruled that it could not legally lower one's property below statutory provisions.[113] Rather, the only remedy available to a plaintiff, according to the state's highest court, was to bring a suit to require the state to raise everyone's property taxes to the statutory requirements.[114]

In this case, the property of the plaintiff, Sioux City Bridge Co., was assessed at its "true value," while other surrounding property was customarily assessed at fifty-five percent of true value.[115] However, state statutes and the constitution of Nebraska required that *all* property be assessed at its actual value, making no classifications among property owners.[116] Since plaintiff's property was assessed at its actual value, as provided by statute, the lower courts found there was nothing the judiciary could do to give plaintiff relief, even though the Court acknowledged that the custom of not enforcing the statute with regard to other property-owners created a disparate taxation regime.[117]

The U.S. Supreme Court overturned the Nebraska Court, holding that plaintiffs do have a remedy even when they file suit to obtain a reduction in valuation, even though it may be "a departure from the requirement of statute."[118] The Court argued that it would be impractical for a plaintiff bringing suit to require that assessments of other property-holders be increased such that the plaintiff is not differentially assessed. In such a circumstance, the Court held that a reduction in assessment for the plaintiff is the appropriate remedy. In commenting on the ruling of the Nebraska Supreme Court, which denied plaintiff any remedy and mused that a leveling up of property tax assessments of under-assessment property might be the appropriate remedy, the U.S. Supreme Court responded:

> [S]uch a result as that reached by the Supreme Court of Nebraska is to deny the injured taxpayer any remedy at all because it is utterly impossible for him by any judicial proceeding to secure an increase in

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injured taxpayer ought to be denied any remedy since it is impossible to secure an increase in assessments of the great mass of under-assessed properties); Lincoln Telephone & Telegraph Co. v. Johnson County, 102 Neb. 254 (Neb. 1918).

113. *Sioux City,* 260 U.S. at 444.

114. *Id*. ("[W]hen property is assessed at its true value, and other property in the district is assessed below its true value, the proper remedy is to have the property assessed below its true value raised, rather than to have property assessed at its true value reduced.").

115. *Id.*

116. *Id.* at 444-45.

117. *Id*. at 46.

118. *Id*.

> the assessment of the great mass of underassesed property in the taxing district. This court holds that the right of the taxpayer whose property alone is taxed at 100 per cent. of its true value is to have his assessment reduced to the percentage of that value at which others are taxed even though this is a departure from the requirement of statute.[119]

Under *Sioux City*, therefore, customary under-valuation of certain classes of property contrary to state statute may afford a reduction remedy to plaintiffs. In light of the holding in *Sioux City*, residents of majority-minority neighborhoods may have a right to bring suit to have their assessments reduced. Residents of majority-minority neighborhoods in New Haven, may be able to bring a suit to have their assessments reduced to a level equal to the average assessments of residential property in majority white neighborhoods.

B. Cumberland Coal Co. v. Board of Revision

Eight years later, in *Cumberland Coal Co.*, the Court held that purportedly neutral property tax assessment schemes are susceptible to courtroom challenges and, ultimately, a court-order reduction remedy. In *Cumberland Coal Co.*, county commissioners in Pennsylvania implemented a plan that valued all coal in the same township at a uniform market rate.[120] However, the petitioner, Cumberland Coal Co., argued that the uniform system overstated the actual value of their coal properties, since, among other things, it did not take into account the high transportation costs for properties that lay far from the market.[121]

The Court agreed with the plaintiffs and ordered the assessors to reduce the plaintiff's assessments .[122] The holding in *Cumberland Coal Co.*, simply put, requires state legislators to get it right. States are not insulated from judicial review just because the law, on its face, is neutral. According to the court, the value assigned for assessment purposes must reflect the actual market value of the underlying property, regardless of the purported neutrality of the assessment scheme, since otherwise some property would be undervalued relative to other property. By way of example, the court in *Cumberland Coal Co.* instructs:

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119. *Id.*
120. Cumberland Coal Co. v. Bd. of Revision, 284 U.S. 23, 26 (1931).
121. *Id.* at 24.
122. *Id.* at 30.

> [I]f the petitioners' property had been valued at 100 per cent. of its actual value, the like property of the other owners, having a higher actual value, would in effect have been valued at less than 100 per cent. The discrimination is essentially the same, and is equally repugnant to constitutional right, when both assessments are made on the basis of 50 per cent. of assigned values and differences in actual values are deliberately and systematically disregarded.[123]

Accordingly, *Cumberland Coal Co.* seems to require local policy-makers to take into account the actual market, or selling price, of properties when making assessments or, as the court puts it, assigning value. In New Haven, *Cumberland Coal Co.* seems to require assessors to assign values that take into account actual sales figures of property in the neighborhoods where the property sits. Thus, under the holding of *Cumberland Coal Co.,* residential property in minority neighborhoods may be susceptible to court-ordered reduction, since the assigned or assessed value of property in majority-minority neighborhoods, on average, exceeds the sales price in such neighborhoods. Like in *Cumberland Coal Co.*, residential property in majority-white neighborhoods in New Haven (and perhaps other jurisdictions) seems to be systematically undervalued relative to market value, while residential property in majority-minority neighborhoods seems to be overvalued relative to its market value.

C. Allegheny Pittsburgh Coal Co. v. County Comm'n

Finally, in a more recent Court opinion, *Allegheny Pittsburgh Coal Co.*, the Court held that assessor-driven schemes that produce differential impact also provide injured plaintiffs a reduction remedy.[124] In this case, county assessors valued recently-sold property on the basis of its purchase price, while making only small increases in valuation to land that was not sold as recently.[125] This

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123. *Id.* at 30.

124. Allegheny Pittsburgh Coal Co. v. County Comm'n, 488 U.S. 336 (1989); *see also* Charleston Fed. Sav. & Loan Ass'n. v. Alderson, 324 U.S. 182, 190 (1945) (noting that the equal protection clause bars "taxation which in fact bears unequally on persons or property of the same class"); Sunday Lake Iron Co. v. Wakefield, 247 U.S. 350, 352 (1918) ("[I]t must be regarded as settled that intentional systematic undervaluation by state officials of other taxable property in the same class contravenes the constitutional right of one taxed upon the full value of his property."). For a good discussion in the wake of the case, see John Vitha, Comment, *The Supreme Court Gives "Welcome Stranger" Tax Assessments a Cold Reception*, 56 BROOK. L. REV. 1383 (1991).

125. *Allegheny,* 488 U.S. at 338.

system led to wide disparities in property tax liability for virtually identical properties, since those that were recently sold were assessed at, in essence, the going market price, while other property was assessed based on old numbers. The court found, for instance, that a local assessor was assessing the property of Allegheny, and other coal companies, which had recently purchased several properties in the state, at thirty-five times the rate of similar properties not recently sold.[126] According to the Court, the county scheme was not sanctioned by the West Virginia legislature or "any other authoritative source."[127] Rather, Webster county's assessor had acted "on her own initiative" to create a scheme that produced disparate assessments and directly contravened state law.[128] As a result, the Court held that the system violated the Equal Protection Clause.[129] Importantly, since the assessor was not acting based on state law, but rather administrative necessity, *Allegheny Pittsburgh Coal Co.* stands for the proposition that, even when based on a non-discriminatory criteria (in *Allegheny Pittsburgh Coal Co.*, administrative ease), differential assessments may create a cause of action for property-owners adversely affected by comparatively high over-assessments. The opinion in *Allegheny Pittsburgh Coal Co.* may be support for a cause of action based on comparative over-assessments of property in majority-minority neighborhoods, even when there is no significant evidence of discriminatory purpose.

D. Nordlinger v. Hahn

The one case that seemingly cuts against a court-ordered reduction remedy for over-assessment is *Nordlinger v. Hahn*.[130] In this case, the Court appears to give its stamp of approval to differential property tax assessments. In *Hahn*, perhaps the most famous property assessment case reviewed by the current Court, plaintiff Nordlinger brought suit to overturn California's method of allocating property taxes, which after passage of Proposition 13 based property assessments on a parcel's most recent purchase price. Shortly, like the informal system the court rejected in *Allegheny*, California codified a property taxation system that would assess recently-sold property based on the purchase price of their property, while other homeowners who had not recently sold faced assessments tied to the historic value of the underlying property.[131]

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126. *Id.* at 341.
127. *Id.* at 345.
128. *Id.*
129. *Id.* at 342.
130. Nordlinger v Hahn, 505 U.S. 1 (1992).
131. *Id.* at 6 ("For that reason, Proposition 13 has been labeled by some as a 'welcome

Nordlinger brought suit on the theory that the California scheme discriminated against late-comers *contra* the Equal Protection Clause, since those who recently-purchased property in California would face higher effective property tax rates that reflected more recent, market values. Nordlinger also argued that the system infringed on the right to travel.[132] The Court rejected both of the plaintiff's arguments and ruled in favor of the state, finding several reasons to justify the system, such as "interest in local neighborhood preservation, continuity, and stability."[133]

The holding in *Hahn*, however, does not overturn the Court's rejection of informal schemes, as described in *Allegheny* or *Sioux City*. In fact, the Court was very careful to distinguish *Allegheny*, emphasizing that *Allegheny* was a case where county assessors had departed from state statute.[134] In fact, the Court goes out of its way to point out what is problematic about the differential system in *Allegheny* is that it went against West Virginia law:

> We are not advised of any West Virginia statute or practice which authorizes individual counties of the State to fashion their own substantive assessment policies independently of state statute. The Webster County assessor has, apparently on her own initiative, applied the tax laws of West Virginia in the manner heretofore described, with the resulting disparity in assessed value of similar property. Indeed, her practice seems contrary to that of the guide published by the West Virginia Tax Commission as an aid to local assessors in the assessment of real property.[135]

However, the evidence suggests that the New Haven case is not similar to a formal scheme of the sort held permissible by the court in *Hahn*, because in *Hahn* the differential assessment was pursuant to a constitutional amendment and, as such, safe from court-ordered reduction.

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stranger' system — the newcomer to an established community is 'welcome' in anticipation that he will contribute a larger percentage of support for local government than his settled neighbor who owns a comparable home.").

132. *Id.* at 10-11.

133. *Id.* at 9-10.

134. *Id.* at 14-15.

135. *Allegheny,* 488 U.S. at 345 (citations omitted).

E. Summary

New Haven's pattern of differential impact is more similar, indeed perhaps identical, to the decision to differentially assessments found in the prior Supreme Court cases in which the remedy was court-ordered reduction: namely, *Allegheny, Cumberland Coal,* and *Sioux City*. Under the holdings in those cases, the purported market-tied property taxation in New Haven and elsewhere may, despite *Hahn*, still be susceptible to a legal challenge on the grounds that substantial evidence suggests such schemes result in over-assessments of property in majority-minority neighborhoods.

In New Haven, like in *Allegheny*, assessors, at most, are required by the respective state constitutions to assess based, at most, on market value. Moreover, the disparate treatment is not the result of "mere error," since disparities hold regardless of the level of assessment, the value of the underlying properties, or the tenure of the residents. Rather, in both New Haven and *Allegheny*, the differential assessment is against a specific class of properties. The evidence suggests that in New Haven it is directed against residential property in majority-minority neighborhoods and in *Allegheny* the Court found over-assessment directed at out-of-state coal properties.

Furthermore, the scheme in Connecticut is noticeably similar to the scheme in *Cumberland Coal*, in which the Court also orders a reduction remedy. In both cases, the states (Pennsylvania and Connecticut) act pursuant to a putatively neutral taxation scheme. Again, the scheme Connecticut calls for makes "true and actual value" the test.[136] Similarly, the scheme discussed by the Court in *Cumberland Coal* uses language indicative of true market value. In both cases, the purported neutral test ended in consistent discrimination against certain classes of properties: in *Cumberland Coal* the discrimination was against classes of property situated geographically distant from the market; and in New Haven, the evidence suggests it is residents of minority communities.

Finally, like the residents of Nebraska discussed in *Sioux City*, residents of Connecticut are to be assessed at a uniform rate, without distinction. However, the data show that residents of minority neighborhoods at least in New Haven are over-assessed as compared to residents of majority-white neighborhoods. Importantly, in *Sioux City* the Court held that a reduction may be appropriate even when it proves incompatible with state statutes. Thus, like in *Sioux City*, this may mean that some minority

136. CONN. GEN. STAT. § 12-62(a)-(b) (2003).

residents are entitled to a reduction remedy, even though the state statutes in Connecticut are facially neutral.

VI. STATUTORY REFORM AND PURCHASE ASSESSMENTS

As mentioned, currently Connecticut statutes require that property taxes be based on "true and actual valuation."[137] Before closing, it is worthwhile to discuss briefly a replacement to the purported market-tied property assessment scheme, which is relied on by New Haven and most other jurisdictions. The object here is not to fully develop a new assessment regime for localities, but is far less ambitious. Instead, the goal is to merely delineate the contours of a local taxation regime that seems to reduce the racialized impact of market-tied assessments heretofore described.

A. Purchase Assessments

One seemingly non-discriminatory statutory replacement to the market-tied assessment scheme in place in the vast majority of localities is to assess parcels of property based on the amount the last buyer paid to purchase it. Put another way, assessments should be a function of the purchase price or acquisition cost, not the purported market value of the property formulated by local assessment offices. Under this policy, residents of minority and non-minority neighborhoods alike are assessed based on how much they actually paid to purchase a piece of property. To arrive at municipal revenue, a locality's property tax rate is applied to the "purchase assessments."

This is similar to the scheme passed in California when voters adopted Proposition 13 in 1978, the subject of Nordlinger's lawsuit in *Hahn*.[138] In that case, voters in California passed a referendum to lock-in property tax values at one percent of the purchase price.[139] The only major difference in the scheme that I advocate and the California one is that my scheme limits purchase assessments to residential properties, while California's scheme applies to all real property subject to the property tax.[140]

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137. *See* CONN. GEN. STAT. REV. § 12-64 (2003).

138. *Hahn,* 505 U.S. at 4-6 (describing the events leading up to the adoption of proposition 13).

139. FREDERICK D. STOCKER, PROPOSITION 13: A TEN-YEAR RETROSPECTIVE 3 (1991).

140. CAL. CONST. XIII(a). The main reason to limit this proposal to residential properties is because I found no evidence from the sales data that assessments of commercial properties are race-dependent. Thus, while commercial properties might face discrimination, it is not similar to the invidious discrimination of minority homeowners. One other reason to limit this to residential properties is that nonresidential properties do not change hands as frequently as residential property. *See* Marion S. Beaumont, P*roposition 13 Winners and Losers: Were First-time Home Buyers Affected Adversely, in* STOCKER, *supra* note 139, at 151. Thus,

Making assessments a function of purchase price may eliminate the possibility of racialized assessments. That is, except for cases of improvements to property or non-market sales (discussed *infra*), the human element of property tax assessments, which likely creates differential assessment, would be removed. The process of assessing residential property would be reduced to a largely mechanical process of simply confirming the last sales price. Individuals could rely on the fact that what they paid for a piece of property is the sole factor for determining assessments and, ultimately, effective property tax rates.

For instance, the data shows that the effective property tax breaks that single-family homeowners receive should disappear. Additionally, owners of high- and low-value residential property under such a regime would be treated exactly alike and assessments would be the same function of purchase price, regardless of the amount paid. Additionally, because assessors will not have much discretion under this scheme, homeowners will not be able to exert undue political influence and thereby ensure themselves favorable assessments. Accordingly, any discrimination based on residential type, tenure, value, or race should end, since all property owners would be assessed based on the cash consideration paid.

B. Other Advantages

Further, purchase assessments might produce other benefits worth noting.

1. Public Resources

First, assessments based on the purchase price save fiscal resources of the state. Purchase assessments seem to do away with the need for a specialized corps to conduct assessments and specialized technologies. Assessors usually have to have specialized training to ascertain the market value of a piece of property.[141] In

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commercial properties would get a bigger tax break than others, all else being equal. Furthermore, commercial property discrimination, if any, is not as widespread as the discrimination against minority homeowners, since commercial properties represent only a small minority of total assessed properties. For example, in New Haven, commercial sales comprised less than 5 percent of all sales. *See* Summary of Property Sales in 2000, *supra* note 20. In any event, commercial enterprises that do experience discrimination are able to pass along at least some of the extra taxes to their consumers in the form of higher prices. *See* NETZER, *supra* note 35, at 36, 81 (discussing the distinction between high property taxes for businesses and homeowners).

141. Killen v. Logan County Comm'n, 170 W. Va. 602, 608 (1982) (noting that the "term 'assessor' implies that such officials possess special knowledge and capacity to appraise property and to assign a market value to it. Without such expertise, accurate valuation of property cannot occur").

the New Haven assessor's office, out of a staff of seven, five are certified assessment specialists.[142] Further, urban areas, like New Haven, have recently turned to computer assisted market valuation techniques and began to outsource revaluations to private companies.[143] However, as one author finds in California, a purchase assessment scheme make appraisal technologies obsolete and unnecessary.[144] Additionally, since purchase assessments merely focus on the sale price (which, in virtually all cases, should equal the market price), there is little need for an expansive cadre of assessors.[145] Thus, the process of assessment becomes more of a mechanical process that takes fewer skilled employees and little software. It also alleviates the need for challenges, which, incidentally, I have noted might also work to the disadvantage of minority neighborhoods. If assessments are based solely on purchase or acquisition costs, the need for such challenges and a board of tax review to adjudicate them is diminished.

2. Economic Efficiency

Second, purchase assessments of residential properties has minimal distortionary effect.[146] For instance, in *Hahn*, the dissent notes that Proposition 13 "inhibits the transfer of unimproved land, abandoned buildings, and substandard uses."[147] In other words, property taxes may even impede good investments.[148] Businesses may forego new investment because of high property taxes; homeowners without access to liquid resources may forego making improvements to property expecting that such improvements would generate a higher property tax bill.[149]

However, since my proposed regime would be limited to residential properties, non-residential property would still change hands according to its best uses. The lock-in effect that residential

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142. Interview with Terry Rodie Kennedy, *supra* note 19.

143. *Id.*

144. Ronald B. Welch, *Property Tax Administrative Changes Resulting from Proposition 13, in* STOCKER, *supra* note 139, at 113.

145. *But see* Welch, *supra* note 144, at 131 (arguing that, immediately after the passage of Proposition 13 in California, there were significant administrative needs in order to provide a statewide revaluation at 1975-76 levels).

146. *Id.* By contrast, some economists would argue that using the market-tied property taxation may even impede good investments. *See* NETZER, *supra* note 35, at 36; RICHARD A. MUSGRAVE & PEGGY B. MUSGRAVE, PUBLIC FINANCE IN THEORY AND PRACTICE 419 (5th ed. 1989). *But see* PETERSON ET AL., *supra* note 11, at 52-54.

147. *Hahn*, 505 U.S. at 37 (Stevens, J., dissenting).

148. *See* PETERSON ET AL., *supra* note 11, at 2.

149. *See* MUSGRAVE & MUSGRAVE, *supra* note 146, at 52-54 ("[I]t would seem that the economic literature may have exaggerated the actual disincentive effect of property taxation on the maintenance and upgrading of the housing stock.").

properties face, furthermore, would be counter-balanced by the positive effects of long-term residency. Lastly, purchase assessments seem to be an accurate way of assessing residences. Periodic assessments to determine the market price were only a proxy (an ineffective one at that) for market value — how much a willing buyer would pay for a piece of property. However, the best determinant of the current market value, is not how much a willing buyer *would* pay for a piece of property, but how much a willing buyer *does* pay for it.

3. Legal

Third, market-tied property assessment, as noted, may be susceptible to legal challenge, since the evidence suggests that it results in an adverse impact on residents of minority neighborhoods. By contrast, purchase assessments have already received the imprimatur of the Supreme Court. That is, the Court passed off on the legality of a scheme similar to the one I propose in *Hahn*, in which the Court opined on California's Proposition 13.[150]

4. Progressive Taxation

Fourth, market-tied assessments, as others have noted, may also be regressive.[151] Assessments based on acquisition costs, however, are somewhat progressive. For starters, such a regime may stall gentrification. In other words, purchase assessments create a lock-in effect; it dissuades some people from moving because of the concomitant increase in property taxes. This lock-in effect, according to the Court in *Hahn*, impedes, among others, the displacement of lower income families.[152]

Furthermore, purchase assessments remedy liquidity problems associated with the current property tax regimes.[153] Put differently, purchase assessments elide the problem of not having enough

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150. *Hahn*, 505 U.S. at 1 (1992). For a good analysis of the case, *see* Miller, *infra* note 153, at 109-34.

151. For instance, commentators bemoan that property taxes are regressive, because wealthy homeowners spend smaller proportions of their income on home buying. *See* Edward A. Zelinsky, *The Once and Future Property Tax: A Dialogue with My Younger Self*, 23 CARDOZO L. REV. 2199, 2202 (2002); *see also* NETZER, *supra* note 35, at 57 (reporting a negative correlation between income and housing expenditures).

152. *Hahn*, 505 U.S. at 12.

153. *See also* John A. Miller, *Rationalizing Injustice: The Supreme Court and the Property Tax*, 22 HOFSTRA L. REV. 79, 86. Zelinsky, *supra* note 151, at 2201-02 ("The classic example is the retiree living on a fixed income whose home appreciates significantly in value and whose local property tax obligation rises commensurately. Since the retiree's income is static, rising property taxes absorb increasingly large percentages of that income, creating liquidity problems for the fixed-income retiree.").

money to pay property taxes. As with sales taxes, if persons have enough to make the original purchase, it reasons that they have enough to pay the tax on such purchase.

C. Alternatives

It is worth mentioning at least two other alternatives that will likely reduce the racialized impact that flows from market-tied assessment schemes, such as that found in New Haven. However, as discussed below, both alternatives have significant defects.

1. Eliminate Property Taxes

One solution to assessment discrimination may be to simply eliminate taxes on residential property. One might also lower residential property taxes so as to mitigate the net effect of differential assessments. However, to change the tax system mid-course would be unfair to many, because much of the lifetime expected costs have already been capitalized into the value of the underlying property asset.[154] Previous owners of residential property deducted from the sale price to the current owner the costs of property taxes, and the current owner, since there is no reason to expect residential property tax abatement, factored in such costs when he made the offer. As Jensen succinctly explains:

> No hope has been held out that property taxes would ever decline, and he must have been a reckless taxpayer who would have pinned his faith to such a hope had it been offered. Until recently no alternative source of revenue worth mentioning has been available. The property owner, who bought property on the basis of its yield before taxes, did so at his peril and often to his grief. There have undoubtedly been hundreds of thousands of property owners who purchased property without reckoning adequately for taxes, who have suffered from their neglect. But that is not due to lack of warning.[155]

For two reasons, the benefits of these breaks would go disproportionately to white homeowners. First, giving a property tax break to current homeowners would rebound predominately to white owners, who are more likely in New Haven (and elsewhere)

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154. For an explanation of capitalization, see NETZER, *supra* note 35, at 33-40 (discussing the literature on capitalization and property taxes).

155. JENSEN, *supra* note 1, at 76 (citation omitted).

to own a home. Second, because minorities tend to own less expensive homes than whites and thus owe overall small property tax bills, most of the largest benefits will go to non-minority groups.

In any event, jettisoning residential property taxes seems far too drastic a solution, like using a baseball bat to swat a determined fly. It is not clear if there is another good source of revenue. As most finance experts agree, it is not clear what sort of tax can raise equal amounts of revenue; no other tax comes close to raising such large amounts.[156] Property taxes account for over fifty percent of New Haven's revenue. Nationally, property taxes, according to the most recent figures, account for almost three-fourths of locally raised revenue.[157] Finally, the federal government favors property taxes through tax breaks, and it is not clear that such favorable treatment would be forthcoming with an alternative tax source.

2. Centralization

Another solution might be to forgo local control and make the state government responsible for property tax collections, so as to remove incentives for differential assessments. However, there are political benefits to leaving property tax collection to localities. In the words of one state supreme court, assessments are farmed out to local jurisdictions in order to promote democratic participation in taxation and "to avoid oppressive government practices."[158] Local collection efforts both maximizes "political participation" and amplifies "support for the political system."[159] Centralization may also reduce incentives to raise property taxes. Further, centralization of collection does not ensure that property tax assessments will not be racially discriminatory. State officials and local officials may have identical incentives to discriminate against minorities.

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156. *See* PETERSON et. al., *supra* note 11, at 119; FISCHEL, *supra* note 10; PAUL, *supra* note 6, at 3.

157. 2002 STATISTICAL ABSTRACT, *supra* note 1, at 286 (providing that total local governments raised nearly $316 billion, of which $228 billion was from property taxes).

158. *Killen*, 170 W. Va. at 602.

159. FISHER, *supra* note 73, at 120.

D. Criticisms

1. Revenue

Possibly the most pungent criticism to purchase assessments is that it would reduce the amount of revenue generated from property taxes. A market-tied residential property taxation scheme putatively tracks market values; thus public coffers are directly sourced by demands on local land values. However, property tax assessments based on acquisition costs substantially inhibit a locality's ability to mark residential property to market values, since sales of such properties will be scattered and infrequent at best. Those localities may have to decrease public spending on things dependent on the property tax to make up for the shortfall.

To be certain, purchase assessments, in all probability, will limit the ability of municipalities to grow as the value of residential property taxes increase. However, how much revenue a municipality generates from property taxes is determined not simply by the level of assessments, but also by the taxation rate. In other words, New Haven can still continue to increase revenue from property taxes, if it wishes, by simply raising the statutory rate of taxation.

In any event, purchase assessments do not completely shackle local governments, cut public programs, or force them to find alternative sources of revenue. For one thing, while a purchase assessment scheme locks-in an assessment for residential property, it is not tantamount to suggesting that the value of local taxation is eroded. That is, even assuming there are no subsequent sales, local governments can still maintain current spending, so long as residential property taxation is increased at the rate of inflation. In California, Proposition 13 does just this, giving the legislature room to increase all property taxes by the rate of inflation.[160] Thus, pegging fixed property taxes to inflation ensures that current spending does not have to decrease. Further, because properties in Connecticut are evaluated only once every four years, it is an exaggeration to suggest that the normal system of property taxation instantly produces more income when property taxes rise. At best, the current system can be described as a delayed market-to-market system.

Finally, as a normative matter, it is not clear that municipalities should profit from increases in property values, when there has been no ostensible change in the liquid lifetime economic resources of homeowners. That is, since most homeowners do not rent out

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160. *Hahn*, 505 U.S. at 5 (noting that assessment may reflect from year to year the inflationary rate not to exceed 2 percent for any given year).

their residential properties for "profit", they realize no direct economic benefit from rising home values that merits increased taxation and or expansion in government spending. Of course, upon sale, if there has been appreciation, current homeowners will realize a windfall, but the state will be able to collect is portion of increased wealth as well. The purchasing homeowners will pay the appreciated price and, forever forward, the increased taxes. Additionally, selling homeowners, assuming they spend the same portion of their income on another residence, will also pay out the windfall when they invest in a subsequent home purchase.

2. Non-Market Sales

Second, it is easy under my proposed assessment scheme, for related parties to transfer property between one another for little consideration in order to reduce the property tax bill. Admittedly, the scheme does not handle non-market sales, such as those between related parties or for non-cash consideration. It would still have to be policed by a regulatory office similar to the current assessor's office, particularly to monitor sales between related parties. However, the propensity to create sham sales in order to get a property tax break could be checked by high penalties. Alternatively, as in California, sales between related parties could be disregarded for property tax purposes.

As to bankruptcy auctions and foreclosure sales, municipalities would still have to perform assessments for properties that are sold in forced sales. Otherwise, buyers would not only get to buy at fire-sale prices, they would also get to avoid appropriate taxation. Such sales, however, are fairly easy to monitor, because auctions are generally public events and the government can require notification. Further, because such sales presumably occur infrequently, a municipality like New Haven would have to retain few assessors to perform these tasks. Thus, even with this regime, there is a need to force sales, sales between related parties and perhaps even improvements to property, since the cost of improvements might not always be a matter of public record.

3. Tenure, Revisited

Finally, it will result in discrimination against renters, since landlords, in a tight rental market, will have little incentive to pass along the benefits of the reduction to tenants by lowering rents.[161] Many people in large cities, like New Haven, rent. As noted,

161. *See* PETERSON ET AL., *supra* note 11, at 17.

relatively few residences in New Haven's twenty-eight neighborhoods (32%) are owner-occupied .[162] Since minorities are more likely to rent, this will cause a differential impact against minorities. Shortly put, in some markets renters, which are disproportionately minority, will be disadvantaged relative to purchasers under such a scheme.

However, it is not clear that municipalities, like New Haven, are tight rental markets. In fact, although vacancy rates have been recently declining, throughout the 1990's the Connecticut rental vacancy rate has exceeded the national average.[163] Even more basic, it is not clear that landlords will not pass along cost savings to tenants, as most economists agree, that will pass along cost increases in the form of higher rents.[164]

In any event, this problem is far different from the problem of residential property tax discrimination. In the case of a tight rental market, minorities are able to substitute away from rentals. In the case of home ownership, the only way to escape the discrimination is to move to majority-white neighborhoods. Of course, it is impossible for all minority members to migrate to such neighborhoods, because there is simply not enough of them. Further, increases in the minority population in such communities are directly related to increases in effective property tax rates. Shortly, the fact that minorities disproportionately rent should give us pause, but, more troubling is the fact that minority members cannot escape discrimination based on property tax assessments.

Additionally, the scheme discriminates against "late-comers." Thus, those who bought their property late would have to pay property taxes closer to the market value of the property. Indeed, according to the Court in *Hahn*, a majority of the property tax burden in California was paid by the late-comers, a disparity under Proposition 13 that was expected to grow.[165] My proposal might even be somewhat regressive, since, as an empirical matter, there is an inverse relationship between home changes and wealth.[166] In other words, low-income homeowners are more likely to change homes than high-income homeowners, all else being equal. It follows, therefore, that low-income homeowners will more frequently pay out

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162. *See supra* Part VI.B.

163. *See* 2000 HOUSING STATISTICS, *supra* note 2, at 236. Compared to its neighbors, New York and Massachusetts, over the same period, Connecticut has consistently posted higher vacancy rates. *See* 2002 STATISTICAL ABSTRACT, *supra* note 1, at 596.

164. *See generally* RICHARD POSNER, ECONOMIC ANALYSIS OF THE LAW 482-85 (6th ed. 2003).

165. *Hahn*, 505 U.S. at 6 (noting that in 1989, 44% of pre-Proposition 13 homeowners pay only around 25% of the residential property taxes).

166. *See* 2002 STATISTICAL ABSTRACT, *supra* note 1, at 30 (providing data showing that with increases in household income, the frequency of home changes decreases).

taxes closer to the market value of their home rather than a largely fixed sum had they not changed homes. Moreover, since members of minority groups are less likely to own a home, they are less likely to realize an immediate appreciable benefit from the policy change.[167] In other words, many of the benefits would go to current homeowners, who are disproportionately white.

However, the propensity of low-income homeowners to change homes frequently and thus pay out a more market-type property tax might cut in their favor. Minorities frequently live in low-value neighborhoods, neighborhoods where the market value of homes are often declining.[168] As a result, if they are changing homes from one low-value community to another, my purchase assessment scheme ought to "save" them money each time they change homes; as long as home values are declining, the market value of their current home will always be less than the market value of their future home.

Incidentally, it is unlikely that this scheme will have a large impact, since, in absolute terms, few members of minority groups are moving to places like New Haven. For starters, only around fifteen percent of Americans move in a given year.[169] The state of Connecticut, for instance, has not witnessed an influx of minority groups, like it did yesteryear. In fact, the population growth of Connecticut has somewhat slowed in recent decades.[170] There are few new people moving into the state from other states; there is, instead, negative migration.[171] The data also suggest that few minorities are moving to New Haven from other cities within the state. In fact, in the past decade, almost one thousand African Americans moved out of the city.[172] Although the city has seen significant growth in the Latino population,[173] there is no good way to determine how many of these are non-citizens from abroad. In short, overall, there are few new comers to the state and there is reason to believe that few of these are members of minority groups.

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167. *See* Miller, *supra* note 153, at 119 ("[B]lack homeowners will bear a comparatively greater tax burden than their white counterparts who were able to purchase homes earlier because they did not have to overcome the barrier of racial discrimination.").

168. *See generally* PETERSON ET AL., *supra* note 11.

169. 2002 STATISTICAL ABSTRACT, *supra* note 1, at 29.

170. *Id.* at 23 (providing that the population of the state grew by 5.8 % in 1980-1990, 3.6 % in 1990-2000, and 0.6 % in 2000-2001).

171. *Id.* at 24.

172. *Compare* US DEPARTMENT OF COMMERCE, COUNTY AND CITY DATA BOOK: STATISTICAL ABSTRACT SUPPLEMENT 698 (1994) (providing that, in 1990, there were 47,157 African Americans in New Haven) [hereinafter 1994 CITY DATA BOOK] *with* CITY DATA BOOK, *supra* note 83, at 648 (providing that, in 2000, there were 46,181 African Americans in New Haven).

173. *Compare* 1994 CITY DATA BOOK, *supra* note 172, at 698 (providing that, in 1990, there were 17,243 Latinos in New Haven) *with* CITY DATA BOOK, *supra* note 83, at 648 (providing that, in 2000, there were 26,443 Latinos in New Haven).

VII. CONCLUSION

Residential property taxes are the chief source of revenue for chalk and blackboards, playgrounds and park benches, sanitation and sewage, police uniforms and fire trucks, sidewalk pavement and streetlights, lifeguards and public beach cleanups.[174] Still, the public,[175] the press, and the academy[176] loathe these perennial invasions of local duty. Save for passing observations, critics have largely overlooked another failing of market-tied property taxation: racialized assessments.[177] As I have argued throughout, residents of majority-minority neighborhoods — African American and Latino, to be specific — are assessed at higher effective rates than residents of majority-white neighborhoods. Furthermore, evidence of racialized assessments persists regardless of whether minorities choose to live in an expensive mansion or low-value, ramshackle apartment building. Perhaps the solution to racialized assessments, therefore, is to take out the human aspect of property tax assessment altogether.

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174. *See* FISHER, *supra* note 73, at 4 (detailing major property tax revenue uses).

175. *See* STOCKER, *supra* note 139.

176. *See, e.g.*, E.R.A. SELIGMAN, ESSAYS IN TAXATION (5th ed. 1905) ("[T]he general property tax is so flagrantly inequitable that its retention can be explained only through ignorance or inertia."); *see also* FISHER, *supra* note 73; Note, *supra* note 95, at 336.

177. For instance, in one of the earliest treatments of property taxation in the United States, Jens Jensen devotes a whole chapter to "Undervaluation and Inequalities in Valuation." *See* JENSEN, *supra* note 1, at 281-306. However, nowhere, in what is otherwise a comprehensive discussion, does Jensen mention the possibility of inequality on the basis of race. To his credit, however, at the time of Jensen's writing, there were probably few good sources of statistics on property ownership by race.

VIII. APPENDIX

A. Selected Sales Data

TABLE 16:
Selected Sales Data

Census Tract	Number of Residential Sales	Mean Sale Amount	Mean Total Assessment	Mean Sales Ratio
1401	3	25500	48130	191.13
1402	2	100500	53431	57.14
1403	19	63030	69132	159.68
1404	43	77640	69895	133.51
1405	47	55343	61232	173.52
1406	41	60502	67526	158.32
1407	23	93602	105883	175.11
1408	24	80313	67849	248.84
1409	37	119142	105591	153.27
1410	49	196826	112545	63.53
1411	41	139439	101711	99.69
1412	68	99277	80126	92.32
1413	31	81248	71347	98.24
1414	48	136029	95931	98.22
1415	75	58231	67073	172.16
1416	32	58732	83972	174.66
1417	3	501833	199197	39.72
1418	52	140891	87294	93.07
1419	77	202047	105883	62.95
1420	57	205464	105278	60.54
1421	22	103718	82340	102.12
1422	16	138476	92068	111.45
1423	85	77146	69098	119.28
1424	76	69799	73772	142.45
1425	77	84932	73563	101.87
1426	173	83982	68537	121.38
1427	88	88066	77974	107.49
1428	101	122009	89030	79.01

B. Tenure by Census Tract

Table 17: Tenure (New Haven, CT)		
Census Tract	Percent Own	Percent Rent
1401	1.1	98.9
1402	3.0	97.0
1403	23.1	76.9
1404	33.1	66.9
1405	28.8	71.2
1406	25.3	74.7
1407	9.3	90.7
1408	21.7	78.3
1409	22.8	77.2
1410	62.6	37.4
1411	76.2	23.8
1412	46.1	53.9
1413	14.0	86.0
1414	46.3	53.7
1415	35.8	64.2
1416	22.5	77.5
1417	2.0	98.0
1418	29.5	70.5
1419	28.5	71.5
1420	22.5	77.5
1421	11.6	88.4
1422	29.8	70.2
1423	24.5	75.5
1424	22.5	77.5
1425	29.2	70.8
1426	36.5	63.5
1427	37.3	62.7
1428	78.8	21.2
Totals	32.0	68.0

C. Census Tracts and Popular Names

Table 18:
Census Tract and Popular Names

Census Tract	Popular Name.
1401	CBD (Central Business District)
1402	Long Wharf-Church Street South
1403	Hill (4 City Point)
1404	Hill (4 City Point)
1405	Hill (4 City Point)
1406	Hill (4 City Point)
1407	Dwight
1408	Edgewood-West River
1409	Edgewood-West River
1410	Westville
1411	Westville
1412	Westhills
1413	Westhills
1414	Beaver Hills
1415	Newhallville
1416	Dixwell
1417	Yale
1418	Prospect Hill
1419	East Rock
1420	East Rock
1421	Wooster Square
1422	Wooster Square
1423	Fair Haven
1424	Fair Haven
1425	(No Name)
1426	Heights
1427	East Shore (Annex)
1428	East Shore (Morris Cove)

TRIBAL SOVEREIGNTY OVER WATER QUALITY

JESSICA OWLEY*

I. INTRODUCTION

Indian tribes are independent sovereigns located within the United States. As sovereign entities, they have the same rights and responsibilities that apply to nations of the world. However, this sovereignty is limited by the unique relationship between tribes and the U.S. government. Not fully independent, tribes are under the protection of the federal government in a type of ward-guardian status. The federal government draws on this relationship to exercise power over tribes including regulating activities on tribal land and removing tribal jurisdiction over certain offenses. Despite congressional control, tribes consistently exercise jurisdiction over the natural resources on their lands. Recently, Congress has begun to acknowledge that there is a gap between tribal sovereignty over natural resources and tribal ability to exert jurisdiction with respect to those resources under existing federal statutes. In response to this realization, Congress has added provisions to many environmental laws clarifying the rights of tribes to control their natural resources and prevent pollution on their lands. These tribal rights are similar to the rights exercised by states with relation to their natural resources.

One of the most far-reaching environmental laws is the 1972 Clean Water Act (CWA or "the Act"). In 1987, Congress amended the Act to include a provision whereby tribes can attain the same status as states for the purpose of implementing and enforcing the Act. This article specifically examines the Clean Water Act and this "Treatment As State" status provision of that law.

Section I of this article begins by addressing tribal sovereignty over natural resources. Control over natural resources is an essential element of sovereignty for all nations. Water in particular plays a vital role in the lives of tribal members and control over

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water resources is an essential element of tribal sovereignty. Tribal sovereignty over water resources fundamentally includes control over water quality, including regulation of water pollution. Section III sets the stage for tribal regulation of water quality by describing the federal water quality laws. This section explains the Clean Water Act's history and goals. Specifically addressing the framework of the Act, Section III also explains the preference for states as the primary enforcer of water quality and permit programs and shows how this preference extends to tribes. Section IV explains the role of tribes within the Clean Water Act and the recent statutory changes recognizing tribal sovereignty over water quality embodied in section 518 of the Act.

Because one of the main concerns with tribal water quality enforcement is tribal jurisdiction over non-members, Section V of this article examines civil and criminal jurisdiction over tribal lands. Since violations of the Clean Water Act give rise to both civil and criminal penalties, the evolving and uncertain nature of tribal jurisdiction must be understood to address the concerns of states and non-Indians engaging in activities that may pollute tribal waters. Section VI specifically examines case law that deals with tribal enforcement of environmental laws and shows the patterns that are developing in federal courts. Section VII then examines the Environmental Protection Agency's current practices, including a close look at the Agency's reluctance to assist tribes in taking full advantage of the opportunities that the statute allows.

The article concludes by explaining that tribes already have inherent control over their water quality based on their status as sovereign nations. The federal regulation in the Clean Water Act merely acknowledges a power that tribes already hold and helps establish programs to assist them in exercising their sovereignty over their natural resources. Accordingly, section 518, the "Treatment As State" (TAS) provision, exists to clarify tribal jurisdiction, not to create it.

Tribal sovereignty over water quality is well established, but the ability of tribes to prosecute water quality offenses and polluters has not been clear. Section 518 addresses that problem by delegating federal enforcement authority to tribes. Unfortunately, the EPA, the entity charged with promulgating regulations to carry out the CWA, has been hesitant in carrying out its duties to tribes as described by the Act. Of particular concern is the EPA's interpretation of the TAS provision. It fails to read the Act as either an acknowledgement of tribal power or a delegation of federal power. Instead, the EPA draws upon complex language provided in Supreme Court decisions to determine whether it is appropriate for tribes to regulate their water quality. This interpretation is unnecessarily complex and

contorted. Such an analysis is not needed in light of the clear congressional language delegating CWA enforcement authority to tribes. Thus, the Environmental Protection Agency's reading of the statute as not a clear delegation is incorrect. Even if one were to view Congress' 1987 TAS amendment to the Clean Water Act as an abrogation of tribal rights over water quality, the tribes' rights would then fall to the federal government. If the federal government has the power to regulate and enforce water quality, then it has the power to delegate that authority to a capable sovereign. The Act should be viewed as a clear delegation of federal authority to tribes based on their capacity to govern as sovereign nations.

With a clear delegation of federal authority, the Bill of Rights takes full effect on Indian land for cases involving Clean Water Act offenses. Extending these rights to tribal courts should alleviate some of the concerns about tribal enforcement. A non-Indian brought before a tribal court would be treated just as if she were brought before any state court where she was a non-resident. Additionally, the same possibilities for removal to federal court would operate in tribal actions as in state court actions.

The course that may prove easiest for tribes, allow for fuller participation in the section 518 program, and address the concerns of both states and dischargers would be to remove all enforcement actions related to tribal water quality programs to federal courts. There is nothing in either the Clean Water Act or any other statute that would require the enforcement to be in tribal courts. Instead, the federal courts could try the cases applying tribal law. This solution, however, is not without its own problems. Tribes may not want federal courts interpreting their law. The tribe would not be bound to interpret its law in the same way as the federal court did - just as federal interpretation of state law does not set precedent in state courts. This article concludes that tribes have *not* abrogated their sovereign right to control their water quality and that the EPA should not see any impediment to tribes setting their own water quality standards and operating their own permit systems.[1]

II. TRIBAL SOVEREIGNTY OVER NATURAL RESOURCES AND THE ROLE OF WATER IN THE LIVES OF TRIBES

Tribes are sovereign entities much like any foreign nations. As an element of this sovereignty, it is axiomatic that tribes should

1. Although this article discusses the routes available to tribes and non-Indians assuming abrogation of the tribal right to regulate water quality, it does so merely to reflect the discussions in current cases and language used by the EPA; not because the author believes that there has been a clear abrogation.

have control over their natural resources as long as they manage them in such a way as to not harm neighboring sovereigns.[2] Control over natural resources is especially important for communities and cultures that have a close relationship with their land, water, and the natural world around them. Because of the tribal cultural traditions and the development of tribes within the American context, many tribes are particularly dependent on water.[3] Water plays a vital role in the lives of tribes whose economic base is rooted in agriculture and fishing. As tribal sovereignty and culture is passively eroded and actively attacked, basic control over natural resources remains standing as one of the fundamental attributes of sovereignty tribes have retained.

A. The Beginning of American Indian Law

Federal Indian law has gone through a strange and tragic evolution. In colonial and pre-colonial days, tribes governed their entire territory. They were sovereign nations; all persons entering their lands were subject to their laws and customs. This situation did not last. When Europeans began to settle the "New World," things began to change. When they first arrived, the newcomers, including the British, treated tribes as sovereign nations and made treaties with them. With the establishment of the United States, however, the new government gained the rights and privileges that had formerly been associated with the British colonizers and disputes arose over whether the state or federal government was the more appropriate holder of those rights. Because of concern over the potential of Indian wars in light of settler thirst for Indian land, the framers of the Constitution placed Indians under the purview of the federal government. This relationship is not — so-clearly established in what is now known as the Indian Commerce Clause.[4]

Johnson v. M'Intosh,[5] *Cherokee Nation v. Georgia,*[6] and *Worcester v. Georgia*[7] firmly established the federal government as the entity

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2. DAVID HUNTER ET AL., INTERNATIONAL ENVIRONMENTAL LAW & POLICY 379-81 (2d ed. 2002). A cornerstone principle of sovereignty is the notion that all states enjoy sovereignty over natural resources occurring within their territory. *Id.* at 380. An extension of this sovereignty over resources affirms the right to control the terms and conditions of resource exploitation. *Id.*; *see also* G.A. Res. 2158, GAOR. 21st Sess. (1966).

3. *See generally* JOSEPH L. SAX ET AL., LEGAL CONTROL OF WATER RESOURCES: CASES & MATERIALS 830-63 (3d ed. 2000).

4. "The Congress shall have the Power … to regulate Commerce with the foreign Nations, and among the several States, *and with the Indian Tribes*…." U.S. Const. art I, § 8 (emphasis added).

5. 21 U.S. 543 (1823).

6. 30 U.S. 1 (1831).

7. 31 U.S. 515 (1832).

with the right and responsibility to legislate activities on Indian country and with Indians.[8] In *Worcester*, the Court held that state law is not applicable to affairs within Indian territory, clearly establishing Indian affairs and conduct on tribal land as a matter of tribal and federal concern.[9] This supported the earlier decision in *M'Intosh,* which held that the federal government was the only entity that could acquire tribal lands.[10] *M'Intosh* also explicitly recognized a legal right of Indians in their lands, good against all third parties.[11] Chief Justice John Marshall first articulated the federal trust responsibility to Indians in *Cherokee Nation*. He ruled that although tribal governments were not sovereign governments equal to foreign nations, tribes have their own unique status as "domestic dependent nations."[12] He also explained that the federal government owed a special responsibility to tribes including general protection and insurance of tribal economic security.[13]

Generally, Chief Justice Marshall seemed to view tribes along the same lines as states. He specifically recognized the Cherokee tribe as a body capable of managing its own affairs, explaining that the tribe had been uniformly "treated as a state from the settlement of our country."[14] Although this mirrors the current treatment of tribes as states for the purpose of environmental regulation, tribes were not often viewed or treated this way.

Since those early judicial decisions, much has changed on Indian land. The rules that once seemed so clear proved opaque to subsequent courts. Decision by decision, and law by law, the jurisdiction of tribes has been whittled away. Beginning with explicit congressional actions diminishing Indian sovereignty and the right to regulate their own lands, tribes lost power. The courts, not to be outdone by Congress, have continued this piecemeal

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8. This firm establishment of course is only how we view the cases today. At the time, the decisions seemed far from forceful. Although the Court was adamant in asserting federal power, a lack of enforcement by the Jackson administration gave these decisions diminished meaning for the parties involved. The nature of the federal government's power over Indian affairs has changed over time. During the Marshall era, judicial decisions were largely based in the Constitution and in the treaties made between the Indians and either the Executive Branch or the British. By the end of the 1800s, treaty making had ended and Congress began to exert a plenary power over Indian affairs. This framework is still in place today and Congress legislates what can and cannot occur on Indian land. Despite their strong desire, the states have never been very successful in securing much power over tribes.

9. *Worcester*, 31 U.S. at 557.

10. *Johnson*, 21 U.S. at 592.

11. This right is usually called either "aboriginal title" or Indian title and will be discussed in more detail in *infra* Section VIII.A.1.

12. *Cherokee Nation*, 30 U.S. at 17.

13. *Id.* Marshall explained specifically that the Indians' "relation to the United States resembles that of a ward to his guardian." *Id.*

14. *Cherokee Nation*, 30 U.S. at 16.

crusade. Through a series of decisions throughout the later half of the twentieth century, judge-made law chipped away at what notions of tribal sovereignty had remained.

The picture has not been entirely bleak however. History has been punctuated by instances of congressional turn-around and judicial softening. Congress sometimes acknowledges that it is not going down the correct road and makes a u-turn. Such was the case with the repeal of the termination laws[15] and the end of the Indian allotment policies. In the late 1800s, the federal government's main goal concerning Indians was to assimilate them into American society. Thus, it seemed important to get Indians off reservations and begin integrating them into the rest of the country. Congress decided to stop making treaties and granting reservations and instead began to allot land to tribal members individually.[16] Many existing reservations were broken up into 160-acre plots, which were then given to tribal members. Any remaining land was sold to settlers.[17] The combination of sale to settlers, and Indians selling their plots or portions of their plots led to a dramatic decrease in Indian-held land.[18] The 160-acre plot size was often too small to be productive, and the individualization of tribal lands disrupted traditional ways of life in both nomadic and agricultural communities.[19] By the 1920s, Congress realized that this assimilation and allotment policy was detrimental to Indian society. In a dramatic policy shift, Congress passed the 1934 Indian Reorganization Act (IRA).[20] The Act represented an attempt to encourage tribal economic development and self-determination.[21] The goal of the IRA was to allow tribes to govern themselves with some help from the federal government.[22] This major departure from earlier policy put an end to the Indian allotment. Tribes that had not yet been broken up remained whole. Beginning with that law

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15. In 1953, Congress adopted an official policy of terminating Indian tribes with the goal of integrating individual tribal members into larger society. H.R. Con. Res. 108, 83d Cong., 67 Stat. B132 (1953); *see also* WILLIAM C. CANBY, JR., AMERICAN INDIAN LAW 25-28 (1998). By the late 1960s, this policy was widely viewed as a failure and Congress began to rethink its policy towards tribes. Termination stopped and some tribes even had their status reinstated in the 1970s. *Id.* at 26-32.

16. Dawes General Allotment Act of 1887, ch. 119, 24 Stat. 388 (codified as amended at 25 U.S.C. §331 (2003)).

17. *Id.*

18. ROBERT N. CLINTON ET AL., AMERICAN INDIAN LAW 151 (3d ed. 1991).

19. *Id.*

20. Indian Reorganization Act (Wheeler- Howard Act), ch. 576, 48 Stat. 984 (1934) (codified as amended at 25 U.S.C. §§ 461-479 (2003)).

21. *See* Douglas A. Brockman, Note, *Congressional Delegation of Environmental Regulatory Jurisdiction: Native American Control of the Reservation Environment*, 41 WASH. U. J. URB. & CONTEMP. L. 133, 139 (1992).

22. *Id.*

and continuing to present day, Congress has been passing laws creating reservations and allowing tribes to take land back into trust. The notion of tribal ownership instead of individual tribal member ownership is now well recognized.

This example of federal recognition of tribal rights and sovereignty has also been seen in relation to natural resources.[23] There is now a legislative movement towards protecting sovereignty and recognizing tribal rights in natural resources. Congress has constructed environmental laws that expressly allow tribes to assert authority over their natural resources and environmental quality on Indian land. Several laws now grant tribes specific status:[24] viewing tribes as equal to states or creating separate obligations and rights based on the unique character of tribes as domestic dependent nations.[25]

B. Over Water is Especially Important to Tribal Governments

Water is an integral component of Indian social, cultural, and spiritual life.[26] Many tribal nations have a strong cultural and spiritual affiliation with water.[27] Many tribes also assert that water plays a special role in the spiritual lives of their people. Water quality in particular is a critical natural resource issue for tribes because so many of them depend on fisheries and irrigation. By being able to set their own standards of water quality, they can assure that the levels will be appropriate for religious or cultural needs.[28]

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23. Of course, the allotment policy also directly addressed a natural resource — land.

24. *See, e.g.*, Safe Drinking Water Act § 1451(b)(1), 42 U.S.C. § 300j-11(b)(1) (2003); Clean Air Act § 301(d)(2), 42 U.S.C. § 7601(d)(2) (2003). The Comprehensive Environmental Response, Compensation, and Liability Act (also called CERCLA or Superfund) authorizes the EPA to treat Indian tribes as states for specific purposes, and contains additional provisions specifically addressed to tribes. 42 U.S.C. § 9604(d) (2003).

25. The term "domestic dependent nation" originated with Chief Justice John Marshall and has remained a key element of the federal/tribal relationship. Cherokee Nation v. Georgia, 30 U.S. 17 (1831). This dependent status has often been likened to the relationship between a ward and a guardian. *See, e.g.*, United States v. Kagama, 118 U.S. 375 (1886). The tribe is dependent on the federal government. For example, the federal government holds title to tribal land and other property. It holds these things in trust for tribal members, with the same obligations any trustee owes to trust property and beneficiaries. These unique fiduciary and moral duties owed to the tribe may create unusual structures, laws, and relationships between tribes and government entities.

26. Richard A. Du Bey et al., *Protection of the Reservation Environment: Hazardous Waste Management on Indian Lands,* 18 ENVTL. L. 449, 450 (1988).

27. *See, e.g.*, United States v. Washington, 384 F. Supp. 312, 364 (W.D. Wash. 1974) (discussing the Makah Tribe's long history of connection to water, whaling, and a marine lifestyle).

28. City of Albuquerque v. Browner, 97 F.3d 415, 427-29 (10th Cir. 1996).

To reflect their concerns about water, a number of tribes have enacted comprehensive water codes that regulate water use on reservations.[29] These codes address both allocation and water quality concerns. Courts have also recognized the importance of water in the lives of tribal members. In *Colville Confederated Tribes v. Walton*, the Ninth Circuit suggested that the State of Washington could not regulate waterways on a reservation because the regulation of water is critical to tribes.[30]

There is a significant tribal interest in environmental and natural resource management on reservations.[31] First, Indian tribes have a unique relationship with the natural environment. Often their culture and history are rooted in the land. For example, the Chief Justice of the Navajo Nation's Supreme Court explained that the natural world is an essential part of the Navajo way of life:

> We refer to the earth and sky as Mother Earth and Father Sky. These are not catchy titles; they represent our understanding of our place. The earth and sky are our relatives…Understanding this relationship is essential to understanding traditional Navajo concepts which may be applied in cases concerning natural resources and the environment.[32]

Second, tribal governments are directly responsible for the health and welfare of tribal members. As the political bodies closest to a reservation's population, they are best able to determine their community's needs and the condition of their natural resources. The federal government has explicitly recognized this tribal right and the desirability of having tribes oversee their activities on tribal lands. President Reagan explicitly recognized the rights of tribes to control their natural resources, stating "[t]ribal governments have

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29. Michael C. Blumm, *Unconventional Waters: The Quiet Revolution in Federal and Tribal Minimum Streamflows,* 19 ECOLOGY L. Q. 445, 477–78 (1992).

30. Colville Confederated Tribes v. Walton, 647 F.2d 42, 52 (9th Cir. 1981); *see also* Segundo v. City of Rancho Mirage, 813 F.2d 1387, 1393 (9th Cir. 1987) (striking down state rent control ordinances on tribal land after taking into consideration the tribe's interest in land use regulation).

31. *See, e.g.*, New Mexico v. Mescalero Apache Tribe, 462 U.S. 322 (1983) (discussing the federal government's recognition of the importance to the tribe to regulate game and establish hunting regulations); White Mountain Apache Tribe v. Bracker, 448 U.S. 136 (1980) (discussing the importance of timber resources in the life of the tribe).

32. Tom Tso, *The Process of Decision Making in Tribal Courts,* 31 ARIZ. L. REV. 225, 233-34 (1989). In his dissent in *Brendale*, Justice Blackmun noted that Indians have a "unique historical and cultural connection to the land." Brendale v. Confederated Tribes and Bands of Yakima Indian Nation, 492 U.S. 408, 458 (1989).

the responsibility to determine the extent and methods of developing the tribe's natural resources."[33]

Third, control over resources is important to tribes politically as well. Courts have found that when there is a lack of Indian traditions in a particular activity, the arguments for tribal sovereignty are given less weight when balanced against competing federal and state interests.[34] Tribes are particularly interested in ensuring that reservations do not become dumping grounds for hazardous wastes and pollutants or a regulation free sanctuary for enterprises looking for loopholes around state and federal pollution control laws. Because tribal governments operate under a different set of laws than state governments, many polluters see tribal lands as an attractive possibility for managing their waste outside of many environmental laws and regulations. This difference in laws combined with the tribes' historical lack of political power make environmental concerns especially poignant and problematic on these lands.[35]

C. Control Over Natural Resources is an Essential Element of Sovereignty

Sovereignty is the inherent right or power to govern. The inherent rights of all sovereign nations include the right and responsibility to exert control over their natural resources. The ability to control land and water is fundamental. Tribes have traditionally had sovereignty over their natural resources. Even when tribal authority has eroded in other areas, control over water, soil, forests and animals remained secure.[36] In *Albuquerque v. Browner*, the Tenth Circuit specifically acknowledged the sovereign interest in water. The court identified four essential elements of tribal sovereignty as: water rights, government jurisdiction, land, and mineral rights.[37]

As explained below, however, at present, federal, state and tribal governments each have jurisdiction over some element of Indian

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33. Ronald Reagan, *President's Statement on Indian Policy*, 1983 PUB. PAPERS 96, 98 (Jan. 24, 1983).

34. *See, e.g.*, Rice v. Rehner, 463 U.S. 713, 720 (1983).

35. Allowing tribes a voice in these matters and giving them the power to invoke federal laws has helped tribes to more effectively manage hazardous waste. *See* Beth Rose Middleton, *Contested Authority over Dumps on Tribal Lands: The Regulation of Solid Waste in Indian Country* (unpublished manuscript on file with author).

36. *See, e.g.,* White Mountain Apache Tribe v. Bracker, 448 U.S. 136 (1980); Central Machinery Co. v. Ariz. State Tax Comm'n, 448 U.S. 160 (1980); New Mexico v. Mescalero Apache Tribe, 462 U.S. 324 (1983).

37. City of Albuquerque v. Browner, 97 F.3d 415, 418-19 & n.2 (1996). It is not clear how the court determined that these were the four critical elements for tribal sovereignty.

lands. All three governments understandably have substantial interest in regulation of environmental pollution, because air, water, and land pollution do not pay attention to political boundaries. Federal, state, and tribal governments all have an interest in protecting their citizens from the dangers of pollution.

III. THE CLEAN WATER ACT

Because Indian nations are within United States borders and Congress has plenary power[38] over entities within its borders, including tribes, tribes must adhere to federal environmental laws. In terms of water quality, this means that tribes must follow the programs and requirements laid out by the Clean Water Act. This section describes the Clean Water Act's general requirements, including its preference for allowing states and tribes to administer their own water quality programs.

A. History

Congress first began to regulate water quality seriously in 1948 with the Federal Water Pollution Control Act (FWPCA).[39] The FWPCA protected water quality through ambient water quality standards.[40] These standards focused on "tolerable effects rather than the preventable causes of pollution."[41] Cumbersome enforcement procedures combined with "awkwardly shared federal and state responsibility for promulgating . . . standards" to create an act lacking the effectiveness needed to improve the quality of the nation's waters.[42] Since 1948, the FWPCA has gone through

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38. Congress has nearly complete power over Indian tribes. It can pass any law affecting tribes as long as the law does not violate constitutional requirements. This power has allowed Congress to create reservations, terminate tribes, take over tribal resources, and to remove adjudicatory power among other things. As the Court explained in *Lone Wolf v. Hitchcock*, 187 U.S. 553, 565 (1903), "[p]lenary authority over the tribal relations of the Indians has been exercised by Congress from the beginning, and the power has always been deemed a political one, not subject to be controlled by the judicial department of the government."

39. Act of June 30, 1948, 62 Stat. 1155. Congress had been regulating navigable waters since the Rivers and Harbors Act of 1899 (RHA), ch. 425, 30 Stat. 1121 (1899) (codified as amended at 33 U.S.C. §§ 401-418 (2003)). Section 13 of the RHA, commonly called the Refuse Act, limited what citizens were allowed to dump into navigable waters and place on the banks of waterways. Thus, RHA was the first federal law regulating water pollution. Courts interpreted the act to regulate the dumping of anything that could have a deleterious impact on navigable waters. Although an important statute on the books, it was not widely enforced until more recently. Moreover, despite the fact that the RHA did keep channels clear for navigation, the congressional interest in water quality problems did not blossom until the 1948 Act.

40. For a comprehensive history of the Clean Water Act see EPA v. State Water Res. Control Bd., 426 U.S. 200, 202-05 (1976) [hereinafter *SWRCB*].

41. *Id.* at 202.

42. *Id.*

frequent revisions. Most significantly, in 1972 a series of amendments created what is more commonly known as the Clean Water Act (CWA or "the Act").

The 1972 Amendments came about during a time of intensified environmental interest in response to growing environmental hazards.[43] After examining the state of environmental law, the Senate Committee on Public Works concluded that "the Federal Water Pollution Control Program . . . has been inadequate in every vital aspect."[44] The sense of emergency combined with this sense of inadequacy to inspire Congress to enact far-reaching comprehensive legislation to combat water pollution. The dire problems of pollution across the nation, including on tribal lands, showed that a national system of regulation was necessary.

B. Purpose

Although the Act has gone through further amendments and reauthorizations since 1972, its purpose and justification remain the same. The Act's main goal is to restore and maintain the chemical, physical, and biological integrity of the nation's waters.[45] It calls for the eventual elimination of the discharge of any pollutants into navigable waterways.[46]

When Congress enacted the 1972 Amendments, it declared the national goal that "the discharge of pollutants into navigable waters be eliminated by 1985."[47] These ambitious goals were accompanied by new enforcement procedures to help meet them. Not only does the Act establish a system of minimum water quality standards, it also describes mechanisms to enforce those water quality standards. Of particular note is the Act's regulation of entities discharging into navigable waters, creating a permit system for water polluters. The

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43. One of the key events that led to this legislation for example was when the Cuyahoga River caught fire in 1969. *See, e.g.*, ROBERT ADLER ET AL., THE CLEAN WATER ACT 20 YEARS LATER 5 (1993).

44. S. Rep. No 92-414, *reprinted in* 1972 U.S.C.C.A.N. 3674.

45. 33 U.S.C. § 1251(a) (2003). The CWA delineates its jurisdiction based on "navigable waters" which it defines as "waters of the United States, including the territorial seas." 33 U.S.C. § 1362(7). The Act derives its justification from the federal government's authority to regulate navigable waters, which is based in the Commerce Clause of the Constitution.

46. *Id.* § 1251(a)(1). The CWA describes several subsidiary goals as well, the most well known being the "fishable and swimmable water" standard. *Id.* § 1261(a)(2). The Act specifically states "it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July1, 1983." Although the statute does not use the words "fishable and swimmable," this goal is widely referred to using those terms. *See, e.g.*, ADLER, *supra* note 43, at 8.

47. 33 U.S.C. §1251(a)(1) (1972).

Act imposes maximum effluent limitations on point sources[48] as well as a requirement to achieve acceptable water quality standards.[49]

C. Regulation

The Clean Water Act regulates discharges of pollutants through two main avenues. The first aspect harkens back to pre-CWA state regimes where states set their own water quality standards. Based on this tradition and a desire to protect and endorse federalism, the Act allows states to regulate their own waters for the most part. This relationship serves as a basic model of cooperative federalism. Waterways must meet the called-for levels of water quality, which differ based on the type of waterway.[50] The Environmental Protection Agency, as authorized by the Act, sets federal water quality standards.[51] At a minimum, states must comply with these federal levels. Thus, although the states set their own standards for the most part they must comply with the federal floor established by the EPA. States may, however, go beyond these requirements and set standards that are more stringent.

Acknowledging that an immediate cessation of pollutant discharge was unrealistic, the 1972 Congress created this system to regulate facilities and activities with the goal of eventually eliminating all point source pollution in navigable waters. Thus, as a second aspect of its water pollution regulation program, the Act contains permitting programs that directly regulate the discharge of pollutants into navigable waters.[52] These programs are embodied in the National Pollutant Discharge Elimination System (NPDES) permit program described in section 402 and the Dredge and Fill permit program of section 404. NPDES permits regulate discharges from point sources. The statute calls on the EPA to create and administer the NPDES system[53] and the Army Corps of Engineers to manage the section 404 permits.[54] NPDES permits list types and amounts of pollutants that entities are allowed to discharge.[55]

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48. Point sources describes "[s]pecific point of origin of pollutants, such as factory drains or outlets from sewage treatment plans." RICHARD T. WRIGHT & BERNARD J. NEBEL, ENVIRONMENTAL SCIENCE: TOWARD A SUSTAINABLE FUTURE 661 (8th ed. 2002). On the flip side of point sources are "non-point sources," which, as their name suggests, are sources of pollution that are hard to identify. Nebel & Wright describe these as "[s]ources of pollution such as general runoff of sediments, fetrilizer, pesticides, and other materials from farms and urban areas . . . [a]lso called diffuse sources." *Id.* at 659.

49. *SWRCB*, *supra* note 40, at 204.

50. 33 U.S.C. § 1313 (2003).

51. *Id.* § 1313(b).

52. *Id.* § 1342.

53. *Id.*

54. *Id.* § 1344(d).

55. 33 U.S.C. § 1342 (2003).

States can also administer their own permit programs as described below.[56] However, because of the importance of federal oversight and coordination, the EPA retains ultimate authority. Today forty-five states and one territory (the U.S. Virgin Islands) have their own NPDES programs.[57]

D. States Have Primary Jurisdiction

Despite congressional concerns over state-based regulation, the Clean Water Act establishes a pollution control regime where the states act as the primary enforcers. [58] The CWA institutes a program of statutory federalism, clearly establishing which activities and responsibilities are federal and which can be delegated to the states. Congress recognizes the interest that states have in the waters of their jurisdiction and the importance of local regulation.

States are generally more aware of the local environmental and industrial conditions. Accordingly, states may set their own water quality standards.[59] State standards must comply with all federal minimum requirements, but can be more stringent in their regulatory scheme if a state so desires.[60] Further, section 101 of the Act recognizes states as the preferred enforcers of both standards and permit programs.[61] Because of this status as "preferred" enforcers, the EPA works with states to help them create acceptable regulation and permitting programs. When operating with approved programs, states take on the work of running permit programs, monitoring water quality, and ensuring that the waterways of the state meet both the state and federal water quality standards. Under the framework of the CWA, states can attain the authority to administer both the NPDES permit program and a dredge and fill permit program laid out by section 404. EPA decides whether to delegate administration of a permit system to a state based on the state's capacity (adequacy of staff and funding) and its experience regulating in the area (state water pollution laws and programs).[62]

Although the Act acknowledges the desirability of state power, its existence is rooted in the previous inadequacies of state

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56. *Id.* §§ 1342(b), 1370.

57. EPA webpage, *State Program Status*, *at* http://cfpub2.epa.gov/npdes/statestats.crm?program_id=45 (last updated Apr. 14, 2003).

58. 33 U.S.C. § 1251(b) (2003).

59. *Id.* § 1313 (2001).

60. 40 C.F.R. § 131.4(a) (1994).

61. 33 U.S.C. § 1251(b) (2004).

62. Robert H. Wayland III, *Building an EPA/State Relationship for the Changing Management of Environmental Programs,* C352 ALI-ABA 83, 89 (1988).

regulation. Because of overarching federal concerns about water quality, the EPA sets minimum standards for state permit programs, detailing even technology requirements. Additionally, the EPA retains full authority over the permits, polluters, and states at all times. Despite the fact that the EPA has never done so, it has the right to revoke a state's ability to administer the regulation program.[63] The EPA also reviews all controversial permits and can require states to reevaluate or change any permits that the EPA administration does not deem adequate. Thus, the EPA acts as a watchdog overseeing all the state programs and stepping in when it spots an area or permit of concern. Because water quality regulation stems from the CWA, it is a federal regulatory scheme even when states are the ones enforcing the law. This means that litigation arising out of such disputes can usually be removed to federal courts based on federal question subject matter jurisdiction.

Congress made sure that states retained much of the administrative power because, in many ways, the state is a more efficient regulator of the environment.[64] Disaggregating government powers reduces pressures on federal government spending.[65] Some scholars argue that special interests can get a stronger hold in the federal government where they only need money and one legislator in their pocket; this is easier at the federal than at the state level.[66] It is harder to spend money at the state level. State governments are much better at balancing their budgets. They are more connected to the funds they spend and take more care when allocating monies. Additionally, states can monitor costs more closely.[67] When regulating environmental conditions, states exert control over land use and protect the health and welfare of their citizens. Because environmental conditions vary greatly among the states, local control over resource use and regulation makes more

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63. *See, e.g.*, 33 U.S.C. § 1342(c) (2003).

64. The capability of states to make and enforce environmental law has changed over time. State governments are larger than they were in the past with many states having significant environmental departments. When states were seen as not having the capacity to administer environmental programs, it was easier to argue that federal oversight was necessary. This argument has become less persuasive. Today states have been delegated most of the operation and responsibility for carrying out environmental laws. Robert H. Wayland III, *Building an EPA/State Relationship for the Changing Management of Environmental Programs,* C352 ALI-ABA 83, 85 (1988).

65. Charles Fried, *Federalism — Why Should We Care?,* 6 HARV. J.L. & PUB. POL'Y 1, 3 (1982).

66. *Id.*. This argument seems particularly unpersuasive — conventional knowledge argues that the lower the level of government the more corruptible and susceptible to external pressures. This is one of the reasons that we have federal laws and one of the reasons why local planning boards tend to be so corrupt.

67. Fried, *supra* note 65, at 3.

sense.[68] All of these state-based arguments are equally salient when addressing the concerns and strengths of tribes.

States often lobby to have increased control over their resources and environmental amenities. States are not generally required to administer environmental programs; they can leave it to the federal government. However, despite the cost, time, and energy involved, states generally take on any environmental programs available to them.[69] For example, only five states have chosen not to administer their own NPDES program.[70] States have made huge advances in staffing levels and expertise since the Act first passed in 1972.[71] Many believe that the only way to meet the broad goals of our environmental laws is by having a successful concerted effort with both the states and the federal government.[72]

The CWA encourages states to create their own programs that adhere to federal standards and that are designed to meet national goals. This interaction seemed appropriate for adapting national water quality goals to local economic and ecological conditions.[73] If states do not set their own water quality standards or develop a state-enforcement program, the Environmental Protection Agency administers its own standards and program. Thus, the EPA is the default enforcer. As such, the EPA also serves as the enforcer and standard setter for lands outside of state regulatory authority. Because of this framework, the EPA also administers the Act's programs on tribal lands for tribes who have not yet structured full

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68. General federal laws have often shown to be inadequate at taking local conditions into account. Although there is a need for uniformity and nation-wide standards, it is also important to allow states to create protocols that make sense for their citizens. The differences in environmental conditions have been recognized by Congress since the first Homesteading Acts. The ignorance of western water conditions to eastern politicians led to homesteading acts that did not fit the land. One hundred and sixty acre plots in the East or Midwest are more profitable than plots of the same size in the arid west. Notably, John Wesley Powell pointed out this discrepancy and Congress passed laws that allowed larger plots on drier lands, the Indian Allotment Act granted tribal members 160 acres regardless of their land conditions. DONALD J. PISANI, WATER, LAND & LAW IN THE WEST 11-16 (1996).

69. Robert H. Wayland III, *Building an EPA/State Relationship For the Changing Management of Environmental Programs,* C352 ALI-ABA 83, 89 (1988). The fact that states chose to take on water quality regulation programs despite the cost of implementation and enforcement shows that states regard the ability to regulate their water resources as an important one. As sovereign entities, states, like tribes, seek to exert jurisdiction over as many areas as possible.

70. EPA, State and Federal Authorization Status, *at* http://cfpub1.epa.gov/npdes/states tribes/astatus.cfm (last updated June 28, 2002).

71. Wayland, *supra* note 69, at 86.

72. *Id.*

73. Sally K. Fairfax et al., *Federalism and the Wild and Scenic Rivers Act: Now You See It, Now You Don't,* 59 WASH. L. REV. 417, 424 (1984).

tribal water quality regulation programs or who have not yet attained "Treatment as State" status as will be discussed below.[74]

It is important to recognize that pollution does not stop at state borders. Conflicts often arise between states that share waterways. This concern is especially salient when upstream and downstream users have different water quality standards. The EPA has had to deal with such situations many times. When states set conflicting requirements of water quality, downstream water users receive special consideration.[75] Although the Act does not specifically require upstream dischargers to comply with downstream water quality standards, the EPA has the authority to direct such compliance when it feels it is warranted.[76] This example of EPA power and the concern of national coordination demonstrate the need for the federal water regulation scheme developed by the Act.

IV. TREATMENT AS STATE (TAS) STATUS

Originally, only states with approved programs and the federal government had the ability to administer Clean Water Act programs. In 1987, however, a new actor entered the scene. In response to a desire to acknowledge tribes' sovereignty over their own resources and affirm tribal administration of laws on Indian lands, Congress passed an amendment to the CWA that requires the EPA to treat tribes as states for the purposes of meeting the broad goals of the Act.

When Congress originally enacted the CWA, it did not specifically identify the governmental entity with authority to set standards for waters on Indian lands within states.[77] In the late 1960s, tribal self-determination emerged as the dominant federal Indian policy. Statements by both Presidents Johnson and Nixon established tribal self-determination as a goal of the executive

74. *See infra* section IV.

75. 40 C.F.R. §§ 122.4(d) (2000). This regulation applies irrespective of who administers the permit program.

76. Arizona v. Oklahoma, 503 U.S. 91, 105 (1992). The CWA requires upstream users to inform the regulating governmental agency downstream that could be affected by any permitted discharges. 33 U.S.C. §1342(b)(3) (2003). The EPA's regulations state that no permit may be issued "[w]hen the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected states." 40 C.F.R. § 122.4(d) (2000). This regulation applies irrespective of who administers the permit program.

77. City of Albuquerque v. Browner, Brief for the Respondent in Opposition, 1997 WL 33561568 (U.S. 1997).

branch.[78] Additionally, several congressional acts from the 1960s and 1970s solidified this policy.[79]

Section 518 was added to the statute in 1987 to explain the possibilities for tribes.[80] This section of the statute describes two main strategies for tribes: Cooperative Agreements (§518(d)) and Treatment As State (TAS) status (§518(e)). The Cooperative Agreements provision authorizes states and tribes to work together to negotiate agreements about state program requirements and implementation procedures. These agreements resemble interstate compacts in that they are negotiated contracts between two sovereigns within the United States. Section 518(d) gives a broad sweeping approval for agreements of this type so that Congress need not review each individual document. In these agreements, which are subject to the approval of the EPA Administrator,[81] tribes may, for example, agree to allow states to operate Clean Water Act programs on their land.

More importantly, the 1987 amendments authorize the EPA Administrator to treat tribes as states for the purposes of carrying out the goals of the CWA.[82] The CWA further directs EPA in "consultation with Indian tribes, [to] promulgate final regulations which specify how Indian tribes shall be treated as States" under the Act.[83] In 1991, after a full notice and comment rulemaking, the EPA issued a final rule implementing the provision and setting forth the requirements tribes must meet in order to obtain TAS status.[84]

TAS status acknowledges the equal footing tribes have with states with regard to natural resources. Tribes can exercise the same rights and responsibilities as states if they so desire. Tribes

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78. Lyndon Johnson, *President's Special Message to the Congress on the Problems of the American Indian: The Forgotten American*, PUB. PAPERS 355 (March 6, 1968); Richard Nixon, *President's Message to Congress on Indian Affairs*, PUB. PAPERS 564 (July 8, 1970).

79. *See, e.g.*, Indian Civil Rights Act, 25 U.S.C. §§ 1301-1341 (2004); Indian Self-Determination and Education Assistance Act, 25 U.S.C. §§ 450-450n, 455-458(e) (2004).

80. 33 U.S.C. § 1377.

81. *Id.* § 1377(d).

82. *Id.* § 1377(e). Notice that this granting of "treatment as state" status could actually be insulting to tribes. In essence, these sovereign nations which in theory should be considered an equal power with the federal government are being down-graded to the role of a mere state, a subsidiary to the federal government. Of course, in general, tribes are used to being treated as lesser entities and thus they welcome this level of statutory security over their right to govern their own water quality. *See* James M. Grijalva, *Tribal Governmental Regulation of Non-Indian Polluters of Reservation Waters*, 71 N.D. L. Rev. 433, 440 (1995); EPA Website, *Laws, Regulations & Guidance, at* http://www.epa.gov/indian/treatst.htm (last updated Aug. 30, 2004); Improving EPA's Indian Program Operations, 59 Fed. Reg. 38,460 (July 28, 1994); Indian Tribes: Eligibility of Indian Tribes for Program Authorization, 59 Fed. Reg. 13,829 (to be codified at 40 C.F.R. pts. 123, 124, 131, 142, 144, 145, 233, and 501).

83. 33 U.S.C. § 1377(e) (2003).

84. 40 C.F.R. § 131.8 (1994).

can act as states in the realm of grants,[85] setting water quality standards,[86] administering permits,[87] non-point source management,[88] and other programs.[89] Like the system for states, tribes can apply for TAS status for all permissible programs or they can get partial TAS status and only administer certain elements of the CWA.[90] In general, tribes appear most interested in the ability to set their own water quality standards. There are currently twenty-three tribes approved to establish water quality standards for their territories.[91]

TAS status is an element now included in several environmental laws: the Clean Water Act, Safe Drinking Water Act, the Clean Air Act and to some extent the Superfund Act.[92] Tribes must apply for TAS status for each law. But, after the first successful application, the rest will be easier.

A. TAS Requirements

To be able to obtain TAS status, tribes have to meet several requirements established by EPA regulations. They must be a

85. For waste management treatment works (33 U.S.C. §§ 1281-1289 (2003)), for research and training programs (§ 1254), or for pollution control (§ 1256).

86. They must establish water quality standards pursuant to § 303, comply with reporting, recordkeeping and inspections requirements described in §§ 305 and 308, and enforce water quality standards and other provisions according to § 309. 33 U.S.C. §§ 1313, 1315, 1318, 1319 (2003).

87. 33 U.S.C. § 1342.

88. *Id.* § 1329.

89. Any provision of the CWA that applies to states can now also be read as pertaining to tribes, including sections 1254, 1256, 1313, 1315, 1318, 1319, 1324, 1329, 1341, 1342, 1344, and 1346. 33.U.S.C. § 1377(e). EPA has not treated the CWA's list as exhaustive.

90. Paul M. Drucker, *Wisconsin v. EPA: Tribal Empowerment and State Powerlessness Under §518(e) of the Clean Water Act,* 5 U. DENV. WATER L. REV. 323, 341 (2002). No tribe has applied for TAS status for all permissible programs. *Id.* at 394, n.127.

91. EPA, *Tribal Water Quality Standards, available at* http//www.epa.gov/waterscience/standards/wqslibrary/tribes.html (last updated Nov. 2, 2004).

92. Safe Drinking Water Act § 1451(b)(1), 42 U.S.C. § 300j-11(b)(1) (2002); Clean Air Act § 301(d)(2), 42 U.S.C. § 7601(d)(2) (1995). The Comprehensive Environmental Response, Compensation, and Liability Act (also called CERCLA or Superfund) authorizes the EPA to treat Indian tribes as states for specific purposes, and contains additional provisions specifically addressed to tribes. 42 U.S.C. § 9604(d) (1995). There are also environmental laws that do not expressly treat tribes as states, such as the Resource Conservation Recovery Act, the Federal Insecticide, Fungicide, and Rodenticide Act, the Toxic Substances Control Act, Emergency Planning and Community Right-to-Know Act and the Pollution Prevention Act. However, tribes have been successfully asserting authority over the areas those laws regulate by drawing on traditional common law and notions of tribal sovereignty giving them the right to regulate their own resources.

recognized tribe[93] with a functioning governmental body[94] who has clear jurisdiction over the waters they seek to regulate.[95]

The CWA defines tribe as an entity with a reservation.[96] The Act defines reservation to include "all lands within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservation."[97] It is important to note that based on this definition, even land owned by non-Indians in fee-simple can be covered by the Act's jurisdiction if it is within the borders of a reservation. This is especially important when it comes to regulation of waterways. Tribes do not necessarily own the land beneath the navigable waters on the reservations. Based on the Equal Footing Doctrine, many states received title to the land beneath navigable waters when they entered the Union. In some cases, this included waters on tribal lands.[98] If a state is able to successfully establish ownership to navigable waters and lands beneath them, this would make those areas fee lands[99] within reservation boundaries. EPA has concluded that it will define the term "reservation" consistently with relevant statutes and case law. This means that trust lands formally set apart for the use of tribes may meet the CWA definition of 'reservation' even where those lands have not been formally designated as reservations.[100]

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93. 40 C.F.R. § 131.8(a)(1) (2003).

94. 33 U.S.C. § 1377(e)(1), (3) (2003).

95. *Id.* § 1377(e)(2); 40 C.F.R. §131.8 (2003).

96. 33 U.S.C. § 1377(h)(2) (2003) (defining "tribe" as a "tribe, band, group, or community recognized by the Secretary of the Interior and exercising governmental authority over a Federal Indian reservation").

97. *Id.* § 1377(h)(1). Deciding whether something is in Indian Country or on Indian land can be tricky. The term "Indian Country" was given its present definition by Congress in 1948. 18 U.S.C. § 1151 (1948). The definition used by the CWA is part (a) of that definition.

98. Ownership of submerged lands within reservation boundaries must be decided on a case-by-case basis because many factors must be analyzed to reach a determination. For details about ownership and jurisdiction over tribal lands, see Jessica Owley, California's Public Trust Responsibility on Tribal Lands (2004) (unpublished manuscript, on file with author).

99. Meaning that the lands would be privately held by non-Indians within the boundaries of an Indian reservation. This status could be important for determining jurisdiction over those lands. It is not always clear whether tribes have the power to regulate on such lands. *See, e.g.* Strate v. A-1 Contractors, 520 U.S. 438 (1997).

100. Amendments to the Water Quality Standards Regulation that Pertain to Standards on Indian Reservations, 56 Fed. Reg. 64,876, 64,881 (Dec. 12, 1991) (relying on Okla. Tax Comm'n v. Citizens Band Potawatami Indian Tribes, 498 U.S. 505 (1991)); David F. Coursen, *Tribes as States: Indian Tribal Authority to Regulate and Enforce Federal Environmental Laws and Regulations,* 23 ENVTL. L. REP. 10,579, n.13 (Oct. 1993). Also interesting to note is that the CWA's definition apparently does not apply in Alaska or Hawaii, where, with one exception, there are no reservations.

The second requirement for TAS status is that the water in question must be subject to inherent tribal jurisdiction.[101] The Act calls for the water resources to be "held by an Indian tribe, held by the United States in trust for Indians, held by a member of an Indian tribe if such property interest is subject to a trust restriction on alienation, or otherwise within the borders of an Indian reservation."[102] It is not entirely clear what this requirement means. Often, title to navigable waters and the lands beneath them lie with the states. This could mean that neither the federal government nor the tribe technically hold title to the submerged lands within the boundaries of a reservation. State ownership of such lands could mean that a tribe does not have inherent jurisdiction over the waterways in question.[103] Thus, as a preliminary step to obtaining TAS status, tribes often commence quiet title actions to assert either tribal or federal ownership of the submerged lands on their reservations and jurisdiction over the waters. This additional step can add several years on to the tribes' process for attaining TAS status. This burden further delays and hinders the ability of tribes to regulate their own water resources.[104]

The Supreme Court clarified and affirmed tribal water rights in two important cases: *Winters v. United States*[105] and *Arizona v. California*.[106] The *Winters* case involved a reservation whose boundaries reached to the middle of the Milk River.[107] When off-reservation settlers attempted to appropriate water from the river for agricultural use, the tribe protested.[108] The Supreme Court found that when the reservation had been established, it included an implied reservation of water rights to sources within or bordering

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101. 33 U.S.C. § 1377(e)(2) (2003). *See infra* Section V for discussion of jurisdiction on tribal lands.

102. *Id.* If this language can be used to establish inherent jurisdiction, then tribes should be able to successfully assert jurisdiction over any lands within the metes and bounds of their reservation.

103. *See generally* Owley, *supra* note 98.

104. The Coeur d'Alene Tribe of Idaho ended up in court when it tried to assert title to the navigable waters on its reservation. The tribe was trying to establish title in order to gain TAS status. Although the case went all the way to the Supreme Court, title to the submerged lands was never clearly established. The Supreme Court never reached the ownership question because the case was decided based on the state's sovereign immunity. Idaho v. Coeur d'Alene Tribe of Idaho, 521 U.S. 261 (1997). When the tribe tried again to assert jurisdiction in the Ninth Circuit, the court upheld tribal ownership of the lakebed in question and tribal jurisdiction over the water. United States v. Idaho, 210 F.3d 1067 (9th Cir. 2000) (quieting title to land underlying portions of Lake Coeur d'Alene and the St. Joe River in the United States as trustee for the Coeur d'Alene tribe which was categorized as a beneficial owner).

105. 207 U.S. 564 (1908).

106. 373 U.S. 546 (1963).

107. *Winters*, 207 U.S. at 565.

108. *Id.* at 567.

the reservation.[109] Additionally, *Winters* established that tribal water rights are a matter of federal, not state, law.[110] Although *Winters* makes it clear that tribal users have rights to water, it was not clear how much water they had rights to. The *Arizona* case involved determining the quantity of the water reserved. In *Arizona*, the Court declared that the quantity reserved for Indian use is that amount sufficient to irrigate all the practicably irrigable acreage on the reservation.[111] Read narrowly, this case explains that tribes are only entitled to the amount of water necessary for irrigation. This narrow reading stereotypes all tribes as agriculturally based groups and does not allow for expansion of tribal practices and economies. A better reading of *Arizona* however draws upon the purpose of the reservation. A federal reservation should be seen as reserving sufficient water to meet the needs of that reservation. Thus, the amount of water needed will differ based on tribal culture and economy instead of simply on the number of acres of the reservation. Because tribes grow and change, the amount of water reserved should naturally expand to meet tribal needs. However, despite the importance of the *Winters* and *Arizona* cases for establishing tribal rights to water and determining the quantity of the water that tribes have rights to, neither case touched upon what quality of water tribes have rights to. Expanding the ideas presented in these two cases though, water quality should also be protected under this rubric. The *Arizona* reasoning can be expanded to protect the water *quality* necessary to carry out the purposes of the reservation. For example, because Indian reservations are there to meet the needs of tribal members and entities, this need should automatically encompass any cultural, religious, or health needs. Thus if tribes assert that they need high quality water to meet spiritual needs, that level of water quality was reserved at the time of reservation creation.

To qualify for TAS status, a tribe must have a functioning governing body that has the ability to enforce the CWA.[112] This essentially means that the tribe must have a political or bureaucratic infrastructure and funding.[113] Additionally, the tribe must be capable of any activities it proposes to undertake.[114] And of

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109. *Id.* at 577.

110. Unlike other water rights, tribes do not lose their rights established by *Winters* for non-use. WILLIAM C. CANBY, JR., AMERICAN INDIAN LAW 405 (1998).

111. Arizona v. California, 373 U.S. 546, 600-01 (1963).

112. 33 U.S.C. § 1377(e)(1) (2003); 40 C.F.R. § 131.8(a)(2) (2003).

113. However, tribes with TAS status can also apply for grants from the EPA. Joe W. Stuckey, *Tribal Nations: Environmentally More Sovereign Than States*, 31 ENVTL. L. REP. 11,198 (Oct. 2001).

114. 33 U.S.C. § 1377(e)(3) (2003).

course, like the states, a tribe must apply to the EPA to attain TAS status.[115] Thus, tribes must be proactive in addressing self-regulation in the environmental arena. This is easier for some tribes than others largely because of the disparity of financial resources among tribes.[116]

B. Procedures for Approval

Tribal applications for TAS status go through a modified notice and comment rulemaking process. EPA only allows a limited number of groups to comment on TAS applications and individual notice is not given.[117] Officially, only states contiguous to tribal lands and relevant federal agencies (those that would be impacted by the granting of TAS status) may file comments.[118] Programmatically however and with the EPA's approval, states collect comments from interested citizens and submit many people's comments to the EPA along with their own.[119]

C. Implications of TAS Status

Once a tribe obtains TAS status, it has the right to set its own water quality standards or develop permitting programs. Each step of the process has to be approved by the EPA. After obtaining TAS status, a tribe sets water quality standards. If a tribe wishes to set standards that are more stringent than the federal minimums, the EPA must approve the standards before they can go into effect. This is the same process that a state must go through. Further, if, for example, a tribe would like to administer an NPDES discharge permit program, it will have to create a program and then obtain

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115. 40 C.F.R. § 131.8(b) (2003).

116. Stuckey, *supra* note 113 (also noting, however, that the EPA assists the tribes with their programs including providing staff support when requested). In his recent keynote address at the 2003 Public Interest Environmental Law Conference, John Echohawk stated that he believes that the sole reason that tribes have not attained TAS status is because they do not have adequate funding. Although he acknowledges that there is funding available from the EPA, he views this as either inadequate or too difficult to obtain. *Public Interest Environmental Law Conference*, Eugene, OR (March 7, 2003).

117. However, the EPA does publish notice in local newspapers. Drucker, *supra* note 90, at 359; Amendments to the Water Quality Standards Regulation that Pertain to Standards on Indian Reservations, 56 Fed. Reg. 64,876, 64,884 (Dec. 12, 1991) (to be codified at 40 C.F.R. § 131).

118. 40 C.F.R. § 131.8 (c)(2)(ii) (1994).

119. This makes little sense and deprives the state-only commenter requirement of any real meaning. It is not clear though what problems this might create. Generally, there are high tensions between tribes, states, and private landowners. This is nowhere more true than where people are disputing water use and quality. Allowing everyone to comment may bring in comments that are more personal, bitter. Usually only people who are against the status will bother to comment.

EPA approval for that program. Thus, the tribe must stop and check in with the EPA every step along the way.

If tribes gain TAS status for either CWA permit programs or setting water quality standards, permit holders may have to reapply for their discharge permits following the tribal processes and adhering to tribal standards.[120] Permit holders may see this as a significant additional burden. Because polluters are most commonly industry and municipalities, tribes may have influential groups opposing approval of tribal CWA programs. Although several tribes have established their own water quality standards, as of February of 2004,[121] EPA had not authorized any tribe to issue discharge permits.[122]

In the absence of TAS status, the EPA bears the burden of administrating all CWA programs on tribal lands.[123] When tribes only take partial advantage of the TAS status, the EPA administers the programs that the tribes do not take on. Because Congress has plenary power over tribal land, the federal government, not the states, should manage CWA programs. Thus, the EPA should be the enforcement authority on tribal land. This would hold true whether the tribe had no TAS status or only partial TAS status. This would be the same power and enforcement authority exercised by the EPA for states that do not have approved programs or have only partial programs. However, the EPA retains the ability to delegate this enforcement and standard setting authority to states.[124] But, if the EPA delegates the authority to administer permit programs to

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120. Montana v. EPA, 941 F. Supp. 945, 947 (D.N.M. 1996).

121. The EPA currently lists twenty-three tribes as having set their own EPA-approved water quality standards. U.S. Environmental Protection Agency, *Tribal Water Quality Standards Available Through EPA, at* http://www.epa.gov/waterscience/standards/wqslibrary/tribes.html (last updated Nov. 2, 2004).

122. Drucker, *supra* note 90, at 344. Only two tribes had even applied and those applications are still pending. Due to the current backlog of permits, the EPA estimates that approval of NPDES permits will take five years. EPA, *NPDES Backlog Information*, *at* http://cfpub.epa.gov/npdes/permitissuance/backlog.cfm (last updated Oct. 17, 2003). The Navajo Nation has structured an NPDES program and is working to obtain EPA approval of their program. The Navajo nation would be the first tribal entity with an NPDES system of their own. U.S. Environmental Protection Agency, *Navajo Nation Environmental Protection Agency — Water Quality Program*, *at* http://www.epa.gov/owm/mab/indian/navajo.htm (last updated June 28, 2002).

123. This is because tribal lands are subject to federal, not state, regulation unless the federal jurisdiction is specifically ceded to the state by statute. However, as is evident by the Clean Water Act cases discussed in *supra* section V, states often assume that they can assert sovereignty over tribal lands within their borders. However, if a state is able to successfully assert ownership over submerged lands on a reservation, they may be able to regulate the waterway despite the fact that it is on tribal land. *See* H. Scott Althouse, Comment, *Idaho Nibbles at Montana: Carving Out a Third Exception for Tribal Jurisdiction Over Environmental and Natural Resource Management*, 31 ENVTL. L. 721, 726-28 (2001).

124. *Id.* at 730-31.

states where tribes have set their own tribal water quality standards, the states still must comply with those tribal standards when administering the program.

The EPA must consider tribal water quality standards during its permitting process and the EPA must ensure that discharges do not violate tribal goals. For example, when tribes set water quality standards, it may affect the requirements of NPDES permits even where the tribes are not the administrators of that program. Additionally, upstream water users must ensure that their discharges will not exceed tribal water quality minimums. This holds true whether or not the dischargers are on Indian land. At times, this can mean increased regulation if tribes have more stringent standards than the state, which they usually do.[125]

From the EPA's point of view, there are benefits and drawbacks for granting tribes TAS status. The benefits include the avoidance of patchwork regulation and an assertion of tribal sovereignty. When tribes regulate Indian lands, they can create a coherent regulatory system and avoid a pastiche that would only control on member or tribally owned land within a reservation. As the EPA explained when promulgating its rules, the mobile nature of water pollutants makes it impracticable to try to separate water quality impairment of tribal waters from impairment of non-Indian waters.[126]

D. Concerns of States

States are one of the most powerful opponents to tribal regulation. They frequently oppose any efforts to either recognize or expand tribal sovereignty. Indeed, the EPA's slow approval of TAS programs might reflect concern over state displeasure.[127] States may have valid concerns about tribal regulations of water resources, but generally their arguments are either not well-founded or could apply equally to state regulation.

1. Spillover Effects

States are be concerned about spillover effects from pollution on tribal lands. If tribes have more lenient standards than states, then state governments might worry about the ability of tribes to effectively control pollution. Many reservations have significant

125. Drucker, *supra* note 90, at 342.

126. Amendments to the Water Quality Standards Regulation that Pertain to Standards on Indian Reservations, 56 Fed. Reg. 64,876, 64,878 (Dec. 12, 1991) [hereinafter Amendments].

127. *See infra* sections VII and VIII.

water quality problems.[128] However, because of the federal minimum standards set by the Act, this should not be a significant concern. Additionally, the EPA has established methods for negotiating between states and tribes with differing water quality standards.[129] Although not specifically bound by downstream users' standards, the EPA considers differing water quality standards when approving permits. Because of these concerns, EPA specifically reviews such controversial permits.[130]

2. Patchwork Regulation

States are also concerned about patchwork regulation.[131] Instead of believing that exercise of tribal authority will solve the dilemma of hodgepodge regulation, states argue that it actually increases the problem.[132] If Indian tribes achieve TAS status, instead of states administering one program for an entire area, there might be a mixture of managing agencies and the standards could change as one crosses borders into various Indian lands. Additionally, states worry that they lose sovereignty when tribes gain the right to regulate water.[133]

There is some support for this because many reservations have a checkerboard ownership pattern as a result of early allotment policies; there are often many parcels of land within reservations that are owned by non-Indians. Tribes always have the right to regulate their own lands and their own members, but problems could occur when states seek to separately regulate the non-Indian parcels within the borders of reservations. Allowing states to regulate the non-Indian fee simple parcels while either the federal government or tribal governments regulate the Indian owned land would lead to even greater concerns about patchwork regulation.

Checkerboard jurisdiction is worrisome in general because of its potential to lead to applications of inconsistent standards, which could undermine comprehensive environmental planning and encourage enterprises to locate in areas with the most relaxed standards.[134] This is the classic race to the bottom argument where tribal or local governments could be tempted to relax their standards in order to lure businesses onto their land to create jobs

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128. *See, e.g.*, EPA Surveys Indian Tribes for First Look at Environmental Problems on Reservations, 17 Env't Rep. (BNA) 1424 (Dec. 19, 1986).
129. 40 C.F.R. § 131.7 (a), (c) (2004).
130. *Id.*
131. Amendments, *supra* note 126.
132. *Id.* at 64,889-90.
133. *See, e.g.*, Wisconsin v. EPA, 266 F.3d 741, 746-49 (7th Cir. 2001).
134. Brockman, *supra* note 21, at 154.

and tax revenue. This concern seems less valid given the national minimum standards for water quality. In fact, this concern represents one of the key reasons behind the 1972 Clean Water Act.

It is unclear which regulator will best reduce the harms of patchwork regulation. In some areas of the country, the boundaries of Indian reservations are large and tribes could coherently govern large acreage. Elsewhere tribal trust property may be small and separate tribal regulation may not make sense. Generally, tribes acknowledge when state regulation is best. In those situations, tribes enter into cooperative agreements with states to allow state regulation and standard setting. Additionally, both state and tribal plans are still required to go through an EPA approval process and the agency is unlikely to approve of any programs that would result in degraded waterways.

3. Concern About Tribal Courts

More importantly, states worry that their citizens will be disadvantaged and denied due process in tribal courts.[135] Non-members are not participants in the tribal political structure. This means that they cannot vote in tribal elections, run for tribal office, or even sit on tribal juries. As mentioned above, they are not even officially allowed to participate in the notice and comment rulemaking process that granted TAS status to the tribe. This means Clean Water Act violators may be subject to courts that do not operate under the full U.S. Constitution.

In order to administer these environmental laws properly, tribes must be able to enforce the laws in court. Tribes must be able to assert both civil and criminal jurisdiction over offenders. Specifically, to administer the Act tribes must put in place enforcement procedures, which include methods of imposing both civil penalties and, where necessary, criminal sanctions. This raises not only the ire of private individuals and companies being regulated, but also that of the states. In particular, many state officials worry about what they see as an extension of civil and criminal jurisdiction granted by the Clean Water Act.

Many believe that this is an improper extension of tribal jurisdiction and use that basis to protest the granting of TAS status to even the most organized and consolidated tribes.[136] TAS jurisdiction results in tribes regulating both members and non-members, including non-Indians. The conflict is not about tribal

135. *Montana,* 941 F. Supp. at 947.

136. This is one of the main complaints of the State of Montana in *Montana v. EPA*, 941 F. Supp. 945, 947 (D.N.M. 1996).

jurisdiction over tribal members, but over tribal jurisdiction over non-Indians. The events at issue generally occur in Indian country. They may be on tribal lands, member lands, or even non-member fee lands.[137] Additionally, depending upon the state and tribal programs involved, there may be requirements placed upon users located upstream from tribal lands.

V. CIVIL AND CRIMINAL JURISDICTION

Logically, tribes would have both criminal and civil jurisdiction over all people and events on their land. This is analogous to the power that states have. Even if you are not a California resident, if you break a law while in the State of California, you will be subject to its laws. Initially, tribes did have both civil and criminal jurisdiction over their lands. This did not last long however. In the Marshall trilogy of cases, as we have seen, the federal government established its right to make decisions and create laws for tribes and on tribal lands.[138] At present, subject matter jurisdiction of federal, tribal or state courts usually depends heavily upon three issues: (1) Whether the parties involved are Indians; (2) Whether those Indians are members of the tribe asserting jurisdiction; and (3) Whether the events took place on Indian land. All of these elements, moreover, are surrounded by uncertainty. The following sections explain the gradual erosion of tribal criminal jurisdiction via both congressional and judicial action.

A. General Tribal Jurisdiction

1. Criminal Jurisdiction

Tribes long ago lost their jurisdiction over crimes committed by non-Indians against non-Indians when they occur on Indian lands.[139] That attrition of tribal sovereignty prevented jurisdiction

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137. Tribal lands are lands that are held by the tribe as an entity. Member lands are parcels owned by individual tribal members. Non-member fee lands are parcels owned by non-members (usually non-Indians) within the borders of a reservation. The member lands and non-member fee lands are generally the result of an earlier allotment process that divided up the reservation, putting land in the hands of individuals.

138. The Court made it clear in this period that the federal judiciary would oversee any disputes involving tribes or tribal lands, but Congress did not clearly give judicial jurisdiction over events occurring solely on tribal lands until later.

139. United States v. McBratney, 104 U.S. 621 (1881) (confusedly holding that the State of Colorado had jurisdiction over the Ute reservation because when Colorado was admitted to the Union its enabling act put it "upon an equal footing with the original States" and no exception was made for the Ute reservation); Draper v. United States, 164 U.S. 240 (1896) (acknowledging that the Montana Enabling Act might have foreclosed jurisdiction over crimes by or against Indians, but refused to believe that Congress could have intended to prevent

questions from ever again being answered on purely geographical terms. Within fifty years, *Worcester* began to lose its bite and the straightforward rule that accompanied it[140] gave way to complex case-by-case decision making that gradually eroded tribal jurisdiction.

a. General Crimes Act of 1817

Congress passed the first federal law governing jurisdiction on Indian land in 1817 in the form of the General Crimes Act, also known as the Federal Enclaves Act.[141] Congress passed this law to provide federal prosecution of crimes by non-Indians against Indians and of non-major crimes by Indians against non-Indians. Because tribes were under federal authority, it was originally assumed that such crimes were not under state jurisdiction. The act imported into Indian country the body of criminal law applicable in areas under exclusive federal jurisdiction. The original intention was to apply federal law to all crimes committed by non-Indians; however that was frustrated by later Court decisions. A trilogy of cases created an exception to the General Crimes Act. In *United States v. McBratney*, *Draper v. United States*, and *New York ex rel. Ray v. Martin*, the Supreme Court declined to extend federal jurisdiction over crimes committed on Indian lands between non-Indians.[142] In each case, the Court placed jurisdiction in the state courts. Rather than relying on state sovereignty, the cases suggest that the non-ward status of the accused and victim divests the federal government of any interest in prosecuting, despite the fact that the crime is in Indian country.[143] Accordingly, *McBratney*, et al. are expressly limited to crimes between non-Indians on Indian lands.

b. Assimilative Crimes Act of 1825

In 1825, Congress incorporated lesser state crimes into the federal criminal code and applied those crimes to federal enclaves, including Indian lands within the states.[144] The act adopts the state definition and sentence prescribed of lesser crimes for prosecutions

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states from punishing wholly non-Indian crimes merely because they take place on Indian country). Courts have consistently upheld these decisions despite their lack of clear logic. *See, e.g.,* New York *ex rel*. Ray v. Martin, 326 U.S. 496 (1946).

140. *Worcester* held that states had no power to regulate activities on Indian land or to enforce state laws on Indian lands. *See supra* note 9 and accompanying text.

141. General Crimes Act, 3 Stat. 383 (1817) (now codified at 18 U.S.C. § 1152 (2003)).

142. *See supra* note 139 and accompanying text.

143. CANBY, *supra* note 110, at 123-32.

144. Assimilative Crimes Act, 18 U.S.C. § 13 (2003).

and applies them in the federal courts. These rules were extended to Indian country through the General Crimes Act. Crimes of this nature on Indian lands were brought in federal court whether committed by an Indian or non-Indian as long as the event occurred on Indian land. This law expanded on the jurisdictional restrictions from *McBratney* by including a wider variety of crimes under the federal government's purview without regards to the perpetrators of the crimes.

c. Major Crimes Act of 1885

Eventually the federal government gained authority over crimes between non-Indians and Indians while maintaining exclusive tribal jurisdiction over all Indian crimes. This continued until Congress modified it in reaction to *Ex parte Crow Dog*.[145] *Crow Dog*[146] involved the conviction of an Indian in a territorial court for the murder of another Indian in Indian country. The murder was alleged to have violated the general federal statute against murder extended to Indian Country by the General Crimes Act.[147] The Court held that there was no jurisdiction because the General Crimes Act excluded from coverage crimes by an Indian against an Indian.[148] Those crimes were thought to be under the clear jurisdiction of tribal governments. Congress reacted by passing the Major Crimes Act.[149] This was the first systematic intrusion by the feds into the internal affairs of the tribes. The Court later upheld this exercise of congressional power as justified by the ward status of tribes in *United States v. Kagama*.[150]

The Major Crimes Act[151] provides federal jurisdiction for fourteen[152] listed Indian offenses. This act represents the first significant federal intrusion into internal tribal matters including

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145. The Major Crimes Act, 23 Stat. 362, 385 (1885) (codified as amended at 18 U.S.C. § 1153 (2003)) was seen by many as a direct response to the Court's decision in *Crow Dog*. CLINTON, *supra* note 18, at 37.

146. Ex Parte Crow Dog, 109 U.S. 556 (1883).

147. *Id.* at 558.

148. *Id.* at 572.

149. Major Crimes Act, 23 Stat. 362, 385 (1885) (codified as amended at 18 U.S.C. § 1153 (2003)).

150. 118 U.S. §§ 375, 383-384 (1886) (explaining that "[t]hese Indian tribes are the wards of the nation. They are communities dependent on the United States, -- dependent largely for their daily food; dependent for their political rights. They own no allegiance to states, and receive from them no protection. … From their very weakness and helplessness, so largely due to the course of dealing of the federal government with them, and the treaties in which it has been promised, there arises the duty of protection, and with it the power.").

151. 18 U.S.C. § 1153 (2003).

152. The Major Crimes Act originally contained seven offenses. CANBY, supra note 110, at 154.

issues of self-governance. All persons prosecuted under the Major Crimes Act are held in the courts used for other federal offenses. [153]

Despite the Major Crimes Act, tribes continue to exercise substantial jurisdiction over Indians in Indian country for non-major crimes and civil actions.[154] Non-major crimes by Indians against Indians are within the exclusive jurisdiction of tribes, who also retain jurisdiction to punish non-major crimes by Indians against non-Indians, a jurisdiction shared with federal government under the General Crimes Act. Tribal jurisdiction over non-Indians, embodied in several early treaties, ceased to be exercised as the federal government assumed primary responsibility under the General Crimes Act. Recently, in *Duro v. Reina*, the Supreme Court held that tribes have no power to exercise criminal jurisdiction over nonmember Indians.[155] That decision was promptly reversed by Congress in what has come to be known as the "*Duro* fix."[156]

In the 1970s, several tribes became dissatisfied with the state of law enforcement against non-Indians on Indian land and responded by asserting tribal jurisdiction over crimes committed by them. The tribes contended that such jurisdiction was inherent in tribal self-government. This tribal position was rejected in *Oliphant v. Suquamish Indian Tribe* when the Court held that the tribe lacked criminal jurisdiction over non-Indians.[157] That case raised the issue of the tribe's right to exercise criminal jurisdiction over non-Indians on a reservation. The tribe argued that status as a sovereign nation granted it jurisdiction. Additionally, the tribe pointed out they had not abrogated the authority in any treaty nor were there any federal statutes explicitly removing its jurisdiction.[158]

d. Public Law 280 of 1953

Public Law 280 (PL 280) changed the face of both criminal and civil jurisdiction on Indian lands. Most notably, PL 280 granted specific states civil and criminal jurisdiction over Indian country.[159]

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153. This Act was tested in 1896 with *Talton v. Mayes*. The Supreme Court sustained the murder conviction of an Indian imposed by the court of the Cherokee Nation. Cherokee court was based on a model and a written criminal code similar to that of the U.S. While the opinion never cites the Federal Major Crimes Act and there is some question as to whether the Act applied in that particular Indian territory, the decision may indicate the concurrent jurisdiction of tribal courts over MCA offences.

154. This holds true for all areas except those specifically exclude by Public Law 280, discussed *infra.* section V.A.1.d.

155. Duro v. Reina, 495 U.S. 676 (1990).

156. 25 U.S.C. § 1301(2) (2001).

157. 435 U.S. 191 (1978).

158. *Id.* at 195-96.

159. Pub. L. No. 280, 67 Stat. 588 (1953) (in five specific states (California, Nebraska, Minnesota (except the Red Lake reservation), Oregon (except the Warm Springs Reservation),

The law made jurisdiction mandatory for some states and optional for others. Any state could assume jurisdiction by statute or state constitutional amendment. Several states assumed complete or partial jurisdiction under this law. Consent of tribes was not required. This law is directly in contradiction with Marshall's decision in *Worcester*.[160] However, it did not terminate the federal trust relationship. The act specifically disclaimed any grant to the states of power to encumber or tax Indian properties held in federal trust or to interfere with treaty hunting and fishing rights.

Originally, tribal consent to jurisdiction was not required, but in 1968 Congress passed the Indian Civil Rights Act.[161] That law not only required tribal consent, but also allowed retrocession of jurisdiction undertaken by either mandatory or discretionary states under PL 280.[162] This means that states that had exercised jurisdiction over tribes could lose their ability to exercise such jurisdiction. Tribal consent becomes the cornerstone of state ability to regulate on tribal lands. No tribe has ever formally consented to state criminal jurisdiction over its lands.

The effect of voluntary assumption of state jurisdiction under PL 280 on the federal jurisdiction conferred by the Major and General Crimes Act is unclear. Arguably, the state jurisdiction conferred is exclusive. In enacting PL 280, Congress did not expressly preserve federal jurisdiction. In general, Congress has frowned on concurrent jurisdiction because of the Fifth Amendment double jeopardy implications. Section 7 of PL 280 originally indicated that jurisdiction could be assumed by the states "not having jurisdiction with respect to criminal offenses" as provided for by this Act.[163] This suggests discretion and exclusive jurisdiction for mandatory states. The Court later held that the Act did not confer upon the state general regulatory power within Indian country in *Bryan v. Itasca County*.[164]

e. Williams v. Lee

In 1959, Justice Black asserted that despite the subsequent changes in law, the basic policy of *Worcester* remained. In *Williams v. Lee*, Black explained, "[e]ssentially, absent governing Acts of Congress, the question has always been whether the state action

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Wisconsin; Alaska was added in 1958)).

160. Worcester v. Georgia, 31 U.S. 515, 557 (1832).

161. Indian Civil Rights Act of 1968, 25 U.S.C. § 1301; 18 U.S.C.A. § 1162(a) (2000).

162. CANBY, *supra* note 110, at 217.

163. 18 U.S.C. § 1162 (1953).

164. 426 U.S. 373 (1976) (holding that states lack general powers of taxation and regulation in Indian Country).

infringed on the right of reservation Indians to make their own laws and be ruled by them."[165] The Court further explained that PL 280 provided the *sole* means for states to acquire civil and criminal jurisdiction over a tribe, and if they had not availed themselves of that method, they could not gain jurisdiction through other routes.[166] Notably, the Court assumed that even concurrent jurisdiction with states would unduly interfere with the powers of tribal courts.[167]

f. Summary

Both Congress and the courts have continually changed the complex world of criminal jurisdiction on tribal land. Both entities slowly removed tribal jurisdiction over acts committed on tribal lands, eroding tribal sovereignty along the way. Today, tribes are left only with criminal jurisdiction over Indians who have committed minor offenses on their lands. The major offenses are matters of federal jurisdiction because of the Major Crimes Act. Indeed, it seemed as though tribes would only be left with criminal jurisdiction over minor crimes committed on tribal lands by tribal members. In its "*Duro* fix" however, Congress expanded this to include all Indians regardless of which tribe they are members of. This small piece of tribal criminal jurisdiction was recently upheld in *United States v. Lara*.[168] There the Court held that tribes had inherent authority to bring criminal misdemeanor actions against non-member Indians.[169] The Court acknowledged that Congress' "*Duro* fix" was a legitimate method for recognizing tribal rights holding that the congressional action was not a federal delegation of power, but a relaxation of earlier restriction on *inherent* tribal sovereignty.[170]

2. Civil jurisdiction

a. Over Members

Despite changes in jurisdictional rules, tribes have always retained the right to exercise civil jurisdiction over tribal members. This includes clear authority to regulate the actions of tribal members on-reservation.

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165. 358 U.S. 217, 220 (1959).
166. *Id.* at 223.
167. *Id.*
168. United States v. Lara, 124 S. Ct. 1628 (2004).
169. *Id.* at 1628.
170. *Id.* at 1631.

b. Over Non-Member Indians

Federal case law had developed to generally remove tribal jurisdiction over non-Indians and further to non-member Indians.[171] That would leave tribes only with jurisdiction over their own members.[172] For purposes of civil adjudication, the Court has made clear its preference for drawing jurisdictional lines between members and non-members, rather than between Indians and non-Indians. Congress, however, recognizes an inherent authority of tribes over all Indians, and passed a statute in 1990 to establish tribal jurisdiction over all Indians.[173]

Another important factor in determining jurisdiction is w*hether the events took place in Indian country*. The present definition of Indian Country came from Congress in 1948. The definition is from the criminal code, but is also used for civil jurisdiction:

> [A]ll land within the limits of any Indian reservation under the jurisdiction of the United States government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation
>
> All dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state, and
>
> All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.[174]

When a reservation is diminished, the land is no longer "Indian country." Although a mere opening up of lands to settlement by non-Indians does not remove the lands from Indian country, a congressional decision to abandon the reservation status of those

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171. This basic element of sovereignty was called in to question in 1990 with *Duro v. Reina*, 495 U.S. 676 (1990). In that case, the Court held that tribes were precluded by their domestic dependent statues from exercising criminal jurisdiction over non-member Indians. Congress quickly overturned *Duro* by statute. 25 U.S.C. § 1301(2) (2003) (recognizing and affirming the "inherent power of Indian tribes … to exercise criminal jurisdiction over all Indians.").

172. For example, in *Colville*, the Court permitted a state to impose sales tax on Indians making purchases on a reservation other than their own. Washington v. Confederated Tribes of Colville Reservation, 447 U.S. 134 (1980).

173. Pub. L. No. 101-511, § 8077(b), Nov. 5, 1990, 104 Stat. 1893 (codified at 25 U.S.C. § 1301(2) (2004)).

174. 18 U.S.C. § 1151 (2003).

lands does. In cases where Congress has opened up lands to heavy settlement, there is often a difficult question of fact of whether the intent was to permit non-Indians to live and own land on a reservation or whether it was to extinguish a portion of the reservation. Cases have gone both ways.

In *Solem v. Bartlett*, the Court looked for magic language or an explicit reference to cession or other language evidencing total surrender of all tribal interest.[175] The Court found diminishment because it recognized that there had been a commitment to compensate tribes for land opened up to settlement. Compensation thus became evidence of diminishment. However, the Court still asserted that diminishment "will not be lightly inferred."[176] The Court looked at contemporaneous circumstances and subsequent treatment of the area along with the character of the land.[177] In general, it appears that congressional decisions to open land to settlement show congressional intent to diminish tribal land.

Ten years later in *Hagen v. Utah,* the Court rejected the contention that Congress was required to state its intention of modifying the reservation boundaries.[178] Contemporary understanding and later demographics supported diminishment and subsequent treatment of the area by the government was not illuminating.[179] Most important were the words of an act directing that surplus land "be restored to the public domain."[180] The Court held that such language denoted a congressional intent to end the reservation status of those lands.[181] The Court did not state that the language was conclusive, but it put heavy stress on the wording.[182]

Clear statutory language of cession combined with a commitment by the federal government to pay for the ceded lands shows diminishment. In *South Dakota v. Yankton Sioux Tribe*, the Court presumed diminishment based on the manner of negotiations and the assumption of jurisdiction by South Dakota immediately after cession.[183] The Court rejected the tribe's claim that the 1894 Surplus Land Act,[184] by disclaiming any abrogation of the treaty establishing the reservation, compelled a finding of no

175. 465 U.S. 463, 469 (1984).
176. *Id.* at 470.
177. *Id.* at 471-73.
178. 510 U.S. 399 (1994).
179. *Id.* at 410-12 (quoting 32 Stat. 263).
180. *Id.* at 412.
181. *Id.* at 412-13.
182. *Id.*
183. 522 U.S. 329, 344-46 (1998).
184. The significant portions of the Act can be found in *Yankton Sioux Tribe*, 522 U.S. at 337 n.1.

diminishment.[185] Because the act clearly modified some portions of the treaty, the Court concluded that the disclaimer applied primarily to payments promised in the treaty.[186]

The Supreme Court delineated the elements of a dependent Indian community in *Alaska v. Native Village of Venetie Tribal Government.*[187] The two essential characteristics of a dependent Indian community are that the land be set aside for the use of Indians and the land must be under the superintendence of the federal government.[188] Federal superintendence means that the community must be sufficiently dependent upon the federal government and that the federal government and Indians, rather than the states, are involved in exercising primary jurisdiction over the land in question.[189] Other factors may be considered, but other factors cannot be balanced against the first or be used to dilute the primary requirements.[190]

c. Over Non-Indians

Today, it is generally accepted that tribes do not have the right to exercise criminal jurisdiction over non-Indians. In *Montana v. United States*, the Court qualified the limits of *civil* jurisdiction over nonmembers on reservations.[191] The Court held that the tribe had no power to regulate hunting and fishing by non-Indians on non-Indian-owned fee land within the reservation boundaries.[192] The Court drew on the status of the tribe as a domestic dependent nation to strip it of this power. Despite this damaging decision and later decisions that followed the *Montana* model to limit tribal jurisdiction, tribes still have the ability to exercise jurisdiction over nonmembers in a few situations. The Court in *Montana* specifically delineated exceptions to its holding, explaining that in some instances tribes do have the right to exercise civil jurisdiction.[193] Additionally, tribes can exercise jurisdiction when the federal government delegates the power to tribes. This section explores and explains the exception laid out by the Court in *Montana*. The next section explains the federal government's ability to delegate jurisdiction to tribes.

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185. *Id.* at 342.
186. *Id.* at 341-42.
187. 522 U.S. 520 (1998).
188. *Id.* at 527.
189. *Id.* at 521.
190. *Id.* at 526.
191. 450 U.S. 544 (1981).
192. *Id.* at 557.
193. *Id.* at 565-66.

When the Court ruled in *Montana* that the tribe could not exercise jurisdiction over nonmembers, at the same time it established key exceptions to the rule.[194] The Court in *Montana* made it clear that tribes retain the ability to control internal relations and self-governance and they can make tribal laws governing those areas. When non-Indians enter into consensual relationships with the tribe or its members, they essentially agree to tribal jurisdiction.[195] And more importantly, tribes can regulate when the conduct of non-members threatens or directly affects the "political integrity, the economic security, or the health or welfare of the tribe."[196] These two elements have become known as the *Montana* exceptions. Thus, if a tribe can show either the presence of a consensual relationship or conduct that threatens core interests of the tribe, the tribe may regulate a non-Indian on Indian land.

(1) Montana Exception #1

Tribes may regulate non-members who enter into consensual relationships with tribes. This is known as the first *Montana* exception. It applies to nearly all reservation enterprises that are subject to federal environmental laws. There does not need to be a nexus between the consensual agreement and the regulated activity.[197] Additionally, if a non-Indian has commercial dealings with a tribe, there does not need to be an explicit arrangement or contract in order for a tribe to successfully assert jurisdiction.[198] In *FMC v. Shoshone-Bannock Tribes*, the Ninth Circuit explained that a non-native company subjects itself to the tribal civil jurisdiction when it actively engages in commerce with a tribe.[199]

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194. *Id.*

195. *Id.* "Indian tribes retain inherent sovereign power to exercise some forms of civil jurisdiction over non-Indians on their reservations, even on non-Indian fee lands. A tribe may regulate, through taxation, licensing, or other means, the activities of nonmembers who enter consensual relationships with the tribe or its members, through commercial dealing, contracts, leases, or other arrangements." *Id.*

196. *Id.* at 566. This ruling has been extended to preclude tribal court jurisdiction over a dispute between nonmembers arising from a traffic accident on a state highway within the reservation. The state highway right-of-way has been regarded as the equivalent of non-Indian fee land. Strate v. A-1 Contractors, 520 U.S. 438 (1997).

197. FMC v. Shoshone-Bannock Tribes, 905 F.2d 1311, 1315 (9th Cir. 1990).

198. *See, e.g.*, Babbitt Ford, Inc. v. Navajo Indian Tribe, 710 F.2d 587, 593 (9th Cir. 1983) (upholding Navajo regulation of non-Indians because of their business dealings with tribal members on the reservation).

199. *FMC*, 905 F.2d at 1315.

(2) Montana Exception #2

The second *Montana* exception is especially important, and at the same time, open to interpretation. Whether an action or tribal law relates to political integrity, economic security, or health or welfare is not always clear. Indeed tribes could argue that allowing enforcement of laws in their courts is *always* necessary for helping to retain and establish the political integrity of their sovereign nation. Courts however have not expanded the ruling that far. However, the second *Montana* exception always applies to enterprises subject to federal pollution control laws. Water pollution is unquestionably a direct threat to tribal health and welfare.[200] Additionally, degradation of tribal waters can affect tribal economic security by decreasing the value of tribal lands located near polluted waters. Further, pollution can affect a tribe's political integrity when states refuse to recognize tribal power.

The Court specifically discussed the limitations of the second *Montana* exception in *Brendale v. Confederated Tribes,* a case about tribal zoning laws.[201] Two non-members owning property on the reservation sought to subdivide their parcels. Although they both proposed actions permissible under County zoning laws, the subdivisions would have violated the tribal zoning ordinances.[202] There was no one clear decision in *Brendale*. A combination of Justice White's plurality opinion and Justice Stevens' concurrence, led to an unusual outcome. The Court made a distinction among land types on the reservation. Parts of the reservation that had at one point been opened up for non-Indian settlement were referred to as "open areas" while sections that were owned by the tribe were "closed areas." Because tribes did not have the ability to exclude non-members from these open areas, they lost some of their sovereignty over these areas. The Court considers the right to exclude the essence of sovereignty over tribal lands. When tribes are unable to exclude people from their land, the Court regards tribal authority as eroded. In *Brendale*, the ability to exclude was used to determine the lands where tribes could not regulate.

In *Brendale*, Justice White writing for a plurality narrowly interpreted the second *Montana* exception, concluding that it did not

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200. Confederated Salish and Kootenai Tribes of the Flathead Reservation, Montana v. Naman, 665 F.2d 951 (9th Cir. 1982) (holding that the tribe had authority to regulate riparian water rights for both everyone owning property either on or bordering the reservation because of the potential impacts of tribal health and welfare).

201. 492 U.S. 408 (1989).

202. Brendale v. Confederated Tribes and Bands of Yakima Indian Nation, 492 U.S. 408, 418 (1989).

apply to *every* situation where a tribe is adversely affected.[203] The Court found it significant that the language referred now referred to as the second *Montana* exception, was prefaced by the word "*may*."[204] To the Court, this indicated that a tribe's authority need not extend to all conduct that "threatens or has some direct effect on the political integrity, the economic security, or the health or welfare of the tribe."[205]

The *Brendale* decision could be harmful for tribes seeking to regulate activities on non-Indian fee lands within their reservations. If the reservations have been opened to settlement, have the tribes lost the ability to exclude and therefore their ability to regulate the activities of non-Indians on these lands?

Of particular note, though, is the way the Court treated a tribe's ability to zone. Justice White did not believe that the county's zoning ordinance seriously threatened tribal interests. Under that framework, tribes would have to show that both state and federal water quality regulation would threaten key tribal interests. That would likely be hard to establish, but could be done if the tribe had significantly higher water quality standards than the federal or state standards. This may occur with tribes who draw upon their waters for religious and cultural uses.

Several years after *Brendale*, the Court again looked at the relationship between the second Montana exception and a tribe's ability to exclude nonmembers. In 1997, the Court whittled away at tribal jurisdiction even more in *Strate v. A-1 Contractors*.[206] The case involved a car accident on a state highway that traversed tribal lands. Although the state highway was on tribal land, the tribe had granted a right-of-way to the state. This right-of-way precluded the tribe from exercising proprietary rights of exclusion. Because the tribe could not exclude non-Indians from the land, the Court viewed the land as similar to non-Indian fee land within a reservation.[207]

This case could be especially harmful for examining ownership of riverbeds. Not only has the Court limited realms of tribal jurisdiction, it has set a dangerous precedent by making the ability to exclude the test for tribal jurisdiction. Thus, even if a tribe can show ownership of navigable waters and submerged lands, it may not have jurisdiction to try cases arising out of activities or incidents on these lands. Because navigable waters are subject to a federal navigational servitude, a tribe may not be able to restrict who can

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203. *Brendale*, 492 U.S. at 431.
204. *Id.* at 428.
205. *Id.* at 428-29 (citing Montana v. United States, 450 U.S. 544, 566 (1981)).
206. 117 S. Ct. 1404 (1997).
207. *Id.* at 1413.

use waters running through its land for navigation. If a tribe cannot bar boats from using a river, it may have lost their ability to exclude and therefore lost jurisdiction over those areas based on *Strate*. The Court specifically limited the second *Montana* exception, explaining that the key level of analysis is determining whether state regulation in the area would "trench unduly on tribal self-government."[208] Referring to *Montana*, the Court explained that a tribe's power does not reach "beyond what is necessary to protect tribal self-government or to control internal relations."[209]

Even with *Strate*, a tribe can try to invoke one of the *Montana* exceptions in order to regulate activities on navigable waters and submerged lands within their jurisdiction. It will depend on how the tribe is able to define its interest in regulation. In *Strate*, the tribe's interest in safe driving was not sufficient to qualify for the second *Montana* exception. This requirement may be more easily satisfied when tribes are seeking to retain their ability to fish or to protect waterways based on cultural and religious motivation. Because each tribe will have to individualize the reasoning for regulation of water quality, there is no clear answer to the jurisdictional problem. Each tribe will have to go through case-by-case adjudication. However, the Ninth Circuit did recently state that it would be "difficult to imagine how serious threats to water quality could not have profound implications for tribal self-government."[210]

The combinative force of *Montana* and *Strate* show that it will be difficult for a tribe to regulate activities affecting waters if the state is deemed to own the land. If a tribe owns the land subject to a state public trust servitude, it could also lose jurisdiction over non-Indian activities affecting water quality under *Strate*.

After *Strate* and *Montana*, we see that the general background Indian law presumptions have changed. Instead of presuming tribal power exists and looking for specific federal language abrogating tribal authority, the Court presumes the power is absent. Now the analysis begins by looking for specific grants of authority to tribes instead of specific language overriding tribal power.

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208. *Strate,* 520 U.S. at 458. In *Bugenig v. Hoopa Valley Tribe*, 229 F.3d 1210, 1220 (9th Cir. 2000), the Ninth Circuit also emphasized that the second *Montana* exception be narrowly construed. Otherwise, the exception would "swallow the rule because virtually every act that occurs on the reservation could be argued to have some political, economic, health or welfare ramification to the tribe." *Bugenig*, 229 F.3d at 1220. The *Bugenig* Court limited the exception to the extent that tribal jurisdiction is "necessary to protect self-government or to control internal relations." *Id.*

209. *Strate,* 520 U.S. at 459 (quoting *Montana*, 450 U.S. at 564).

210. *Bugenig*, 229 F.3d at 1222.

3. Expressly Delegated Jurisdiction

Congress may expressly authorize tribal jurisdiction over fee lands. In *Montana*, the Court noted that Congress has the power to grant or delegate jurisdiction over nonmembers to tribes, but such jurisdiction will not be presumed.[211] There must be an express statement by Congress that it intends the tribe to exercise such authority. The federal government can delegate anything within its power to tribal governments. Although Congress cannot delegate its duties and responsibilities to private entities, tribes are viewed differently. Because tribes are sovereign entities, they have the ability to take on governmental powers.

With section 518 of the CWA, Congress expressly delegated tribes the authority to enforce water quality standards. This is a way that the situation in *Brendale* can be further distinguished from the tribal rights to regulate water quality. The *Brendale* Court stressed the fact that Congress did not expressly delegate the power to zone fee lands to tribes.[212]

4. Summary

It is clear that tribes have the right to regulate activities of tribal members on-reservation. Tribes can assert both criminal and civil jurisdiction over their members. Additionally, as a result of the "*Duro* fix," tribes can assert jurisdiction over non-member Indians for minor criminal offenses. Tribes do not have the ability to exercise criminal jurisdiction of any kind over non-Indians even when offenses occur on tribal lands.

Tribes have retained the ability to assert civil jurisdiction over non-Indians and non-member Indians in several situations. Tribal civil laws can be upheld against non-Indians under the two situations laid out by *Montana*: (1) when the non-Indian and the tribe have entered into a contractual agreement; and (2) when the tribal regulation is necessary to protect the political integrity, economic security, or health and welfare of the tribe.

Additionally, tribes can assert either civil or criminal jurisdiction over non-Indians when the federal government has delegated them the power to do so. The federal government may delegate the ability of tribal governments to regulate anything that the federal government had the authority to regulate. Tribes have the ability to exercise meaningful jurisdiction over their water quality because such jurisdiction fits within the *Montana* exceptions

211. *Montana*, 450 U.S. at 564.
212. *Brendale*, 492 U.S at 428.

and because the federal government has specifically delegated authority to tribes.

B. Tribal Jurisdiction under the Clean Water Act

The Clean Water Act's grant of authority to tribes arises in the midst of this complex jurisdictional history. A plain reading of the Clean Water Act shows both an acknowledgement of already existing tribal sovereignty and an unambiguous delegation of federal authority to tribes. Although tribes already had sovereignty over their water quality and hence the right to set water quality standards, section 518 solidified the right and the process. Although tribal sovereignty in this area was clear before the change to the CWA, tribal jurisdiction over non-members was not, as demonstrated above. This is why section 518 provides tribes with federally delegated jurisdiction over non-Indians.[213]

The Supreme Court has actually cited the CWA as an example of express delegation to tribes.[214] The Montana District Court acknowledged that the CWA shows a clear federal intention to delegate jurisdiction.[215] Some also argue that common sense requires a full delegation of CWA authority to tribes.[216] Without full ability to enforce CWA regulations, tribal administration of permit programs becomes meaningless.[217] Congress would not have intended to grant such piecemeal jurisdiction.[218]

The EPA, however, has been unwilling to read the CWA as a clear delegation of federal authority to tribes.[219] Instead of stopping with the plain language of the Act, the EPA draws upon legislative history. When the EPA reviewed the legislative history, it found it to be conflicting. "Given that the legislative history ultimately is ambiguous and inconclusive, EPA believes that it should not find that the statute expands or limits the scope of Tribal authority beyond that inherent in the Tribe absent an express indication of

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213. Montana v. EPA, 941 F. Supp. 945, 951 (D.N.M. 1996). This is clear when examining subsection (h), which expressly defines Indian reservation to include all lands "notwithstanding the issuance of any patent." And when subsection (e) specifies which resources tribes can hold, it outlines areas "within the borders of an Indian reservation."

214. *Brendale*, 492 U.S. at 428.

215. *Montana*, 941 F. Supp. at 951.

216. *Id.* at 952.

217. However, the tribes still gain something by being able to set water quality standards as long as they can ensure enforcement of those standards by either state or federal courts which at the moment is still uncertain.

218. *Montana*, 941 F. Supp. at 952.

219. This is especially curious because the EPA does rely on congressional delegation for justifying the tribal authority in the Clean Air Act. Perhaps this is because the CWA statute was early on the scene and the CAA did not incorporate tribal authority officially until 1991 after several court cases had already addressed the issue.

Congressional intent to do so."[220] Instead, the EPA draws upon common law to establish a case-by-case framework. The EPA prefers a case-by-case determination over nonmember fee lands so it can examine the "potential threats against water quality as they relate to a particular Tribe's health or welfare."[221]

When promulgating its regulations for the TAS process, the EPA used *Montana* and *Brendale v. Confederated Tribes and Bands of the Yakima Indian Nation* to analyze inherent tribal authority.[222] To gain TAS status, tribes must show that the second *Montana* exception applies to them. Thus, a tribe must demonstrate that regulation over water quality relates to "conduct [that] threatens or has some direct effect on the political integrity, economic security, or health or welfare of the tribe."[223] Relying heavily on *Montana*, the EPA concluded that the CWA statute was neither a plenary delegation of inherent authority to tribes to regulate all reservation waters, nor a standard that precluded tribal regulation of any non-member or off-reservation activity.[224] The EPA also acknowledged, however, that the *Montana* exception and the standards for gaining TAS status would generally be easy to meet because the determination will "be an easy showing, based on 'generalized findings' that water quality is related to human health and welfare."[225] Once a tribe has shown that impairment of the waters on their reservation would have a serious and substantial effect on the health and welfare of the tribe, the EPA presumes that there has been an adequate showing of inherent authority.[226]

VI. ENVIRONMENTAL CASES

Since EPA's promulgation of Clean Water Act regulations pertaining to tribes in 1991, there have been a few significant federal court cases reviewing the validity of these rules and the extent of tribal jurisdiction under the CWA. Additionally, some non-Clean Water Act cases also explain tribal sovereignty in relation to natural resources and environmental laws. These general cases combine with the recent Clean Water Act cases to give broad scope to tribal regulation of water resources. In each case, the federal courts deferred to EPA interpretation of federal law and upheld tribal jurisdiction over water resources.

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220. Amendments, *supra* note 126, at 64,880.
221. *Montana*, 941 F. Supp. at 953.
222. Amendments, *supra* note 126, at 64,876.
223. *Montana*, 450 U.S. at 577-79.
224. Amendments, *supra* note 126, at 64,877.
225. Wisconsin v. EPA, 266 F.3d 741, 744 (7th Cir. 2001) (citing 56 F.R. at 64,878).
226. Amendments, *supra* note 126, at 64,879.

A. Resource Conservation and Recovery Act

In *Washington Department of Ecology v. EPA*, the Ninth Circuit held that a tribe's sovereignty does not disappear when the federal government takes responsibility for management of a particular federal program on Indian lands.[227] In this 1985 decision, the court found EPA justified in blocking the inclusion of tribal lands in a state's waste management program under the Resource Conservation and Recovery Act (RCRA).[228] This decision reaffirmed the federal policy of encouraging "[t]ribal self-government in environmental matters."[229] The court held that RCRA did not authorize states to regulate Indians on Indian lands, but did not answer the question of whether the state could properly regulate a program over non-Indians in Indian country.[230] The court deferred to the decision of the agency because the EPA's reasoning was supported by "well-settled principles of federal Indian law."[231] The court further explained that states are "precluded from exercising jurisdiction over Indians in Indian country unless Congress has clearly expressed an intention to permit it."[232]

B. Clean Air Act

In *Washington Department of Ecology*, the Ninth Circuit relied on its 1981 decision in *Nance v. EPA*[233] to uphold Congress' delegation of environmental regulatory jurisdiction on tribal lands, stating that tribal interests in managing reservations and the federal policy of encouraging tribes to either assume or share in responsibility for environmental jurisdiction were controlling.[234] The *Nance* decision, which came ten years before the addition of TAS status to the Clean Air Act, was pivotal. The Clean Air Act permits the EPA to allow tribal nations to set air quality goals on their reservations. Despite the absence of any specific delegation language within the Clean Air Act, the EPA promulgated regulations deferring to tribes[235] based on congressional intent.[236]

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227. 752 F.2d 1465, 1471 (9th Cir. 1985).
228. *Id.* at 1469-70.
229. *Id.* at 1471.
230. *Id.* at 1467-68.
231. *Id.* at 1469.
232. *Id.* at 1469.
233. Nance v. EPA, 645 F.2d 701, 714 (9th Cir. 1981).
234. *Wash. Dep't of Ecology,* 752 F.2d at 1471-72.
235. 40 C.F.R. § 52.21(c) (1975) (outlining specific procedures whereby a tribal governing body could redesignate its reservation as requiring higher air quality standards).
236. Congress was well aware of the tribal issue and specifically intended redesignation to occur on tribal lands. *See, e.g.*, S. REP. NO. 95-127, *reprinted in* Senate Committee on Environment and Public Works, A Legislative History of the Clean Air Act Amendments of

Delegation language, however, should not have been necessary anyway because tribes have inherent sovereignty over their natural resources, including the air they breathe.

The court did not appear to find the absence of a specific provision delegating authority to tribes troublesome. Acknowledging that both courts and the federal government have traditionally recognized tribes as "possessing important attributes of sovereignty,"[237] the Ninth Circuit refused to subordinate the tribal interests to the state interest, stating, "within the … context of reciprocal impact of air quality standards on land use, the states and Indian tribes occupying federal reservations stand on substantially equal footing."[238] The court also dismissed any notion that tribal power should be curtailed because a tribe's decision could have impacts beyond the borders of its reservation.[239] Although the court recognized that some tribal attributes of sovereignty had been diminished by clear congressional action, the tribal right to exclude non-members from reservations remains strong.[240] If a tribe may exercise control over entrance of people onto their reservation, the court reasoned that a tribe should also have the authority to exercise control over the entrance of pollutants onto its reservation.[241]

In 2000, the D.C. Circuit decided *Arizona Public Service Co. v. EPA*.[242] In that case, the court held that Congress had delegated air quality authority to tribal nations over privately owned fee lands located within a reservation as long as the tribe has inherent jurisdiction over them.[243] Additionally, the court found that the Clean Air Act allows the EPA to treat a tribal nation in a manner similar to that of a state for regulating air resources "within the exterior boundaries of the reservation or other areas within the tribe's jurisdiction."[244]

1977, 1409 (1977) (explicitly stating that "Indian Tribes are authorized" to redesignate lands as requiring higher air quality standards).

237. *Nance*, 645 F.2d at 713 (citing Bryan v. Itasca County, 426 U.S. 373, 392 (1976) and Williams v. Lee, 358 U.S. 217, 220 (1976)).

238. *Id.* at 714.

239. *Id.* at 714-15.

240. *Id.* at 715 (citing Quechan Tribe of Indians v. Rowe, 531 F.2d 408, 410-11 (9th Cir. 1976)).

241. *Id.*

242. 211 F.3d 1280 (D.C. Cir. 2000).

243. *Id.*

244. 42 U.S.C. § 7601(d)(2)(B) (2003).

C. Clean Water Act

In *City of Albuquerque v. Browner*, the Tenth Circuit held that the EPA reasonably interpreted Section 518 of the Clean Water Act to permit tribes to adopt water quality standards more stringent than federal standards and to enforce those standards against upstream point sources located beyond tribal boundaries.[245] The EPA granted the Isleta Pueblo Indian Tribe TAS status to administer water quality standards and to certify compliance with such standards.[246] When the court ruled in favor of the tribe, this case made it clear that TAS tribes would be afforded rights and powers identical to those of states for the purposes of the CWA within the Tenth Circuit.

In *Montana v. EPA*,[247] (discussed above) the Ninth Circuit upheld EPA regulations granting Indian tribes authority to promulgate water quality standards applicable to effluent sources controlled by non-Indians owning fee interests in land located within the reservation. The Ninth Circuit drew heavily upon the second exception established by the *Montana v. U.S.* case in 1981 and subsequent cases that applied that decision.[248]

The court felt a particular need to distinguish its decision from *Brendale v. Confederated Tribes & Bands of the Yakima Nation*.[249] *Brendale* was decided eight years after *Montana v. U.S.* and none of the three opinions in *Brendale* agreed on an approach for applying the second *Montana* exception. In light of this confusion, some scholars felt that *Brendale* abrogated *Montana*.[250] The Ninth Circuit however, distinguished its decision in *Montana v. EPA* from *Brendale,* explaining that *Brendale* was about zoning where "impacts are normally discrete and localized, whereas water pollution creates environmental health risks that may affect many people miles from the source."[251] Thus, the second *Montana*

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245. 97 F.3d 415 (10th Cir. 1996).

246. As outlined in sections 303 and 401 of the CWA. 33 U.S.C. §§ 1313, 1341 (2003). Albuquerque ("the City") was running a waste treatment facility operating under a federal permit (New Mexico is one of the states not authorized to administer its own NPDES permit system. EPA, *State Permit Status, at* http://cfpub.epa.gov/npdes/statestats.cfm (last updated Apr. 14, 2003)) that discharged effluent into the Rio Grande five miles north of the reservation. *City of Albuquerque,* 97 F.3d at 419. The City filed suit against the EPA challenging the tribe's ability to set standards more stringent than the federal limits and the application of tribal standards beyond the reservation's boundaries. *Id.*

247. Montana v. EPA, 941 F. Supp. 945 (N.D.M. 1996).

248. *See, e.g., id.*

249. 492 U.S. 408 (1989).

250. Regina Cutler, Comment, *To Clear the Muddy Waters: Tribal Authority Under Section 518 of the Clean Water Act*, 29 ENVTL. L. 721, 728 (1999).

251. *Montana*, 941 F. Supp. at 953 n7. The EPA reads *Brendale* as not abrogating the *Montana* test. The court simply did not reach a consensus on how to apply the facts of

exception applies because pollution of non-Indian lands within the reservation could have a grave impact upon tribal health and environmental interest.

In *Wisconsin v. EPA*, the state brought an action against the EPA challenging their granting of TAS status to the Mole Lake Band of Lake Superior Chippewa Indians.[252] The tribe applied for TAS status in 1994 and Wisconsin opposed the application on the grounds that the state was "sovereign over all of the navigable waters in the state, including those on the reservation, and that its sovereignty precluded any tribal regulation."[253] Nevertheless, the EPA approved the tribe's application in September 1995 and Wisconsin filed suit soon thereafter.[254]

Wisconsin challenged only one requirement of the TAS status — the tribe's inherent authority to regulate water quality.[255] Specifically, the state was concerned about lakes on the reservation. The State of Wisconsin owns the lakebeds, but they are surrounded by reservation land. The Seventh Circuit held that despite the fact that the land under the water was not Indian-owned land, the tribes still had the right to regulate the water because it was within the borders of the reservation.[256] The court explained that the CWA "explicitly gives authority over waters within the borders of the reservation to the tribe and does not even discuss ownership rights."[257]

The Seventh Circuit is the first thus far to explicitly note that in the absence of TAS status, the federal government would have jurisdiction over tribal lands, not states. In dicta, the court draws on *California v. Cabazon Band of Mission Indians*[258] to assert that "the EPA and not the state of Wisconsin might well be the proper authority to administer Clean Water Act programs for the reservation because state laws may usually be applied to Indians on their reservation only if Congress so expressly provides."[259]

It seems clear that the EPA has jurisdiction in the absence of an approved TAS program as acknowledged by the EPA and several scholars.[260] However, in general, states enforce their permit

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Brendale to *Montana*. Amendments, *supra* note 126, at 64,877.

252. 266 F.3d 741 (7th Cir. 2001).

253. *Id.* at 745.

254. Wisconsin v. EPA, 266 F.3d 741 (7th Cir. 2001).

255. Interestingly, this is the only issue states are allowed to comment on during the Notice and Comment period for a TAS application, Amendments, *supra* note 126. It is unclear however whether states can bring up additional issues in judicial challenges.

256. *Wisconsin,* 266 F.3d at 747.

257. *Id.*

258. 480 U.S. 202 (1987).

259. *Wisconsin,* 266 F.3d at 747.

260. *See, e.g.*, Grijalva, *supra* note 82, at 437.

programs and water quality standards on tribal land. The Clean Air Act is more explicit in recognizing potential federal program implementation. It provides that "in any case in which [the EPA] determines that the treatment of Indian tribes as identical to States is inappropriate or administratively infeasible, [the EPA] may provide, by regulation, other means by which [the EPA] will directly administer such provisions so as to achieve the appropriate purpose."[261] The CWA in section 518(e) addresses direct implementation only by authorizing treatment of tribes as states "to the degree necessary to carry out the objectives" of the Act.[262] Supposedly, absent federally approved tribal programs, the EPA does implement and enforce programs.[263]

D. Summary

Congress has clearly been working to expand environmental laws to acknowledge tribal sovereignty over natural resources. In nearly every case, Congress has delegated authority to the EPA to promulgate regulations to help carry out these congressional goals of promoting tribal sovereignty. Generally, when courts review these laws and their accompanying regulations, they defer to agency interpretation. This consistent pattern of deference may not always be appropriate, however. Courts are stopping their analysis at the agency interpretation instead of more fully exploring congressional intent. Deferring to agency interpretation is easier for courts than interpreting the complex area of law known as tribal sovereignty. Because of this morass created by decades of conflicting laws and policies, courts can simplify their analysis by deferring to agencies. At times agency deference leads to a result that benefits tribes, but it still ignores the basic congressional acknowledgment of tribal sovereignty accompanied by clear delegation of authority to exercise jurisdiction over their natural resources.

VII. EPA ADMINISTRATION OF TAS PROGRAM

Despite the benefits to tribes, very few tribal governments are presently administering their own programs or setting their own water quality standards. Only twenty-three tribes have set their own water-quality standards and no tribes administer permitting programs.[264] This is alarming given that over 145 tribes are

261. 42 U.S.C. § 7601(d)(4) (2003).
262. 33 U.S.C. § 1377(e) (2003).
263. Charlotte Uram & Mary J. Decker, *Jurisdiction Over Water Quality on Native Lands,* 8 J. NAT. RESOURCES ENVTL L. 1, 9 (1992/1993).
264. EPA website, *Repository of Documents*, *at* http://www.epa.gov/ost/standards/wqslibrary/

approved for TAS status under the Clean Water Act.[265] There are multiple points in the process where tribes meet roadblocks. First tribes must obtain TAS status. Although 145 tribes have gained TAS status, this is but a fraction of the number of tribes in the United States. Once tribes obtain TAS status, they must then apply for approval of water quality standards. This process is rather straightforward and undemanding. Tribal standard setting does not require a complex permitting program. It does not require much infrastructure. Additionally, there is not much incentive for tribes to attain TAS status unless they intend to either set their own water quality standards or administer their own permitting programs. Thus, it seems that the key stage where tribes endure delay is in the conversion of TAS status into something meaningful.

It is not clear why more tribes have not obtained TAS status or why TAS applications are being delayed. In general, the EPA is slow to process applications. For example, NPDES permits take an average of five years to gain approval.[266] The tribal applications may be delayed because the EPA is uncertain what it wants to do with them, not because the tribes do not meet the necessary requirements. In essence, there seems to be a freeze on applications right now because the EPA is still developing its policy.[267]

Some speculate that the EPA's hesitance is due to a fear of the patchwork nature of allotted lands.[268] Because the EPA does not believe that there has been a clear federal delegation of authority, the extent of tribal jurisdiction is not immediately evident to it. The EPA may be worried about the actual make-up of the population on reservations. The *Wisconsin* case was easy because the reservation was largely unallotted and nearly all inhabitants were tribal members. The discussion gets trickier, however, when lands are heavily allotted. In *Montana v. EPA* however, the court declined to draw a distinction based upon the ethnic make-up of the reservation, instead deferring to EPA's drawing of simple geographical lines for jurisdictional purposes.[269]

(last updated Nov. 2, 2004).

265. Drucker, *supra* note 90, at 343-44.

266. EPA website, *Backlog Reduction*, *at* http://cfpub.epa.gov/npdes/permitissuance/backlog.cfm (last updated Oct. 17, 2003).

267. Conversation with Curtis Berkey, Bay Area Federal Indian Law Practitioner (November 2002) (on file with author).

268. *Id.*

269. Stuckey points out that the EPA's declining to consider the make-up of reservation inhabitants is well in keeping with the notion of treating tribes as states. "This also seems consistent with the manner in which other states are treated since ethnic populations are not a typical consideration in EPA's regulatory scheme on environmental issues." 31 ELR 11,198.

Some may argue that the EPA does not go far enough in assisting tribes to gain TAS status and thus frustrates congressional intent. Others would likely argue that it goes too far by misreading case law and giving too much power to tribes. The first reading is the most appropriate in light of the plain language of the statute and the history of Indian law. Principles of judicial review require courts to defer to agency experience, expertise, and interpretation of governing statutes when statutes and congressional intent are ambiguous.[270] By creating an established system for tribal administration of programs and declaring that tribes can attain the same status as states, the congressional delegation to tribes is unquestionable here.

In the classic *Chevron* case, the Supreme Court explained that when interpreting a statute, a court should look first to the clear congressional intent.[271] If congressional intent is not clear, courts defer to the reasonable interpretations of the agencies that enforce the Act.[272] In this case, it is not necessary to reach the agency deference question because the congressional intent is clear. Although Congress does not delegate its duties beyond federal bodies lightly and delegation should never be assumed, it is present here. This finding is unsurprising in light of the inherent characteristics of sovereignty possessed by tribes. Courts have recognized congressional delegation to tribes based upon the established nature of tribes, their stand-alone governments, and their status as domestic dependent nations.[273]

VIII. RECOMMENDATIONS FOR IMPROVING TAS PROGRAMS

Tribal governments are the appropriate entities to regulate water quality on reservations. They have inherent sovereignty over their natural resources and as the most local unit of government, they are most familiar with tribal needs and challenges. The Treatment as State provision of the Clean Water Act can be viewed two ways: (1) as a congressional recognition of tribal authority over on-reservation waterways; or (2) a congressional delegation of federal power to regulate waterways. The first view is the most appropriate. Tribes have consistently exercised authority over their natural resources and have not clearly ceded the right to control water quality to the federal government. Additionally, the language of section 518 can be read as a recognition of already existing

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270. *See, e.g.,* Chevron, Inc. v. Natural Res. Def. Council, Inc., 467 U.S. 837 (1984).
271. *Id.*
272. *Id.*
273. *See, e.g.*, Nance v. EPA, 645 F.2d 701, 714-15 (9th Cir. 1981).

authority. If however, section 518 is seen as a delegation of tribal authority, there will be several implications for tribal courts enforcing the Clean Water Act.

A. Tribes have Inherent Authority Over Water Quality

The CWA does not give tribes something that they did not already have, rather it merely recognizes inherent tribal authority. Tribes have authority over their water resources based on: (1) aboriginal title; (2) their inherent sovereign powers; and (3) the failure of tribes to cede that power (also called the "reserved rights doctrine"). These three elements of Indian law provide alternative means of asserting sovereignty over water quality in the absence of federal delegation.

1. Aboriginal Title

Tribes retain title to their water and submerged lands and sovereignty over natural resources unless they have specifically ceded these lands and rights to others. Even absent treaties and statutes, tribes have the right to possess and occupy their ancestral homelands. This property right is different from a fee simple right to land and is called "aboriginal title."[274] The federal government is the only entity that may extinguish aboriginal title, and it must do so explicitly with a clear, unambiguous statement of intent to extinguish.[275]

Aboriginal title is rooted in the idea that the tribes inhabited this land before European settlers arrived. Chief Justice John Marshall described this concept in the 1832 *Worcester v. Georgia* case.[276] There, Justice Marshall indicated that tribes had always been considered distinct and independent political communities. They were the "undisputed possessors of the soil, from time immemorial."[277] The Court had earlier, in 1823, defined Indian property rights as a right of occupancy.[278] However, there was little distinction made between an Indian right of occupancy and the fee title ownership settlers enjoyed. Indeed, the Court referred to these property rights as equally sacred.[279]

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274. Fee title to the land generally remains in the federal government or, in the case of the original thirteen states, in the state. 42 C.J.S. *Indians* § 69 (2002).
275. *Id.*
276. 31 U.S. 515 (1832).
277. *Id.* at 559.
278. Johnson v. M'Intosh, 21 U.S. 543, 587 (1823).
279. Mitchel v. United States, 34 U.S. 711, 746 (1835).

The right of occupancy need not be specifically recognized in a statute or formal government action or declaration to be enforced.[280] To establish aboriginal title, tribes much occupy lands identified as their ancestral home.[281] An Indian tribe must show that it actually, exclusively, and continuously used the property for an extended period.[282] This means that tribes without a reservation or tribes that have been relocated will be unable to assert aboriginal title successfully. Additionally, because tribes must have exclusively and continuously used the property,[283] it may be difficult for traditionally nomadic tribes to show continual occupancy of the land in question.

Although not all tribes will be able to assert aboriginal title for their reservations or in particular for their waterways, it is a doctrine that many tribes can invoke to lend credence to their claims of inherent sovereign authority over the waterways on their lands. The concept of aboriginal title has been used to support claims to other Indian lands. For example, the Oneida tribe successfully invoked this theory to bring an action against the State of New York. Tribal representatives had ceded lands to the state without federal consent. The Supreme Court held that the federal government protects the Oneida's "possessory right" to tribal lands.[284]

Additionally, aboriginal title can assist tribes in securing TAS status. One of the difficulties for tribes who are trying to draw upon TAS opportunities is the showing that the land and waters in question are under their inherent authority. Aboriginal title settles this question by acknowledging that tribes hold clear title to their resources where the title has not been ceded by the tribe or explicitly extinguished by Congress.[285]

2. Inherent Sovereign Rights over Natural Resources

Different views of reservations affect the status of tribal rights. If one looks at tribal lands and rights as something granted by the federal government, then a tribe is less likely to have the right to

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280. Cramer v. United States, 261 U.S. 219 (1923).

281. Northwestern Bands of Shoshone Indians v. United States, 324 U.S. 335 (1945); United States v. Santa Fe Pac. R.R. Co., 314 U.S. 339 (1941).

282. Sac & Fox Tribe of Indians v. United States, 383 F.2d 991, 998 (1976).

283. Yankton Sioux Tribe of Indians v. South Dakota, 796 F.2d 241 (8th Cir. 1986).

284. County of Oneida v. Oneida Indian Nation, 470 U.S. 226 (1985).

285. Congress does have the right to extinguish this right of occupancy and with it any remnants of aboriginal title. Oneida Indian Nation v. County of Oneida, 414 U.S. 661, 669 (1974); *see also* United States v. Wheeler, 435 U.S. 313, 319 (1978). Additionally, if Congress does extinguish title, there is no legal obligation to compensate the tribe. Tee-Hit-Ton Indians v. United States, 348 U.S. 272, 279 (1955).

control their water quality. However, this is not the general view of tribal reservations. Indeed, reservations are not grants *by* the federal government but grants by the tribes *to* the federal government.[286] Under this lens, the tribes hold all rights not specifically given away. Thus, unless a treaty or agreement specifically relinquishes water quality rights, the tribe retains rights of ownership and control. Because tribes generally did not cede the ability to exercise sovereignty over their water quality, that sovereignty is still present.[287]

3. Treatment as State = Treatment as a Sovereign

The phrase "treatment as state" which is used in the Clean Water Act and other environmental statutes indicates that Congress was recognizing inherent tribal authority. In the absence of congressional action based on constitutional provisions, state control their natural resources and regulate water on their lands. There is no need for the federal government to delegate enforcement power to states because state have that power. As explained by the Tenth Amendment, all power not explicitly granted to the federal government remains with the states.[288] Thus, viewing tribes through the same lens we view states yields not a federal delegation of power, but a recognition of already existing power. Section 518 is clear from its very title that it is about a sovereign power. These CWA amendments served to promote a cooperative federalism relationship between tribes and the federal government to mirror the one that exists between states and the federal government.

B. Congress Has Delegated Clean Water Act Authority to Tribes

Although tribes have inherent authority over their water quality, their ability to enforce standards and permitting programs in the absence of congressional action has not been not clear. The purpose of section 518 of the CWA is to safeguard tribes' rights to enforce their water quality standards. The EPA has not read this statute or the congressional intent behind it correctly. The EPA has neither recognized the congressional recognition of inherent tribal

286. For a clear expression of this notion, often called the "reserved rights doctrine," see United States v. Winans, 198 U.S. 371, 381 (1905) (explaining that a treaty is not "a grant of rights to the Indians, but a grant of rights from them — a reservation of those not granted.").

287. Some commentators have asserted that the Ninth Circuit established a new *Montana*-type exception allowing for exercise of tribal jurisdiction over waterbodies on Indian reservations created before statehood for tribes that are historically dependent on fisheries. This newly created exception, however, would only help a limited number of tribes who meet those specific requirements.

288. U.S. CONST. amend. X.

authority nor found a delegation of federal law. The EPA should issue new guidance documents and regulations. There is no need for the EPA to draw upon *Montana* to justify a tribe's right to enforce water quality standards because Congress clearly explained that enforcement authority belongs with tribes under section 518. The EPA should issue a new rulemaking reflecting this understanding. Establishment of tribal authority should then accelerate the process of EPA approval of tribal standards and permitting programs.

The EPA's current reading overlooks the plain language of the Act and thereby limits the ability of tribes to gain TAS status. Further, once tribes gain TAS status, the EPA has been reluctant to make that status meaningful by approving the water quality standards set by tribes. This frustrates the intent of Congress, which is evident from the small number of tribes who have attained TAS status compared to the long waiting list of tribes who desire the status. Congress was clear in its intent to establish a program whereby tribes could regulate their own resources, but agency frustration of purpose has led to narrow regulations.

If there is the inherent tribal authority to regulate water quality is not recognized, the only other possible reading of section 518 is as a clear delegation of federal enforcement authority. At a minimum, the EPA should recognize the congressional intent to allow tribes full exercise of potential CWA enforcement authority.

1. Congressional Delegation Invokes the Full Bill of Rights

If the TAS status and the rights and responsibilities that accompany it are a congressional delegation of power to the tribe, tribes should be operating under federal authority. When Congress delegates federal authority, tribes must operate as the federal government would operate in the situation.

Although the Indian Civil Rights Act of 1968[289] imposes most of the requirements of the Bill of Rights upon the tribes in the exercise of their jurisdiction, it did not extend the full Bill of Rights requirements to tribal governments.[290] This single fact, combined

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289. 25 U.S.C.A. §1301 (2004).

290. This law was specifically designed to bring most of the provisions of the Bill of Rights to tribes. The principle guarantees of the act are in section 1302. Although the act adopts most of the rights verbatim, it leaves out some notable areas. (1) There is no provision prohibiting the establishment of religion by a tribe. (2) Tribes are not required to supply counsel to indigents at tribal expense even if prosecution may result in imprisonment. *See also* Argersinger v. Hamlin, 407 U.S. 25 (1972). Additionally, although ICRA may contain the same language as the Bill of Rights, tribal courts are not bound by Supreme Court precedents and they may interpret the provisions differently. *See, e.g.*, Wounded Head v. Tribal Council of Oglala Sioux Tribe, 507 F.2d 1079 (8th Cir. 1975); Randall v. Yakima Nation Tribal Court, 841 F.2d 897 (9th Cir. 1988). ICRA has also been interpreted to require exhaustion of tribal

with the inapplicability of the Fourteenth Amendment in tribal actions,[291] leads states and non-members to worry about their potential treatment in tribal courts. However, this concern falls by the wayside with the acknowledgement that tribal enforcement under the Act is a delegation of federal power to tribes. If a tribe is acting under the aegis of the federal government, it must enforce accordingly to federal standards. Thus, tribal courts must observe due process and enforce all other constitutional rights. If the federal government were enforcing the Clean Water Act, it would of course be operating under the Constitution. If tribes are acting under congressional authority, the Constitution is also triggered. This possibility has not yet been discussed seriously or put into play by tribes or federal officials. A concern that would arise, of course, would be funding. Currently, for example, tribal governments do not provide court appointed lawyers. Although most dischargers are larger companies and municipalities and would not likely desire or qualify for court appointed attorneys, tribal governments would need to request more resources from the federal government to ensure that all parties' constitutional rights are upheld.

2. Venue Options

a. Removal

Removal is possible in federal tribal actions in the same way it could be used when a non-resident is called before a state court. This means that many parties brought before a tribal court could petition for removal to a federal court because there would be diversity of citizenship and the case would turn upon a federal law (the Act). This change of venue should alleviate concerns about non-Indians being subjected to tribal courts.

b. Enforcement of Tribal Laws in Federal Courts

One solution to this dilemma is for tribes to bring enforcement actions directly in federal courts bypassing their own tribal systems. Tribes could bring enforcement actions in federal courts and based on choice of law rules the court should be required to apply tribal

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remedies before parties can seek redress in federal courts. *E.g.*, O'Neal v. Cheyenne River Sioux Tribe, 482 U.S. F.2d 1140 (8th Cir. 1973); McCurdy v. Steele, 506 F.2d 653 (10th Cir. 1974).

291. Because tribes are not "states," the Fourteenth Amendment is not triggered. However, courts have acknowledged that non-Indians in tribal courts are protected by the guarantees of ICRA. Dodge v. Nakai, 298 F. Supp. 26 (D. Ariz. 1969). However, the Supreme Court has held that habeas corpus is the sole remedy by which federal courts could enforce ICRA. Santa Clara Pueblo v. Martinez, 436 U.S. 49 (1978).

law. The Clean Water Act does not require tribes to bring actions in tribal courts. Indeed, diversity jurisdiction would likely be a common occurrence. When the EPA approves water quality standards set by tribes, those standards become enforceable federal law.[292] When non-tribal members are prosecuted in federal court, concerns about constitutional rights and judicial prejudice disappear.

Tribal governments may not be amenable to this solution. Besides the clear insulting suggestion that tribal courts as inadequate, tribes would be forced to submit to a different sovereign's interpretations of its law. Although the tribes should not be bound by a non-tribal courts interpretation, in reality federal courts will end up building up a federal tribal common law. Tribal laws and traditions are not necessarily rooted in the same common law tradition as the courts of the federal government and the states. Thus, federal interpretation of tribal law may be both inappropriate and insulting.

IX. CONCLUSION

The move to recognize tribal sovereignty within environmental laws is a good one. Tribal sovereignty over air and water quality is not something to be bestowed by the federal government. As independent nations with their own land and governance structure, tribes should not have to invoke U.S. laws to assert their right to regulate their land and resources. Some commentators have argued that tribal rights to govern their land, air, and water are inherent rights of a sovereign that the tribes have retained in absence of treaties clearly ceding these rights. Although this is persuasive, tribes are much more likely to win the legislative battle over control of their resources by invoking positive federal environmental laws. These sentiments and concerns inspire the suggestions presented in this article. This article offers suggestions and recommendations to make tribal governance more palatable to courts, states, and the federal government. While these recommendations can lead to a smoother system were tribes can more easily set their own water quality standards and establish permitting programs, the suggestions are in some ways offensive. Much as a resident of California must submit to Arizona laws while in that state, non-tribal members should be required to submit to tribal laws while on tribal land. Tribal courts should be recognized as valid courts. This

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292. Arkansas v. Oklahoma, 503 U.S. 91, 104-10 (1992); Dean B. Suagee & John P. Lowndes, *Due Process and Public Participation in Tribal Environmental Programs*, 13 TUL. ENVTL. L.J. 1 (1999).

article instead, however, presents a compromise. By allowing their laws to be enforced in federal courts, tribal governments can observe their laws and standards gain deference. That is at least some victory.

EROSION OF RIPARIAN RIGHTS ALONG FLORIDA'S COAST

THERESA BIXLER PROCTOR*

Table of Contents

I. INTRODUCTION AND BRIEF HISTORY

In Florida, there are more than 8,460 miles of tidal shoreline, over 1,800 miles of coastline, and in excess of 1,100 miles of sandy beaches.[1] In 2003, Florida was home to over 16.3 million people[2] and more than 74.5 million visitors.[3] Based on these numbers, it is easy to see why defining the rights held by those who own[4] land on the coasts of Florida is so important to the state's economy. It is also apparent why these rights are in a continuous battle with the state - which holds in trust the foreshore and navigable waters, the public - who wants to enjoy the beaches and swim in the ocean, and the

* Graduate, May 2004, The Florida State University College of Law. I would like to thank Donna Christie, Cari Roth, R. Steven Lewis, and Edwin A. Steinmeyer for their help and contributions to this article.

1. Information from the Public Relations and Research Department of Visit Florida for 2002 (Sept. 9, 2003), *available at* http://www.visitflorida.org/index.cfm?fla=web&webpageid=206&mid=479 (last visited May 23, 2004).

2. American Community Survey Profile for Florida provided by the U.S. Census Bureau, *available at* http://www.census.gov/acs/www/Products/Profiles/Single/2002/ACS/Tabular/040/04000US121.htm (last visited Nov. 24, 2003).

3. Information from the Public Relations and Research Department of Visit Florida for 2002, *available at* http://www.visitflorida.org/index.cfm?fla=web&webpageid=206&mid=479 (last visited May 23, 2004). In 2002, the population estimate was 16,318,656 in comparison to the 1990 population of 12,937,929, which is almost a twenty-one percent increase in twelve years. Table 16, U.S. Census Population Table for 1790-1990, *available at* http://www.census.gov/population/censusdata/table-16.pdf (last visited Nov. 24, 2003).

4. This paper will not discuss the rights held by those that rent or lease property along Florida's coast.

private property owners — who want to preserve their property. Florida has a long and unique history with this fight, and has never really come to a solution that would appease the public, protect the environment, and control development, while at the same time preserve private property rights.

In the first year of law school, everyone learns that ownership of private property includes certain rights, often described as a "bundle of sticks." Within this bundle, each stick is representative of owners' rights, including the right to posses, use, transfer, exclude, encumber, and enjoy.[5] However, owning coastal property is different.[6] The Florida Supreme Court has recognized that "[t]he beaches of Florida are of such a character as to use and potential development as to require separate consideration from other lands with respect to the elements and consequences of title."[7] When one owns property that entitles him to riparian rights, his ownership may not create a full bundle, simply because some of the sticks are stripped away by the police power held by the state, the navigable servitude, and the doctrine of public trust.

To understand fully the history of this struggle and its complex nature, one would have to start with the proclamation of Florida as a Spanish territory in 1513.[8] The realm of this paper does not require a complete examination of Florida's history; however, one major occurrence needs to be discussed — Florida's entry into the Union. In 1845, Florida was admitted into the Union,[9] and through the equal footing doctrine,[10] was granted title to all the lands under navigable waters.[11] Historically, it has been the Board of Trustees of the Internal Improvement Trust Fund (Trustees)[12] that holds title to these lands in trust for the public. Subject to the limits of Florida's Constitution, [13] the Trustees have the right to dictate who

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5. Robert J. Goldstein, *Green Wood in the Bundle of Sticks: Fitting Environmental Ethics and Ecology into Real Property Law*, 25 B.C. ENVTL. AFF. L. REV. 347, 375 (1998).

6. City of Daytona Beach v. Tona-Rama, Inc., 294 So. 2d 73, 77 (Fla. 1974).

7. *Id.*

8. FRANK E. MALONEY, FLORIDA WATER LAW 674 (1980).

9. Florida was admitted into the Union on March 3, 1845. 28 Cong. Ch. 48, 5 Stat. 742 (1945); *see also* Broward v. Mabry, 50 So. 826, 830 (1909).

10. The court in *Broward* described this bit of history: "New states, including Florida, admitted 'into the Union on equal footing with the original states, in all respects whatsoever,' have the same rights, prerogatives, and duties with respect to the navigable waters and the lands thereunder within their borders as have the original thirteen states of the American Union." 50 So. at 829-30.

11. *See generally*, MALONEY, *supra* note 8, at 683. In 1850, Florida received title to all the swamp and overflow lands, which totaled over twenty million acres. *Id*.

12. FLA. STAT. § 253.03 (2002). Prior to the early 1900's, the Florida Legislature controlled sovereignty lands. *See* Coastal Petroleum Co. v. Am. Cyanamid Co., 492 So. 2d 339, 342 (Fla. 1986).

13. FLA. CONST. art. X, § 11.

owns and uses[14] these lands through common law public trust.[15] The focus of both the power and the limitation are, however, on the public's rights; and it is therefore private riparian rights that are often limited and destroyed.[16]

Article X, Section 11, of the Florida Constitution defines the power the Trustees hold over the "lands under navigable waters:"

> The title to lands under navigable waters, within the boundaries of the state, which have not been alienated, including beaches below mean high water lines, is held by the state, by virtue of its sovereignty, in trust[17] for all the people. Sale of such lands may be authorized by law, but only when in the public interest. Private use of portions of such lands may be authorized by law, but only when not contrary to the public interest.[18]

Not only does this declaration specify what can be done with sovereignty lands, but it also defines the boundary of these lands[19] as being the mean high tide line.[20] To determine exactly where this line is, look to the "intersection of the tidal plane of mean high water[21] with the shore."[22] This boundary is legally significant because it is the "[m]ean high-water line [which runs] along the shores of land immediately bordering on navigable waters [that] is

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14. There are many limits placed on the Trustees' ability to sell sovereignty land, such as the requirement that any such sale must be in the public's interest. FLA. ADMIN. CODE ANN. r. 18-21.004(1)(a) (2002); *see also* FLA. ADMIN. CODE ANN. r. 18-21.013(1) (2002) (providing that "[a]pplications to purchase lands riparian to uplands may be made by the riparian owners only").

15. FLA. STAT. § 253.001 (2002). This provision reads, "[a]ll lands held in the name of the board of trustees shall continue to be held in trust for the use and benefit of the people of the state pursuant to s. 7, Art. II, and s. 11, Art. X of the State Constitution." *Id.*

16. *See* discussion *infra* Part III.C.

17. The Trustees manage, administer, and control the trust. FLA. STAT. § 253.03 (2002).

18. FLA. CONST. art. X, § 11.

19. *See* Lee v. Williams, 711 So. 2d 57, 63 (Fla. 5th DCA 1998) (finding the definition of sovereignty lands to be in the Florida Constitution as those "lands under navigable waters").

20. *See* Miller v. Bay to Gulf, Inc., 193 So. 425, 427-28 (Fla. 1940) (looking at the definition of "ordinary high tide" and determining that it was based on the phases of the moon). This has been criticized, but has not been overruled by the court. *See* 4-112 FLA. REAL ESTATE TRANSACTIONS *Interests Related to Estates* § 112.20 (2003) [hereinafter REAL ESTATE].

21. Under section 177.27(14), Florida Statutes,

> Mean high water" means the average height of the high waters over a 19-year period. For shorter periods of observation, "mean high water" means the average height of the high waters after corrections are applied to eliminate known variations and to reduce the result to the equivalent of a mean 19-year value.

22. FLA. STAT. § 177.27(15) (2002).

recognized and declared to be the boundary between the foreshore owned by the state in its sovereign capacity and upland subject to private ownership."[23]

Additionally, this dividing line is significant in a discussion of the extent of riparian rights and the erosion of those rights mainly because it represents the clash between private property owners and those that have the power to limit private property rights. Therefore, defining riparian rights is of the utmost importance. Riparian rights have historically been derived from common law; however, the legislature has codified those rights, along with some controversial limitations in a statute,[24] the importance of which is undetermined. Some may view riparian rights as being very extensive, but the courts in Florida have defined them narrowly.[25] This is especially true in light of the powers held by the federal government, the state government, and local governments to find private property rights subordinate to other rights.

The purpose of this article is to analyze what riparian rights property owners have today, and compare those rights with those held in common law, and those that may be held in the future. Part II of this article will provide a definition of riparian rights in the common and statutory law. Some basic rights and how the statutory law compares will also be discussed. Part III of this article will lay out how various exercises of police power are eroding common law riparian rights. Accompanying this is a detailed analysis of how the state and local governments use the police power to regulate riparian rights in ways that such governments find in the interests of public health, morals, safety, and welfare. How police power relates to the takings issue under both the federal and state constitutions will be discussed, as well. Furthermore, an analysis of the impacts that the navigational servitude and the doctrine of public trust have on riparian rights will be provided. Finally, Part IV contains a conclusion on current riparian rights compared to those that were recognized under Florida common law.

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23. *Id.* § 177.28. This has been called the "zone of ambiguity." Joseph W. Jacobs & Alan B. Fields, *Sovereignty Lands in Florida: Lost in a Swamp of Ambiguity*, 38 FLA. L. REV. 347, 380 (1986).

24. FLA. STAT. § 253.141(1) (2002).

25. Tewksbury v. City of Deerfield Beach, 763 So. 2d 1071, 1071-72 (Fla. 4th DCA 1999).

II. CHARACTERISTICS OF RIPARIAN RIGHTS

A. Who is Entitled to Riparian Rights?

Defining riparian rights is the first and most important step in outlining who is entitled to such private property rights. Strictly speaking,

> [R]iparian rights . . . are such as follow or are connected with the ownership of banks and streams or rivers. Those whose lands border upon tide waters are called "littoral" proprietors, and there appears to be no word or phrase of sufficiently broad meaning to include both riparian and littoral. Such rights, riparian and littoral, depend upon the ownership of land contiguous to the waters . . . .[26]

Even though this distinction is well established, it is commonly ignored. In *Legendary, Inc. v. Destin Yacht Club Owners Assoc., Inc.*,[27] the court took notice that "[t]he parties apparently agreed to use the term 'riparian' while recognizing that the technically correct term is littoral."[28] Additionally, the Florida Supreme Court recognized that "[c]ases and statutes . . . have used 'riparian owner' broadly to describe all waterfront owners."[29] This article, like those cases and statutes, will use the commonly accepted, but incorrect, term in this analysis.

Under Florida law, a property owner who is entitled to riparian rights must own land "bordering upon navigable waters."[30] Even though this definition appears simple and straight forward, defining navigable waters can be quite a task. The issue of which waters are navigable, and which are not, has a unique history because it is an area of Florida law that has been heavily litigated.[31] When Florida received title to the land below all the navigable waters in the state, the grant was general and in no way defined what waters were navigable.[32] Litigation that attempted to define navigability sprung

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26. Johnson v. McCowen, 348 So. 2d 357, 360 (Fla. 1st DCA 1977); *see also* Kester v. Tewksbury, 701 So. 2d 443, 444 n.2 (Fla. 4th DCA 1997).

27. 724 So. 2d 623 (Fla. 1st DCA 1998).

28. *Id.* at 624 n.1.

29. Bd. of Trs. of the Internal Improvement Trust Fund v. Sand Key Assocs., Ltd., 512 So. 2d 934, 936 (Fla. 1987).

30. FLA. STAT. § 253.141(1) (2002).

31. Melissa Gross-Arnold, *Public Trust Doctrine Trims the Butler Act:* City of West Palm Beach v. Board of Trustees of the Internal Improvement Trust Fund, 51 FLA. L. REV. 529, 537-38 n.60 (1999).

32. *See* Pollard v. Hagan, 44 U.S. 212 (1845); Barney v. Keokuk, 94 U.S. 324 (1876).

up relatively shortly after Florida entered the Union[33] and by 1909, the minimum standard was set to include only those waters that were navigable-in-fact.[34]

In subsequent years, the courts limited the navigable-in-fact[35] test in two areas. First, in *Clement v. Watson*,[36] the court rejected the ebb and flow test stating, "[w]aters are not under our law regarded as navigable merely because they are affected by the tides."[37] Many have critiqued this restriction, but it has never been overruled[38] and is still followed today.[39] Second, the court in *Clement* limited the definition of navigable waters by excluding those waters that did not become navigable until after the land was already privately owned.[40] This restricts state owned sovereignty lands to those "immediately border[ing] on the navigable waters."[41] Likewise, the courts follow this restriction. For example, in *Florida Board of Trustees of Internal Improvement Trust Fund v. Wakulla Silver Springs Co.*,[42] for example, the court reaffirmed the rule from *Clement* in finding that "[i]n Florida, the subsequent dredging of a navigable channel across a non-navigable body of water does not render that body of water navigable."[43]

Once a determination has been made that an upland owner has riparian rights due to the character of his or her property, the nature and extent of that owner's rights must be defined in order to fully understand how riparian rights are being eroded away. There

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33. MALONEY, *supra* note 8, at 696. As early as 1889, the Florida Supreme Court stated:

> Where the tide ebbs and flows in a river the common law regarded it as a navigable stream, in which the public had a right of way, and in this country all rivers, without regard to the ebb and flow of the tide, are generally regarded as navigable as far up as they may be conveniently used at all seasons of the year with vessels, boats, barges, or other water craft, for purposes of commerce; and others are regarded as navigable when so declared by statute.

Bucki v. Cone, 6 So. 160, 161 (1889).

34. MALONEY, *supra* note 8, at 700. The Florida test has been said to be "similar, if not identical, to the federal title test." Odom v. Deltona Corp., 341 So. 2d 977, 988 (Fla. 1977).

35. *See* Baker v. State, 87 So. 2d 497, 498 (Fla. 1956) (en banc).

36. 58 So. 25 (Fla. 1912).

37. *Id.* at 26.

38. *See Lee*, 711 So. 2d at 61 (reasoning that "it is pure conjecture whether Justice Whitfield believed *Clement* to have been wrongly decided. Certainly he never said so. In any event, it is beside the point what one justice on the *Clement* court may have later concluded.").

39. *See*, *e.g.*, *id.*

40. The waters in dispute here lie within a cove along the shores of a navigable water body. The present owners' predecessors dredged out the cove to make it navigable. The Watson's land extends to the cove. *Clement*, 58 So. at 26.

41. *Id.*

42. Bd. of Trs. of Internal Improvement Trust Fund v. Wakulla Silver Springs Co., 362 So. 2d 706 (Fla. 3d DCA 1978).

43. *Id.* at 711.

are two areas of law to examine in order to define all the rights a riparian owner is entitled to: common law and statutory law.

B. Common Law Riparian Rights

As early as 1909, the courts in Florida have recognized that riparian owners hold many common law rights in common with the public, including the "rights of navigation, commerce, fishing, boating, etc."[44] Holding these rights in common with the public has serious consequences for owners of upland property, because once those owners are in the water, the law treats them as the public.[45] As a result, an upland owner's right to navigate or to conduct commerce is not protected anymore than the public's right to do so.[46] In *Ferry Pass Shippers' & Inspectors' Ass'n v. Whites River Inspectors' & Shippers' Ass'n*,[47] for example, the court recognized that "[a]s to mere navigation in and commerce upon the public waters, riparian owners as such have no rights superior to other inhabitants of the State."[48] Therefore, the court held that a riparian owner does not have the right to exclusive use of the waters that border his property; he only has the right not to be totally deprived of his rights to navigation and commerce.[49] Other owners have come to the court to request relief from interference with their rights of navigation and have received similar news with even more serious consequences.[50] The court in Central & Southern Florida Flood Control District v. Griffith,[51] looked at the issue of whether a flood control district could dam off a canal, thereby blocking property

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44. Broward v. Mabry, 50 So. 826, 830 (1909).

45. Ferry Pass Shippers' & Inspectors' Ass'n v. Whites River Inspectors' & Shippers' Ass'n, 48 So. 643, 644 (1909).

46. *Id.* at 645 (recognizing that "[r]iparian owners have no exclusive rights to navigation in or commerce upon a navigable stream opposite the riparian holdings, and have no right to use the water or land under it as to obstruct or unreasonably impede lawful navigation and commerce by others, as so as to unlawfully burden or monopolize navigation or commerce.").

47. 48 So. 643 (1909). In this case, a business that inspected and shipped timber on a river located itself across the river from a competing businessperson. *Id.* at 644.

48. *Id.* at 645.

49. The court concluded:

> [T]he prayer of the bill of complaint appears to contemplate the enforcement of an exclusive right of the complainant to the use of the waters and shore opposite its land for the conduct of its business; and, as the complainant has no such exclusive right, the particular and entire relief as prayed should not be granted.

Id. at 646.

50. *See* James v. Cent. & S. Fla. Flood Control Dist., 281 So. 2d 402, 404 (Fla. 3d DCA 1973); *see also* Carmazi v. Bd. of County Comm'rs of Dade County, 108 So. 2d 318 (Fla. 3d DCA 1959), *overruled in part by* Game & Fresh Water Fish Comm'n v. Lake Islands, Ltd., 407 So. 2d 189 (Fla. 1981).

51. 119 So. 2d 423 (Fla. 3d DCA 1960).

owners from access to Biscayne Bay.[52] The court found that this did not cause a loss of property or any property rights, reasoning that the right of navigation that this property owner enjoyed did not require constitutional protection because the owner was just like a member of the public.[53]

In addition to those rights held in common with the public, riparian owners have rights that they do not share with the public — their "status as riparian owners . . . has historically entitled them to greater rights, with respect to the waters which border their land, than inure to the public generally."[54] The first of these rights is the right to access the water from their property. The court in *Board of Trustees of the Internal Improvement Trust Fund v. Medeira Beach Nominee, Inc.*[55] recognized this right by finding that riparian owners "have the exclusive right of access over their own property to the water."[56] Second, beachfront property owners have "the right to an unobstructed view over the waters subject to the rights of the public to pass along the shore."[57] A third right is to wharf-out, which includes the qualified right "to erect wharves or piers or docks in front of the riparian holdings to facilitate access to and the use of the navigable waters, subject to lawful state regulation and to the dominant powers of Congress."[58] Finally, riparian rights include the common law right to make access to navigable waters publicly available in a commercial context.[59]

Another category of rights held by coastal property owners are those that attach because these common law rights are characterized as property interests.[60] In *Broward v. Mabry*,[61] the court held that "these special rights . . . are property rights that may be regulated by law, but may not be taken without just

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52. *Id*. at 424.

53. *Id*. at 425-26. Florida courts have reached similar results in other cases as well. *See James*, 281 So. 2d at 404 (holding that "[t]he impairment of the riparian right of navigation to the Bay, being one of those riparian rights held in common with the public in general is not compensable"); *see also Carmazi*, 108 So. 2d at 323-24.

54. Bd. of Trs. of the Internal Improvement Trust Fund v. Medeira Beach Nominee, Inc., 272 So. 2d 209, 214 (Fla. 2d DCA 1973).

55. *Id*. at 209.

56. *Id.* at 214. This inherently means that the public cannot cross privately owned land.

57. *Id*.; Padgett v. Cent. & S. Fla. Flood Control Dist., 178 So. 2d 900, 904 (Fla. 2d DCA 1965); Thiesen v. Gulf, Fla. & Ala. Ry. Co., 78 So. 491, 501 (Fla. 1919); Lee County v. Kiesel, 705 So. 2d 1013, 1015 (Fla. 2d DCA 1998).

58. Freed v. Miami Beach Pier Corp., 112 So. 841, 844-45 (Fla. 1927).

59. *See Medeira Beach Nominee*, 272 So. 2d at 214 (citing Webb v. Giddens, 82 So. 2d 743) (Fla. 1955) (holding that owner of riparian property used for commercial business of renting boats had a right to access the main body of the lake from his property).

60. Bd. of Trs. of the Internal Improvement Trust Fund v. Sand Key Assocs., Ltd., 512 So. 2d 934, 936 (Fla. 1987).

61. 50 So. 826 (1909).

compensation and due process of law."[62] Additionally, such a property owner may more easily qualify as having a special injury for a nuisance suit if, for example, their view is obstructed, or if the state, through its police power, prohibits swimming, fishing, or navigation.[63]

The final category of common law rights is the right to receive title in lands added to coastal property by accretions and relictions.[64] Accretion is the "gradual and imperceptible accumulation of land along the shore or bank of a body of water[,]" and "[r]eliction… is an increase of the land by a gradual and imperceptible withdrawal of any body of water."[65] This right is based on the idea that,

> Almost all jurists and legislators . . . both ancient and modern, have agreed that the owner of the [waterfront property] . . . is entitled to these additions. By some the rule has been vindicated on the principle of natural justice, that he who sustains the burden of losses and of repairs, imposed by the contiguity of waters, ought to receive whatever benefits they may bring by accretion; by others it is derived from the principle of public policy, that it is the interest of the community that all land should have an owner, and most convenient, that insensible additions to the shore should follow the title to the shore itself.[66]

On the other hand, riparian owners do not have a common law right to lands added to their property through avulsion, which "is the sudden or perceptible loss of or addition to land by the action of the water or a sudden change . . . ."[67] Additionally, when lands are added to coastal property through the owners own doing, title to that land does not vest in the owner.[68]

All of these rights, those in common with the public, those stemming from the classification of riparian rights as property, and

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62. *Id.* at 830; *see also Padgett*, 178 So. 2d at 904.

63. Webb v. Giddens, 82 So. 2d 743 (Fla. 1955). In *Webb*, the court affirmed the chancellor's finding that a property owner on Lake Jackson has "legal right to free access by boats of the type and kind usually operated upon said lake to and from the main body of said lake for purposes of fishing, hunting and boating." *Id.* at 744. This finding rejected the idea that the owner's riparian rights ended "when he has reached the water from his uplands." *Id.*

64. *See Sand Key Assocs.*, 512 So. 2d at 936-37.

65. *Id.* at 936.

66. *Id.* at 937 (quoting Banks v. Ogden, 69 U.S. 57, 67 (1864)).

67. *Sand Key Assocs.*, 512 So. 2d at 936.

68. *Id.* at 937.

those rights to the title of land that is added through gradual and imperceptible means, are embedded in Florida's common law. The courts recognize these rights as those inuring to coastal property owners, and did so long before the Florida Legislature codified such rights. However, with the enactment of the statutory definition of riparian rights, the common law principles giving riparian owners specific property rights are obscured and confused.[69]

C. Statutorily Defined Riparian Rights

The Florida legislature has codified many of the riparian rights that were well established in Florida's common law. Under section 253.141(1), Florida Statutes, "[r]iparian rights are those incident to land bordering upon navigable waters." Furthermore, "[t]he land to which the owner holds title must extend to the ordinary high watermark[70] of the navigable water in order that riparian rights may attach."[71] This definition goes on to define the rights in adjacent waters protected by statute as being the "rights of ingress, egress, boating, bathing, and fishing and such others as may be or have been defined by law."[72] Furthermore, all of these rights are found to be apparent to the upland.

Even though this statute does codify some riparian rights, more importantly, it seems to confuse private riparian rights and those held in common with the public. It also places limits on the nature of riparian rights that Florida's common law did not recognize.[73] The uncertainty surrounding the statutory definition of riparian rights may lead to a significant narrowing of those rights. If riparian rights are found to be something less than property rights, the outcome of future litigation may turn more in favor of limiting those rights. Even from this discussion of basic riparian rights, it is apparent that the courts may question those rights that were once well established.

III. EROSION OF RIPARIAN RIGHTS

Riparian rights are not absolute. Such rights are subject to regulation by law, but "may not be taken without just compensation and due process of law."[74] It is the unique character of upland

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69. *See* FLA. STAT. § 112.21 (2002).

70. In other statutes, the line is defined as the mean high water line. *See* FLA. STAT. § 177. 27(15) (2002).

71. FLA. STAT. § 253.141(1) (2002).

72. *Id.*

73. *See*, *e.g.*, Belvedere Dev. Corp. v. Dep't of Transp., 476 So. 2d 649 (Fla. 1985).

74. Broward v. Mabry, 50 So. 826, 830 (1909).

coastal property, and its boundary with state lands, that make the regulation of riparian rights more like a battle between private property owners and the state. There are several foundations upon which the power of the state and the federal government can base the right to erode riparian rights, including the police power, the navigational servitude, and the doctrine of public trust.[75]

A. Police Power

1. What is the Police Power?

One of the most expansive powers that the state holds is the police power.[76] This power was reserved to the states in the Tenth Amendment of the United States Constitution, which provides,

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75. There are other state actions not specifically discussed here that limit riparian rights, such as the leasing of oyster or clam beds off upland property. Under section 253.68, Florida Statutes, the Trustees have the right to lease submerged lands for aquaculture in compliance with chapter 597, Florida Statutes (the "Florida Aquaculture Policy Act"). There is no mention of what rights an upland owner has when the lands off his or her property are going to be leased under the Florida Aquaculture Policy Act. However, rule 18-21.004 of the *Florida Administrative Code* requires that,

> The area to be leased shall comply with the following standards and criteria: a. Riparian rights shall not be unreasonably infringed upon. When reviewing an application from a nonriparian applicant the Department shall consider water depth, location of navigation channels, distance from shore and the width of the waterbody. An aquaculture lease area for a nonriparian applicant can be approved greater than or equal to 100 feet waterward of mean or ordinary high water or greater than or equal to 100 feet waterward of existing structures on sovereignty lands only if the applicant obtains a letter of permission from the upland owner, a greater setback may be required to protect riparian rights.

FLA. ADMIN. CODE ANN. r. 18-21.004(2)(m)(8) (2004).

76. *See* Hunter v. Green, 194 So. 379, 380 (Fla. 1940) (recognizing that "[t]he expression 'police power,' in a broad sense, included all legislation and almost every function of civil government."). This analysis focuses on ownership allocation of property rights held by those who own land bordering navigable waters that are held in trust by the state. The police power and federal Commerce Clause, however, allow the state and federal government to reach even privately owned waters and regulate activities such as dredging and wharfing-out. In *Odom v. Deltona Corp*., for example, the court noted that,

> It is historically recognized in this country that the state and federal governments can regulate uses of both land and water areas in such matters as zoning, safety regulations and other uses of property. Specifically, the State of Florida has the inherent police power to enact such standards and regulations as may be necessary for the public interest relating to the use and development of all public and private water areas within the State of Florida, subject to such authority as may be specifically reserved in the federal government. The state may require private owners to secure permits for modifications of lake bottoms and contiguous areas which may be required for the public interest according to reasonable and uniform standards. It is equally well recognized that this state regulation must be accomplished in a constitutionally permissible manner.

341 So. 2d 977, 987 (Fla. 1976).

"[t]he powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people."[77] However, the court in *McInerney v. Ervin*[78] makes it clear that,

> [The police power] was inherent in the people long before the constitution was promulgated and the makers of the constitution declined to meddle with it. It was recognized as a power outside the constitution limited by the concept of common sense and reason. It was one of the powers reserved to the States by Article 10 of the Federal Constitution.[79]

The nature of the police power makes it difficult to define, as was recognized by that same court when it found,

> The police power was born with and is a necessary concomitant of civilized government. It is an essential of sovereignty and was possessed by every state before the union was formed. It has been many times held that the constitution concedes the pre-existence of the police power. While no limitations have circumscribed its use, and it is not susceptible of satisfactory definition, the very existence of government depends on it. It has been held to be the very essence of government and that all other powers are incidental to it. It stems from the maxim, *sic utere tuo ut alienum non leadas* (use your own property in such a manner as not to injure that of another). Blackstone attempted to define it before the Revolution and supported his theory of it by the maxim, s*alus populi est supreme lex* (the welfare of the people is the supreme law).[80]

In that case, the court also remarked on the amorphous nature of the power, stating "[i]t is in [a] constant state of evolution in order that it meet the calls for its exercise to secure the peace, welfare, good order, health and morals of the people."[81]

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77. U.S. CONST. amend. X.
78. 46 So. 2d 458 (Fla. 1950).
79. *Id.* at 463.
80. *Id.*
81. *Id.*

Even though "[i]t is difficult and practically impossible to give an exact definition of the police power,"[82] the courts recognize that it may be exercised in the interests of public health, morals, safety, and welfare.[83] These interests are the core, but not the limits of the police power.[84] The only limits recognized are those "applicable provisions of the federal and state Constitutions designed to protect private rights from arbitrary and oppressive governmental action."[85] Therefore, the state can use this power to impose reasonable restrictions on all forms of property, including riparian rights.[86]

As supported in the United States Constitution, the police power is an inherent power of the state.[87] Additionally, under the Florida Constitution, municipalities are delegated police power based on the language in Article VIII, Section 2, subsection (b), which reads: "Municipalities shall have governmental, corporate and proprietary powers to enable them to conduct municipal government, perform municipal functions and render municipal services, and may exercise any power for municipal purposes *except as otherwise provided by law*."[88] Along these same lines, charter counties[89] have such powers under the Article VIII, Section 1, subsection (g) of the Florida Constitution, which provides: "Counties operating under county charters shall have all powers of local self-government *not inconsistent* with general law, or with special law approved by vote of the electors."[90] These constitutional provisions give the state,

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82. Hunter v. Green, 194 So. 379, 380 (Fla. 1940).

83. *See* Miami Beach v. Ocean & Inland Co., 3 So. 2d 364, 366 (1941) (en banc) (stating that "[i]t is fundamental that one may not be deprived of his property without due process of law, but it is also well established that he may be restricted in the use of it when that is necessary to the common good.").

84. 3-38 FLA. REAL ESTATE TRANSACTIONS *Land Use and Environmental Regulation* § 38.01 (2003).

85. Everglades Sugar & Land Co. v. Bryan, 87 So. 68, 107 (Fla. 1921) (finding that even though certain swamp and over flowed lands were purchased from the state, the rights of the owners "cannot stay the exercise by the state of its sovereign governmental powers to assess the lands for special purposes that are beneficial to the lands and conserve the general welfare.").

86. *See* Metro. Dade County Fair Hous. & Employment Appeals Bd. v. Sunrise Vill. Mobile Home Park, Inc., 511 So. 2d 962, 965 (Fla. 1987) (holding that through the police power, Dade County could enact an ordinance prohibiting age discrimination in housing even if that ordinance "interfere[s] with otherwise protected rights so long as the interference bears a reasonable relationship to the public need served.").

87. U.S. CONST. amend. X.

88. FLA. CONST. art. VIII, § 2(b) (emphasis added).

89. Counties can adopt a charter under the procedure laid out in chapter 125 of the Florida Statutes. However, if a county does not operate under a charter, the board of county commissioners only has those powers provided in general or special law. FLA. CONST. art. VIII, § 1(f); *see also* Townley v. Marion County, 343 So. 2d 1312, 1313 (Fla. 1st DCA 1977) (holding that a non-charter county cannot enact zoning ordinances inconsistent with chapter 163, part II, Florida Statutes).

90. FLA. CONST. art. VIII, § 1(g) (emphasis added).

municipalities, and charter counties the power to enact statutes, regulations, and ordinances for the protection of the public health, safety, welfare, or morals of the people of the state or the local communities.[91]

Most of Florida is "'two coasts back to back,' [so] arguably, the entire state is in the coastal zone."[92] Based on this uniqueness, the interest that the state has in its coastal areas is great. This interest has led to the exercise of the police power over coastal property in many ways, including the codification of a definition of riparian rights and several statutory structures that regulate coastal management by requiring consistency with federal, state, regional, and local cooperation. Specifically, the growth management regulations on Florida's coast that affect riparian rights are the Beach and Shore Preservation Act[93] and Florida's comprehensive plan.[94]

Through these statutes and comprehensive schemes, the coastal zone in Florida has become the most strictly regulated area in Florida.[95] Excessive regulation has affected, and sometimes stripped away coastal property owner's riparian rights, especially the right to wharf-out. In the extreme, "a private property interest thought to exist may be defined out of existence."[96]

2. Defining Riparian Rights Through Statutory Codification

The police power, held as an inherent power by Florida, includes "all legislation and almost every function of civil government."[97] This broad power encompasses at its most basic level the right of the legislature to supervise matters that involve the common welfare of the state through legislation.[98] It was through the use of police power that a definition of riparian rights was codified in what is today section 253.141, Florida Statutes. This statute reads,

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91. *See Sunrise Vill. Mobile Home Park*, 511 So. 2d at 965 (discussing the power of local governments to pass ordinances); *see also* Newman v. Carson, 280 So. 2d 426, 428 (Fla. 1973) (finding that "[p]olice power is the sovereign right of the state to enact laws for the protection of lives, health, morals, comfort and general welfare.").

92. Thomas G. Pelham et al., *Managing Florida's Growth: Toward an Integrated State, Regional, and Local Comprehensive Planning Process*, 13 FLA. ST. L. REV. 515, 594-95 (1985).

93. FLA. STAT. §§ 161.011-.58 (2002).

94. *See* FLA. STAT. ch. 161 (2002 & Supp. 2003).

95. Kenneth E. Spahn, *The Beach and Shore Preservation Act: Regulating Coastal Construction in Florida*, 24 STETSON L. REV. 353, 360 (1995).

96. JOSEPH J. KALO ET AL., COASTAL AND OCEAN LAW 2 (2d ed. 2002).

97. Hunter v. Green, 194 So. 379, 380 (Fla. 1940).

98. *See id*.

> Riparian rights are those incident to land bordering upon navigable waters. They are rights of ingress, egress, boating, bathing, and fishing and such others as may be or have been defined by law. Such rights are not of a proprietary nature. They are rights inuring to the owner of the riparian land but are not owned by him or her. They are appurtenant to and are inseparable from the riparian land. The land to which the owner holds title must extend to the ordinary high watermark[99] of the navigable water in order that riparian rights may attach. Conveyance of title to or lease of the riparian land entitles the grantee to the riparian rights running therewith whether or not mentioned in the deed or lease of the upland.[100]

The history of this statute, specifically its location in the Florida Statutes, has guided courts in determining the effect its provisions have on riparian rights.

In 1953, section 192.61(1), Florida Statutes, defined riparian rights as part of the Statutes pertaining to Taxation and Finance.[101] The statutory language of that section was the same as it reads today.[102] Unlike the techniques used by courts to interpret the Florida Constitution,[103] Florida courts have looked at the location of this statute as an indication that the legislature intended the definition to apply as a beneficial guide to tax assessors.[104] In *Webb v. Giddens*,[105] the court, without commenting on the statute's applicability in the case before it, did find that the 1953 version of the statute was a "partial codification of the common law on the subject,"[106] specifically with respect to the riparian rights defined. The court noted that those common law rights included "the right of ingress and egress to and from the lot over the waters of the bay, . . . that of unobstructed view over the waters, and in common with the public the right of navigating, bathing, and fishing."[107] However,

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99. Other statutes define this dividing line as the mean high water line. *See* discussion *infra*; *see supra* note 21 and accompanying text.

100. FLA. STAT. § 253.141(1) (2002).

101. McDowell v. Bd. of Trs. of the Internal Improvement Fund, 90 So. 2d 715, 717 (Fla. 1956).

102. FLA. STAT. § 192.61(1) (1953).

103. FLA. CONST. art. X, § 12(h) (reading "Titles and subtitles shall not be used in construction").

104. *McDowell*, 90 So. 2d at 717.

105. 82 So. 2d 743 (Fla. 1955).

106. *Id.* at 745.

107. *Id.* (quoting Thiesen v. Gulf, Fla. & Ala. Ry. Co., 78 So. 491, 501 (Fla. 1917)).

the court did not comment on any other portions of that subsection. In 1955, section 192.61, Florida Statutes, was split up into two separate statutes. The statute numbered 192.61, Florida Statutes,[108] was limited to only deal with the assessments of riparian rights, and the definition portion was moved to section 271.09, Florida Statutes, under the "Public Lands and Property" title. There is no indication in the legislative history as to why this change was made, it seems to have just been split up and transferred by the reviser.[109] During this period, only one opinion recognized this change in location, but because at the time of the opinion the transfer was not official, the court did not discuss the implications of the new position.[110] Other courts looked at the definition to determine issues such as whether riparian rights included any more of a right to navigation than was held in common with the public,[111] but did not discuss any other aspect of the definition.

Then in 1971, section 271.09, Florida Statutes, was transferred back to the statutory chapter on taxation and finance by the reviser without any explanation. The Laws of Florida do not reference this transfer; it is only noted in the relevant statutory volume. In subsequent years the riparian rights statute was moved around the taxation and finance chapter, but it remained a tax law until 1985. The relevance of its placement in the statutes is that courts in Florida have continuously held that because of this location, "[r]iparian rights exist . . . as a matter of constitutional rights and property law and are not dependent on [the statutory definition] … which merely attempts to define them for tax purposes."[112] As a result of this classification as a tax law and not a property law, Florida courts have found that the limitations codified within the statute were not applicable to riparian rights.[113]

However, in 1985, section 197.228 was renumbered as section 253.141, Florida Statutes, and moved back under Title XVIII, "Public Lands and Property." What is the real effect of this move? The law that transferred this section, chapter 85-342, Laws of

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108. 1965 Fla. Laws ch. 239, 242; 1970 Fla. Laws ch. 709, 740 (this section dealing only with assessments of riparian rights was again transferred in 1969 and was then repealed in 1970).

109. Interview with Edith Pollitz, Statutory Revision Head (Nov. 7, 2003). Ms. Politz said that in the past, the revisers would just move things around in the Florida Statutes with no explanation or reason.

110. McDowell v. Bd. of Trs. of the Internal Improvement Fund, 90 So. 2d 715, 717 (Fla. 1956).

111. Carmazi v. Bd. of County Comm'rs of Dade County, 108 So. 2d 318, 322 (Fla. 3d DCA 1959), *overruled in part by* Game & Fresh Water Fish Comm'n v. Lake Islands, Ltd., 407 So. 2d 189 (Fla. 1981).

112. Feller v. Eau Gallie Yacht Basin, Inc., 397 So. 2d 1155, 1157 (Fla. 5th DCA 1981).

113. Belvedere Dev. Corp. v. Dep't of Transp., 476 So. 2d 649, 653 (Fla. 1985); *McDowell*, 90 So. 2d at 717; *Webb*, 82 So. 2d at 743.

Florida, made no changes, it merely stated "[s]ection 197.228, Florida Statutes, is transferred to section 253.141, Florida Statutes."[114] The legislative history that accompanies the transfer has no further explanation. Actually, the Legislative Analysis of the Senate Bill does not even mention this change.[115] The absence of an explanation as to why the riparian rights statute has been transferred around is consistent throughout the statute's history.

As previously discussed in Part II, the statute codifies many common law rights, including the right to access, those rights in common with the public, and that riparian rights are appurtenant to riparian land. Additionally, two limitations not recognized in the common law are also codified here; it is these that were held inapplicable by the courts in relation to the 1985 statute when it was under the taxation and finance title.[116] If these limits are held to be applicable, they will place restrictions on the rights of riparian owners that, prior to 1985, were described as being "inconsistent with generally accepted property doctrines and contrary to established case law in the state of Florida."[117]

The first controversial limitation in section 253.141(1), Florida Statutes, states that riparian rights are "not of a proprietary nature . . . [t]hey are rights inuring to the owner of the riparian land but are not owned by him or her." Black's Law Dictionary defines proprietary interests as "[t]he interest held by a property owner together with all appurtenant rights."[118] This definition does not help define the term in this context; rather, it begs the question because the courts have repeatedly found that riparian rights are property at common law.[119] What else could this mean other than riparian rights are not property interests that are recognized by statutory law. One possible explanation is that riparian rights are not property in the traditional sense of the term. In *Belvedere Development Corp. v. Department of Transportation*,[120] for example, the court recognized this characteristic of riparian rights when it stated, "[a]lthough riparian rights are property, they are unique in character. The source of those rights is not found within the interest itself, but rather they are found in, and are defined in terms of the riparian upland."[121] As mentioned in the beginning of this analysis,

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114. 1985 Fla. Laws ch. 2007, 2124.

115. Fla. S. Comm. on Tax Admin., CS for SB 1176 (1985) Staff Analysis 1-10 (May 13, 1985) (available at the Fla. State Legislative Archives, Tallahassee, Fla.).

116. *See*, *e.g.*, *Belvedere*, 476 So. 2d at 652.

117. *Id.*

118. BLACK'S LAW DICTIONARY 816-17 (7th ed. 1999).

119. *Thiesen,* 78 So. 491 at 507; Broward v. Mabry, 50 So. 826, 830 (Fla. 1909).

120. 476 So. 2d 649 (Fla. 1985).

121. *Id.* at 652.

property rights are often described as a "bundle of sticks, with one of those sticks being the right to exclude.[122] Along this line of reasoning, the courts have often held that by the very nature of the rights listed in section 253.141, Florida Statutes, the upland owner's property interests in "ingress, egress, boating, bathing, [or] fishing" are not superior to the rights shared by the public.[123] Under the Public Trust Doctrine, a riparian upland owner cannot exclude the public from exercising these same rights.[124] Therefore, in a sense, this statute confuses the distinction between riparian rights and those rights held by the public and in no way helps define riparian rights.[125]

The courts recognition of this limitation may carry with it severe implications. If the upland property owner does not own these riparian rights, the state may be allowed to take these rights without paying just compensation.[126] Therefore, what must be focused on is whether this limitation is a change in property rights, and as a result could be classified as a violation of the Fifth Amendment.[127] As of yet, no Florida courts have discussed the implications of this change, so the meaning of the language is still unclear.[128]

The second limitation in section 253.141, Florida Statutes, is that the riparian rights held by owners of qualifying property are inseparable. Making riparian rights inseparable from the upland property is not consistent with Florida common law[129] and opens up the question of whether this change in the placement of the statute overrules the common law. Based on common law, the courts refuse to hold that riparian rights are never severable from the upland property. As early as 1940, the courts in Florida were recognizing this right to sever.[130] Likewise, in a later decision, the court in

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122. Goldstein, *supra* note 5, at 375.

123. Cent. & S. Fla. Flood Control Dist. v. Griffith, 119 So. 2d 423, 425 (Fla. 3d DCA 1960).

124. *See* Krieter v. Chiles, 595 So. 2d 111 (Fla. 3d DCA 1992) (finding the rights of the public superior to those of a property owner).

125. *See* REAL ESTATE, *supra* note 20 § 112.21(1)(a) (2003).

126. Riparian owners are still able to maintain a takings claim under common law. In *Tewksbury v. City of Deerfield Beach*, for example, it was proper for a property owner to bring suit to define her riparian rights, even if those rights were narrowly defined. 763 So. 2d 1071, 1071-72 (Fla. 4th DCA 1999).

127. Kendry v. State Rd. Dep't., 213 So. 2d 23, 28 (Fla. 4th DCA 1968).

128. REAL ESTATE, *supra* note 20 § 112.21(1)(b).

129. *See Belvedere*, 476 So. 2d 649 (Fla. 1985); *see also* Legendary Inc. v. Destin Yacht Club Owners Ass'n, 724 So. 2d 623, 624 (Fla. 1st DCA 1998).

130. *See* Caples v. Taliaferro, 197 So. 861, 862 (1940) (interpreting a deed and recognizing that "[i]t is settled law in this country that a riparian owner may separate his uplands from his submerged lands and convey both to different grantees, or he may sell one and withhold the other.").

Belvedere[131] distinguished the condemnation issue before it from a situation where parties to a real estate transaction may choose to sever the riparian rights from the upland property, and then give the riparian right holder a means to benefit from those rights.[132] When there is mutual agreement to sever riparian rights, the court in *Belvedere* suggested, although in dicta, that common law or statutory law would not disallow such an agreement where the limiting definition of riparian rights was a tax law.[133] Up to as recently as 1997, the courts were still recognizing that "[i]t is generally held that riparian rights may be separated from the ownership of the land to which they are appurtenant, either by a grant of such rights to another, or by a reservation thereof in the conveyance of the land."[134]

There have been no cases since 1985 that discuss how these aspects of section 253.141, Florida Statutes, affect the common law.[135] Even though the relevance of this new location has not been fleshed out by the courts as of yet, this does not dismiss the significance of its new location, which may have the affect of overruling the common law.[136] There are other sections of the Florida Statutes that also affect riparian rights; however, the limitations imposed by statutes that attempt to manage the coast of Florida mostly focus on limiting the right to wharf-out, which is not statutorily protected.

3. Regulating Florida's Coast

By "its very nature, the exercise of police power clashes with the full enjoyment of property by its owner";[137] however, in many cases it is more than enjoyment that has been taken away by this power. Under two wide-ranging legislative schemes, the Florida Legislature has set goals to protect Florida's beaches, and to manage Florida's coastal region under a comprehensive plan that requires local, state, and federal cooperation. Even though the Beach and Shores Preservation Act and the comprehensive plan may at first glance only affect upland property, a more complete analysis finds that riparian rights are also affected.

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131. 476 So. 2d at 652.
132. *Id*.
133. *Id*. at 652-53.
134. *Legendary*, 724 So. 2d at 624 (quoting 78 Am Jur. 2d *Waters* § 278). The court did not even mention the statute.
135. *See* Haynes v. Carbonell, 532 So. 2d 746 (Fla. 3d DCA 1988).
136. *See* REAL ESTATE, *supra* note 20 § 112.21.
137. 10A FLA. JUR. 2D *Constitutional Law* § 253 (2004).

a. The Beach and Shores Preservation Act

The Beach and Shore Preservation Act (Act)[138] is the "the primary regulatory scheme for the protection of coastal areas of Florida."[139] The Florida Legislature enacted the Act because it recognized that "it is in the public interest to preserve and protect [these areas] from imprudent construction which can jeopardize the stability of the beach-dune system, accelerate erosion, provide inadequate protection to upland structures, endanger adjacent properties, or interfere with public beach access."[140] To protect these interests, the Act mainly focuses on establishing two zones of regulation along the sandy beaches of the Atlantic Ocean, the Gulf of Mexico, and the Straits of Florida:[141] the coastal construction control lines and the thirty-year erosion line, both of which aid the state in regulating construction seaward of the established lines.

The establishment of coastal construction control lines (control lines) is based on a determination of what portion of the beach system would be affected by the "100-year storm surge, storm waves, or other predictable weather conditions."[142] Additional segments may be found further landward if it is necessary to protect dune systems that are more landward than the "100-year storm surge."[143] The Department of Environmental Protection (DEP) establishes the control lines, but only after it concludes that the establishment of such line is necessary[144] through the use of comprehensive engineering, topographic, and hydrographic surveys.[145] There are public hearing requirements that must be met prior to the control lines becoming effective.[146] Any riparian owner that "feels that such line as established is unduly restricted or prevents a legitimate use of the owner's property" has standing to contest such lines with DEP.[147] After DEP has established the control lines, coastal construction seaward of that line is prohibited unless the construction falls under a statutory exception.[148] Coastal construction is defined as "includ[ing] any work or activity which is

138. FLA. STAT. §§ 161.011-161.45 (2002).
139. Pelham, *supra* note 92, at 580.
140. FLA. STAT. § 161.053(1)(a) (2002).
141. *Id.*
142. *Id.*
143. *Id.*
144. *Id.* § 161.053(2)(a).
145. Spahn, *supra* note 95, at 362.
146. FLA. STAT. § 161.053(2)(a) (2002).
147. *Id.*
148. *Id.*

likely to have a material physical effect on existing coastal conditions or natural shore and inlet processes."[149]

The Act also requires that DEP consider long-term effects[150] by mandating that no DEP permits shall be issued for the construction of any structure, the location of which is seaward of the thirty-year erosion line.[151] These lines are determined on a case-by-case basis depending on the location of where the "seasonal high-water line [will be] within 30 years after the date of application for [a] permit."[152] Because this line is not preset, as with the control line, there are "inconsistent results and uncertainty among landowners and developers."[153] Even though this line fluctuates, DEP cannot include within the area seaward of this line "any areas landward of a coastal construction control line."[154] The only structures exempt from this limitation are "coastal or shore protection structure[s], minor structure[s], or pier[s], meeting the requirements of this part, . . . intake and discharge structures for a facility sited pursuant to part II of chapter 403," and single-family dwellings that meet specific statutory requirements.[155]

Under the Act, almost any construction seaward of either line requires a DEP permit.[156] Because permitting is a licensing activity, the party requesting a permit must follow the procedures set forth in chapters 63B-33, 62B-34, and 62B-41 of the Florida Administrative Code. Under this authority, DEP can impose strict requirements upon anyone applying for a permit seaward of the control line.[157] The burden is on the party requesting a permit to provide DEP with " sufficient information pertaining to the proposed project to show that any impacts associated with the construction have been minimized and that the construction will not result in a significant adverse impact."[158] Many factors must be taken into consideration when reviewing a permit request, including engineering data concerning shoreline stability and topography, design features of proposed construction,[159] and potential impacts on

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149. *Id.* § 161.021(6) (2002).

150. FLA. ADMIN. CODE ANN. r. 62B-33.024 (2002) (provides the rules for the thirty-year erosion projection procedure).

151. FLA. STAT. § 161.053(6)(b) (2002).

152. *Id.*

153. Spahn, *supra* note 95, at 362.

154. FLA. STAT. § 161.053(6)(b) (2002).

155. *Id.*

156. *Id.* § 161.053(5); Spahn, *supra* note 95, at 373.

157. *See* FLA. ADMIN. CODE ANN. r. 62B-33.007 (2002).

158. FLA. ADMIN. CODE ANN. r. 62B-33.005(2) (2002) (placing the burden of proving these facts and circumstances on the applicant); *see* Woodholly Assocs. v. Dep't of Natural Res., 451 So. 2d 1002, 1003 (Fla. 1st DCA 1984).

159. DEP may require "such engineering certifications as necessary to assure the adequacy

the beach-dune system.[160] Additionally, there are factors that DEP may take into consideration based on the location of the requested permit, such as the nesting and hatching of sea turtles and interference with public access.[161] However, there is no guidance in the Act as to which factors are to be given more weight than others. Therefore, DEP has a lot of discretion when reviewing permit applications, such as the power to grant permits for construction seaward of control lines under certain circumstances.[162]

Most of the case law surrounding the Act deals with challenges to the way DEP has interpreted the language of a statute or a regulation, challenges to some aspect of the establishment of the control lines, and challenges to denied permits.[163] Generally, Florida courts show a great amount of deference to the decisions made by DEP or one of its predecessor agencies that are within its delegated authority.[164] In *Island Harbor Beach Club, Ltd. v. Department of Natural Resources*,[165] for example, Beach Club challenged an amendment proposed by a predecessor department of DEP to reestablish the control line in Charlotte County, Florida.[166] The court found that the department acted under its statutorily delegated authority and discretion in applying the selected methodologies consistent with the purpose of the Act.[167] Furthermore, because competent and substantial evidence supported the amendment, an order upholding it was affirmed.[168] The court recognized that this change will affect the Beach Club's "right to use and erect structures upon the land they privately own [, and] may be seriously circumscribed in many of the areas covered by the amended rule."[169] The court went on to say that an "[e]valuation of the economic, environmental, and geophysical concerns underlying the wisdom and desirability of so regulating

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of the design and construction of permitted projects." FLA. STAT. § 161.053(5)(d) (2002).

160. *Id.* § 161.053(5)(a) (2002).

161. *Id.* §§ 161.053(5)(c), (e).

162. *Id.* § 161.053(5)(b).

163. Spahn, *supra* note 95, at 380.

164. *Id.* The generalization made here simplifies the issue of standard of review of agency decisions, which will not be addressed in detail. However, it should be noted that if an agency acts outside its delegated authority, there is no deference given to the decision. *See* Dep't of Natural Res. v. Wingfield Dev. Co., 581 So. 2d 193, 198 (Fla. 1st DCA 1991) (finding that because the statute did "not authorize DNR to determine whether a structure remains under construction or whether construction is abandoned after that date," a rule giving such authorization is not a valid exercise of legislative authority). *See also* State v. Day Cruise Ass'n, Inc., 794 So. 2d 696, 700 (Fla. 1st DCA 2001).

165. 495 So. 2d 209 (Fla. 1st DCA 1986).

166. *Id.* at 211.

167. *Id.* at 223.

168. *Id.* at 224.

169. *Id.* at 223-24.

land use along Florida beaches is, however, a political matter for determination by the legislature, not this court."[170] As this case illustrates, even with standing to challenge DEP decisions, deference to the agency provides riparian landowners no real protection.

b. Florida's Comprehensive Plan Legislation

Prior to the 1980s, Florida did not have a successful and enforceable comprehensive plan system set up in the state so that it could adequately "manage the state's phenomenal growth."[171] The dire need for such a plan was recognized, and by 1985, Florida had established a "statutory framework for an integrated state, regional, and local comprehensive planning process."[172] Through innovative legislation,

> Florida has created a pyramidal planning hierarchy. At the top of the hierarchy is the State Comprehensive Plan, at middle level are comprehensive regional policy plans, and at the foundation are local comprehensive plans. The three planning levels are integrated through consistency requirements. The goals and policies of the State Comprehensive Plan must be implemented through the regional policy plans that are consistent with the state plan and through local plans that are consistent with both the state and regional plans. Local comprehensive plans must be implemented through land development regulations and development orders that are consistent with the local plan.[173]

At the top of this pyramid is the State Comprehensive Plan. Under Chapter 187, Florida Statutes, this plan provides "long-range policy guidance for the orderly social, economic, and physical growth of the state."[174] Because the plan is only a "direction-setting document," other legislation is required for the implementation of the stated policies and goals,[175] which include everything from

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170. *Id*. at 224.
171. Pelham, *supra* note 95, at 517.
172. Thomas A. Pelham, *Adequate Public Facilities Requirements: Reflections on Florida's Concurrency System for Managing Growth*, 19 FLA. ST. U. L. REV. 973, 1001 (1992) [hereinafter Pelham II].
173. *Id*. at 1002.
174. FLA. STAT. § 187.101(1) (2002).
175. *Id*. § 187.101(2).

coastal and marine resources,[176] to property rights,[177] to land use.[178] The plan further orders legislation to apply "[t]he goals and policies contained in the State Comprehensive Plan . . . reasonably . . . where they are economically and environmentally feasible, not contrary to the public interest, and consistent with the protection of private property rights."[179]

In the middle of this pyramid, the eleven regions in Florida[180] are required under the Florida Regional Planning Council Act[181] to adopt a regional policy plan.[182] These plans must contain "regional goals and policies . . . [such as] affordable housing, economic development, emergency preparedness, natural resources of regional significance, and regional transportation, and . . . any other subject which relates to the particular needs and circumstances of the comprehensive planning district."[183] Additionally, all regional plans must be "consistent with the state comprehensive plan."[184]

Of most importance to the issue of riparian rights is the local aspect of this newly renovated legislation, specifically the Local Government Comprehensive Planning and Land Development Regulation Act (LGCPA).[185] Under the LGCPA, all local governments in Florida had to adopt a local comprehensive plan that met the requirements as established in this act.[186] These requirements were to act as a "blueprint for the future development of [each] community"[187] and "for the orderly and balanced future economic, social, physical, environmental, and fiscal development of the area."[188]

The LGCPA identifies certain elements that the local comprehensive plan in each area must include.[189] The coastal management element is one of the mandatory elements in areas within the coastal zone in Florida.[190] The statutes define this area as lands "abutting the Gulf of Mexico or the Atlantic Ocean, or which include or are contiguous to waters of the state where marine

176. *Id.* § 187.201(8).
177. *Id.* § 187.201(14).
178. *Id.* § 187.201(15).
179. FLA. STAT. § 187.101(3) (2002).
180. Pelham II, *supra* note 172, at 1003.
181. FLA. STAT. § 186.501 (2002).
182. *Id.* § 186.508.
183. *Id.* § 186.507(1).
184. *Id.*
185. FLA. STAT. §§ 163.3161-163.3215 (2002 & Supp. 2003).
186. *Id.* § 163.3167(2).
187. Pelham II, *supra* note 172, at 1004.
188. FLA. STAT. § 163.3177(1) (2002 & Supp. 2003).
189. *Id.* §§ 163.3177(3), (4), (6).
190. *Id.* § 163.3177(6)(g).

species of vegetation listed by rule as ratified in s. 373.4211 constitute the dominant plant community."[191] With the inclusion of this mandatory element, the Florida Legislature recognized that,

> There is significant interest in the resources of the coastal zone of the state. Further, the Legislature recognizes that, in the event of a natural disaster, the state may provide financial assistance to local governments for the reconstruction of roads, sewer systems, and other public facilities. Therefore, it is the intent of the Legislature that local government comprehensive plans restrict development activities where such activities would damage or destroy coastal resources, and that such plans protect human life and limit public expenditures in areas that are subject to destruction by natural disaster.[192]

In 1985, when the LGCPA was strengthened, this element was largely rewritten[193] with an emphasis that illustrates the "legislature's desire to protect Florida's coast."[194] The coastal element was expanded to include a much broader range of objectives, including the "limitation of public expenditures which subsidize development in high-hazard coastal areas, protection against natural disasters, orderly development and use of ports, and preservation of historic and archaeological resources."[195] To accomplish these new objectives, local comprehensive plans in the coastal zone must include:

> Policies that shall guide the local government's decisions and program implementation with respect to the following objectives:
>
> 1. Maintenance, restoration, and enhancement of the overall quality of the coastal zone environment, including, but not limited to, its amenities and aesthetic values.

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191. *Id*. § 380.24. SECTION 163.3177(6)(g), Fla. Stat. states that only "units of local government identified in s. 380.24" must include a coastal element.
192. *Id*. § 163.3178(1).
193. 1985 Fla. Laws ch. 207, 215 (amending FLA. STAT. § 163.3177(6)(g) (1983)).
194. Pelham, *supra* note 92, at 547.
195. *Id*.

2. Continued existence of viable populations of all species of wildlife and marine life.

3. The orderly and balanced utilization and preservation, consistent with sound conservation principles, of all living and nonliving coastal zone resources.

4. Avoidance of irreversible and irretrievable loss of coastal zone resources.

5. Ecological planning principles and assumptions to be used in the determination of suitability and extent of permitted development.

6. Proposed management and regulatory techniques.

7. Limitation of public expnditures that subsidize development in high-hazard coastal areas.

8. Protection of human life against the effects of natural disasters.

9. The orderly development, maintenance, and use of ports identified in s. 403.021(9) to facilitate deepwater commercial navigation and other related activities.

10. Preservation, including sensitive adaptive use of historic and archaeological resources.[196]

These minimum requirements provide a strong basis for the management of Florida's coastal areas, but it is recognized that "[t]he key will be in successful implementation of the plans."[197]

The best means to illustrate the ways in which local governments use this element to limit riparian rights is to look at some adopted comprehensive plans implemented pursuant to the LGCPA. The City of Marathon, Florida,[198] for example, has adopted

196. FLA. STAT. § 163.3177(6)(g) (2002).

197. Donna R. Christie, *Growth Management in Florida: Focus on the Coast*, 3 FLA. ST. U. J. LAND USE & ENVTL. L. 33, 40 (1987).

198. Marathon, Fla., Coastal Element, *available at* http://www.ci.marathon.fl.us/

an objective that requires the city to "protect, conserve and enhance coastal and marine resources."[199] In order to carry out this plan, the city adopted a policy that specifically regulates docks, only allowing them to be one hundred feet in length from the mean low water line.[200] Another example is from the Walton County, Florida, coastal zone conservation element of the adopted comprehensive plan. This element limits shoreline land uses as one of its primary objectives.[201] Specifically,

> During the development review process for all new development and redevelopment along shoreline areas, a shoreline use will not be approved if it decreases the amount of legal public access to beaches, lakes, bay and rivers, open waters and shorelines. Shoreline land uses shall not be allowed unless they ensure protection of wetlands, lakes, rivers and bay, endangered species and their associated habitat, grassbeds, oysterbeds, recreational and commercial fisheries, and improving or maintaining estuarine, surface and groundwater quality.[202]

Walton County is to carry out this objective through multiple policies, one of which lists a set of requirements that new development or redevelopment must meet.[203] The list of allowed uses includes a requirement that the use must be on an upland area — this alone could be used to disallow any dock to be built. However, there are indications that Walton County would allow docks to be built under certain circumstances.[204]

In one way or another, most coastal counties in Florida regulate when and how docks can be built in their local comprehensive plans.[205] Even though the state and local governments can heavily

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site%20documents/Comp%20Plan/Chapter%205.doc (last visited Nov. 24, 2003).

199. *Id*. at Objective 5-1.3.

200. *Id*. at Policy 5-1.3.11.

201. Walton County, Fla., Future Land Use Element Policies, at Objective C-4.1, *available at* http://www.co.walton.fl.us/pdf/countygrowthmanagement/Walton%20County%20Comprehensive%20Plan.pdf (last visited Nov. 24, 2003).

202. *Id*. at Objective C-4.1.

203. *Id*. at Policy C-4.1.2.

204. *Id*. at Policy L-1.1.1 (implements objective L-1.1(B)(9)(f) by allowing docks to be built as a recreation use only in the Coastal Village mixed use district); *but see id*. at Policy C-3.1.2 (disallowing docks "located over submerged land which is vegetated with seagrasses except as necessary to reach" in the Choctawhatchee Bay).

205. *See*, *e.g.*, Volusia County, Fla., Coastal Mgmt. Element, *available at* http://volusia.org/growth/coast.pdf (last visited Nov. 24, 2003).

regulate the right to wharf-out, the government cannot totally take away this common law right through statutes, rules, ordinances, or regulations without just compensation.[206] The police power has limits, in that regulations cannot be arbitrarily abrogated where there is no governmental purpose;[207] however, it often seems that private property rights are the last on the list of priorities, with the public's interest at the top.[208]

4. The Impact of Florida's Police Power on Riparian Rights

It has been observed that "[t]he relationship of the sovereign police power to private property has been marked by the steady erosion of private property's sanctity in the face of the sovereign police power's growth."[209] Therefore, even though it may be true that "[n]o growth management program would be complete without close attention to Florida's coast,"[210] expansive regulation has a serious impact on the riparian rights held by those that own coastal property. Some of the negative impacts of over-regulation include expense,[211] uncertainty,[212] and limited possibility of review.[213] This battle has been fought on many fronts, but there are two areas that are the most illustrative and pervasive: the right to wharf-out, and the regulatory takings issue.[214]

a. The Right to Wharf-out

It has been long been recognized that the right to wharf-out is a qualified right "to erect wharves or piers or docks in front of riparian holdings to facilitate access to and the use of the navigable waters, subject to lawful state regulation and dominant powers of

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206. *See* 85-47 Fla. Op. Att'y Gen. 47 (1990) (finding that a county could not take away the common law right of ingress and egress without just compensation).

207. 90-37 Fla. Op. Att'y Gen. 37 (1990).

208. Krieter v. Chiles, 595 So. 2d 111, 112 (Fla. 3rd DCA 1992) (finding that "[t]he Trustees have the authority to preclude the construction of private docks when it is in the public interest to do so").

209. *See* Richard J. Lazarus, *Changing Conceptions of Property and Sovereignty in Natural Resources: Questioning the Public Trust Doctrine*, 71 IOWA L. REV. 631, 668 (1986).

210. Pelham, *supra* note 92, at 594-95.

211. *See*, *e.g.*, *id.* at 596. The author recognized that,

> As for the private sector, persons wishing to develop or build structures on coastal barriers may incur some increased costs due to the construction standards mandated in the bill.[ ]Further, private developers who build in coastal areas may now be required by a local government to pay for most, if not all, infrastructure costs.

Id.

212. *See*, *e.g.*, Spahn, *supra* note 95, at 389-90.

213. *See also*, *id.* at 390.

214. *See* Lazarus, *supra* note 209, at 668.

Congress."[215] However, since the court in *Freed v. Miami Beach Pier Corp.*[216] remarked on this qualified right, the numbers of regulations that govern the building of a dock have increased substantially.[217] Building docks is one of the most regulated and limited riparian rights for many reasons, including the fact that docks are located on sovereignty lands owned by the state, they obstruct navigation, and they impede the public's enjoyment of the beach.[218] For these reasons, in order for a riparian owner to build a dock, he or she will have to go through many levels of regulation and permitting even before breaking ground.

As discussed above, the state, municipalities, and charter counties have the authority to regulate riparian rights through the general police power and those powers reserved in the Florida Constitution.[219] Therefore, as long as the regulations serve a valid purpose, and the paramount power of the state to regulate sovereignty lands is not violated, the right to wharf-out can be, and is, regulated.[220] There are many hoops that a riparian owner has to jump through to get approval to build a dock. Primarily, the owner has to get permission to use the sovereignty lands. Under section 253.77(1), Florida Statutes,

> A person may not commence any excavation, construction, or other activity involving the use of sovereign or other lands of the state, the title to which is vested in the board of trustees of the Internal Improvement Trust Fund under this chapter, until the person has received the required lease, license, easement, or other form of consent authorizing the proposed use.

Under this provision, a permit will not be granted unless all the necessary information is provided, this includes the information required to receive a dredge and fill permit, a coastal construction permit under 161.041, a coastal construction line permit under 161.053, and any variance or set back as required by 161.052.[221] Additionally, even though the Trustees hold title to sovereignty

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215. Freed v. Miami Beach Pier Corp., 112 So. 841, 844-45 (Fla. 1927).
216. *Id.* at 841.
217. *See*, *e.g.*, Marine Mammal Protection Act, 16 U.S.C. §§ 1361–1389 (2002). Under this Act, a permit cannot be approved if there will be even one marine mammal taken. *Id.* § 1371(a).
218. *See* A. DAN TARLOCK, LAW OF WATER RIGHTS AND RESOURCES § 3:74 (1988).
219. *See* discussion *infra* Part III.A.1.
220. *See* 90-37 Fla. Op. Att'y Gen. 37 (1990).
221. FLA. STAT. § 253.77 (2002).

lands under navigable waters, permission to build a dock may come from the Department of Environmental Protection and the request water management district,[222] especially if the property is also classified as a wetland.[223]

After a riparian owner has complied with all of these statutes and rules, he or she must then make sure they comply with all the requirements of local ordinances and regulations. In Treasure Island, Florida, for example,

> No seawall, groin, jetty, dock, or boat lift, or any part thereof, or any projection of any kind into the waterways of Boca Ciega Bay shall hereafter be built or constructed except in conformity with the provisions of this article, nor shall the same be razed, altered, moved, extended or built upon in any manner that would be in violation with the provisions of this article unless by a licensed marine or general contractor as required by state statutes. No project which is likely to negatively impact any existing marine sea grass bed shall be permitted. All projects which are likely to inhibit tidal circulation shall include mitigation measures to maintain tidal circulation and flushing. All dredge and fill activities in Boca Ciega Bay are restricted under, and subject to, the provisions of F.S. § 258.396 (Boca Ciega Bay Aquatic Preserve) and the permitting requirements and criteria of the Pinellas County Water and Navigation Control Authority (Sections 166-356 through 358, Pinellas County Code). Seawalls shall be prohibited on the Gulf of Mexico, and when existing seawalls on the Gulf of Mexico are damaged, they shall not be replaced.[224]

As this ordinance illustrates, local governments have the power to restrict the right to wharf-out, but this right cannot be totally taken away through such regulation without just compensation.[225]

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222. *See* discussion *infra* Part III.A.3.a.

223. *See* FLA. ADMIN. CODE ANN. r. 62-312 (2002).

224. TREASURE ISLAND, FLA., ORDINANCE 69-31 (2003), *available at* http://sun6.dms.state.fl.us/treasure-island/dock-ord.html (last visited Nov. 24, 2003).

225. The courts in Florida still recognize the right to wharf-out. In *Shore Vill. Prop. Owners' Ass'n, Inc. v. Fla. Dep't of Envtl. Prot.*, for example, the court recognized that this issue had been previously addressed by multiple district courts and stated "riparian rights include the building of a dock to have access to navigable waters." 824 So. 2d 208, 211 (Fla. 4th DCA 2002); *see also* Cartish v. Soper, 157 So. 2d 150, 153-54 (Fla. 2d DCA 1973) (finding that "[j]ust

b. Regulatory Takings

In a recent United States Supreme Court decision, the Court discussed the issue of regulatory takings under the Fifth Amendment. The question presented in *Tahoe-Sierra Preservation Council, Inc. v. Tahoe Regional Planning Agency*,[226] was whether "a [thirty-two month] moratorium on development imposed during the process of devising a comprehensive land-use plan constitutes a per se taking of property requiring compensation under the Takings Clause of the United States Constitution."[227] On the way to finding that it does not, the Court engaged in expansive dicta that "led it to be hailed as a major victory for land-use regulators."[228]

This decision, which "represents the first clear victory for pro-regulation forces in fifteen years,"[229] interpreted *Lucas v. South Carolina Coastal Council*[230] to be a mere "footnote in the history of regulatory takings law."[231] The rule out of *Lucas* was that when the government through regulation deprives a property owner of all economically beneficial value and use, a taking has occurred that requires the government pay just compensation.[232] This is unless the state can prove that the regulations placed on the property do not restrict the use of that property any more than those restrictions that could be imposed under background principles of property and nuisance law.[233] The Court in *Tahoe-Sierra* stated that its holding in *Lucas* "was limited to 'the extraordinary circumstance when *no* productive or economically beneficial use of land is permitted'."[234] This meant "that the categorical rule would not apply if the diminution in value were 95% instead of 100% . . . [because] [a]nything less than a 'complete elimination of value,' or a 'total loss,' the Court acknowledged, would require the kind of analysis applied in *Penn Central*."[235] As a result, under the *Tahoe-Sierra* rule, it is logically impossible for a fee simple owner to successfully claim a temporary or permanent taking under *Lucas* for a regulation that limits riparian rights, but leaves the land with

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as accreted land would necessarily be burdened by the easement as a necessary implication of the reservation, so too the right to build a dock to facilitate access to the waters is implied").

226. 535 U.S. 302 (2002).

227. *Id.* at 306.

228. TAKING SIDES ON TAKINGS ISSUES: THE IMPACT OF TAHOE-SIERRA 18 (Thomas E. Roberts ed., 2003) [hereinafter TAKING SIDES].

229. *Id.* (citing Keystone Bituminous Coal Ass'n v. DeBenedictic, 480 U.S. 470 (1987)).

230. 505 U.S. 1003 (1992).

231. TAKING SIDES, *supra* note 228, at 60.

232. *Lucas,* 505 U.S. at 1027-28.

233. *Id.* at 1028-29.

234. Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Planning Agency, 535 U.S. 302, 330 (2002) (quoting *Lucas*, 505 U.S. at 1017).

235. *Tahoe-Sierra*, 535 U.S. at 330 (quoting *Lucas*, 505 U.S. at 1019-20).

substantial value.[236] A landowner in such a situation will therefore have to rely on a balancing of the factors from *Penn Central Transportation Co. v. City of New York*.[237]

In *Tahoe-Sierra*, the Court said that if there is not a total taking of the entire piece of property, the three-part test from *Penn Central* is the polestar to be applied in regulatory takings claims.[238] The three factors to take into consideration are (1) "economic impact of the regulation on the claimant;" (2) "the extent to which the regulation has interfered with distinct investment-backed expectations;" and (3) "the character of the governmental action."[239] These factors are to be applied by the finder of fact and law within a fact specific, ad hoc, and subjective analysis,[240] and therefore, the facts surrounding the specific issue will drive the decision.[241]

The prohibition in the Fifth Amendment of the United States Constitution against taking private property for public use without compensation, also applies to the states through the Fourteenth Amendment.[242] Therefore, this prohibition binds the state of Florida and all the local governments within Florida.[243] Local landowners have brought many takings claims to the Florida courts; however, the court has never decided a case involving the regulatory taking of riparian rights.[244] The court, on the other hand, has been confronted with physical takings cases. In *Belvedere*,[245] for example, the court was asked to determine whether Florida law allows riparian rights to be separated from riparian land.[246] Commenting that "[a]lthough riparian rights are property, they are unique in character . . . [t]he source of those rights is not found within the interest itself, but rather they are found in, and are defined in terms of the riparian upland," the court found that indeed riparian rights

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236. TAKING SIDES, *supra* note 228, at 40. *See also Tahoe-Sierra*, 535 U.S. at 332 (finding that "[l]ogically, a fee simple estate cannot be rendered valueless by a temporary prohibition on economic use, because the property will recover value as soon as the prohibition is lifted"). The right to exclude is treated differently. *See* Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419, 435-36 & n.12 (1982) (recognizing that "[t]he permanence and absolute exclusivity of a physical occupation distinguish it from temporary limitations on the right to exclude").

237. 438 U.S. 104 (1978).

238. *Tahoe-Sierra*, 535 U.S. at 327 n.23.

239. *Penn Central*, 438 U.S. at 124.

240. *Tahoe-Sierra*, 535 U.S. at 322.

241. *See*, *e.g.*, Lost Tree Vill. Corp. v. City of Vero Beach, 838 So. 2d 561, 569-70 (Fla. 4th DCA 2002).

242. Webb's Fabulous Pharmacies, Inc. v. Beckwith, 449 U.S. 155, 160 (1980).

243. *Id*. at 160 (applying this analysis to Seminole County, Florida).

244. The only Florida case that has even mentioned *Tahoe-Sierra* is a takings case dealing with development of coastal land. *See Lost Tree Village*, 838 So. 2d at 572.

245. 476 So. 2d 649 (Fla. 1985).

246. *Id*. at 650.

could be separated.[247] Because riparian rights are property rights, the court held that "the act of condemning petitioners' lands without compensating them for their riparian property rights . . . was an unconstitutional taking."[248]

The court in *Board. of Trustees of the Internal Improvement Trust Fund v. Sand Key Assocs., Ltd.*[249] also recognized that "property rights . . . may be regulated by law, but may not be taken without just compensation and due process of law."[250] In *Sand Key*, the district court certified a question of great public importance to the Florida Supreme Court and asked under section 161.051, Florida Statutes,[251] whether land added to riparian uplands through accretions or relictions was property of the upland owner when he did not cause the additions.[252] The court recognized the common law right to such lands, and thereby answered the question in the affirmative.[253] A finding that the property was the state's "would have a disastrous effect on many unsuspecting waterfront owners and would necessitate a finding that this is a taking by the state of vested riparian and littoral rights without compensation."[254]

As the law of takings illustrates at both the state and federal level, even though riparian rights are recognized and protected by common law, statutory law, and constitutional law, these rights are very often found to be secondary to the rights of others, such as the

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247. *Id.* at 652.

248. *Id.*

249. 512 So. 2d 934 (Fla. 1987).

250. *Id.* at 936 (quoting Brickell v. Trammel, 82 So. 221, 227 (Fla. 1919)). Regulation is not the only way that the government can take property; it can also be taken through condemnation or appropriation. *See Loretto*, 458 U.S. at 421.

251. This section reads:

> Coastal construction by persons, firms, corporations, or local authorities.-- Where any person, firm, corporation, county, municipality, township, special district, or any public agency shall construct and install projects when permits have been properly issued, such works and improvements shall be the property of said person, firm, corporation, county, municipality, township, special district, or any public agency where located, and shall thereafter be maintained by and at the expense of said person, firm, corporation, county, municipality, township, special district, or other public agency. No grant under this section shall affect title of the state to any lands below the mean high-water mark, and any additions or accretions to the upland caused by erection of such works or improvement shall remain the property of the state if not previously conveyed. The state shall in no way be liable for any damages as a result of erections of such works and improvements, or for any damages arising out of construction, reconstruction, maintenance, or repair thereof, or otherwise arising on account of such works or improvements.

FLA. STAT. § 161.051 (2002).

252. *Sand Key Assocs., Ltd.,* 512 So. 2d at 938.

253. *Id.* at 941.

254. *Id.* at 939.

federal, state, or local governments. Under this structure, if a regulatory taking of riparian rights does not satisfy the test from *Penn Central*, there may not be a taking and just compensation may not be due.[255] This is a strong blow against private property owners in all parts of the state, not just along the coast. However, when coupled with the navigational servitude and the public trust doctrine, a riparian owner may never receive compensation for lost property.

B. Navigational Servitude

The property rights of a riparian owner are not supreme. An excellent illustration of this is how the law surrounding takings has evolved in a way that compensates riparian owners less and less for the losses they may encounter because of an action by the federal government. As discussed above, when the government takes private property for public use, under the Fifth Amendment of the United States Constitution, just compensation must be paid.[256] However, the federal government has a navigational servitude that may overshadow this right. Under the Commerce Clause, Congress may "regulate Commerce with foreign Nations, and among the several States, and with the Indian Tribes."[257] Because Congress has this power over commerce, the court in *Gibbons v. Ogden*[258] found that Congress also had power over navigation; and from this power stems the power over navigable waters.[259]

> Commerce includes navigation. The power to regulate commerce comprehends the control for that purpose, and to the extent necessary, of all the navigable

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255. *Cf.* FLA. STAT. § 70.001 (2002) (the "Bert J. Harris, Jr., Private Property Rights Protection Act"). This statute reads, in part:

> The Legislature recognizes that some laws, regulations, and ordinances of the state and political entities in the state, as applied, may inordinately burden, restrict, or limit private property rights without amounting to a taking under the State Constitution or the United States Constitution. The Legislature determines that there is an important state interest in protecting the interests of private property owners from such inordinate burdens. Therefore, it is the intent of the Legislature that, as a separate and distinct cause of action from the law of takings, the Legislature herein provides for relief, or payment of compensation, when a new law, rule, regulation, or ordinance of the state or a political entity in the state, as applied, unfairly affects real property.

Id. § 70.001(1).

256. *See* United States v. 30.54 Acres of Land, 90 F.3d 790, 793 (3d Cir. 1996).

257. U.S. CONST. art. I, § 8, cl. 3.

258. 22 U.S. 1 (1824).

259. Genevieve Pisarski, *Testing the Limits of the Federal Navigational Servitude*, 2 OCEAN & COASTAL L.J. 313, 322 (1997).

> waters of the United States which are accessible from a State other than those in which they lie. For this purpose they are the public property of the nation, and subject to all requisite legislation by Congress.[260]

The navigational servitude has been defined as a dominant servitude with which the federal government can regulate, control, and improve navigable waters.[261] This power "necessarily includes the power to keep them open and free from any obstruction to their navigation, interposed by the States or otherwise; to remove such obstructions when they exist."[262] When the federal government exercises this power, it does not have to compensate an upland owner for the economic losses that result because of the taking of riparian rights.[263] The reasoning behind this is that once riparian owners are in the water, their rights are like those of the public,[264] and therefore "damage sustained does not result from taking property . . . but from the lawful exercise of a power to which the interests of riparian owners have always been subject."[265] In *Bonelli Cattle Co. v. Arizona*,[266] for example, even though the Supreme Court was faced with a land takings issue, it noted that

> In the exercise of its navigational servitude, the . . . Federal Government may decrease the value of riparian property without compensation because the property is held subject to the exercise of that servitude. The government may, without paying compensation, deprive a riparian owner of his common-law right to use flowing [water] or to build a wharf over the water. We have held that the [government] may deprive the owner of the riparian

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260. Gilman v. City of Philadelphia, 70 U.S. 713, 724-25 (1865) (citing *Gibbons*, 22 U.S. at 1).

261. Palm Beach Isles Associated v. United States, 208 F.3d 1374, 1382 (Fed. Cir. 2000) (citing United States v. Rands, 389 U.S. 121, 122-23 (1967)); Mark Cheung, Comment, *Dockominiums: An Expansion of Riparian Rights that Violates the Public Trust Doctrine*, 16 B.C. ENVTL. AFF. L. REV. 821, 842 (1989).

262. *Gilman*, 70 U.S. at 725.

263. United States v. 30.54 Acres of Land, 90 F.3d 790, 793 (3d Cir. 1996).

264. Even though owners of coastal property have no more of a right to navigation than the general public, such owners do have standing to challenge an action that takes away this right if they have been subject to special injury. *See* Game & Fresh Water Fish Comm'n v. Lake Islands, Ltd., 407 So. 2d 189, 192-93 (1981) (discussing the special injury held by owners of island property as a result of a rule that prohibit the use of motorboats during part of the year, which had the effect of taking away the only reasonable means of transportation to the property).

265. *Rands*, 389 U.S. at 123.

266. 414 U.S. 313 (1973).

> character of his property in the exercise of its navigational servitude.[267]

There are two requirements that must be met for the government to successfully use its navigational servitude: that the property is located within navigable waters and that it is only used when there will be either a navigable purpose or effect.[268] Under federal law, determining whether a water body is navigable requires that it be "navigable in fact."[269] Water bodies are found to be navigable in fact when

> They are used, or are susceptible of being used, in their ordinary condition, as highways for commerce, over which trade and travel are or may be conducted in the customary modes of trade and travel on water. And they constitute navigable waters of the United States within the meaning of the acts of Congress, in contradistinction from the navigable waters of the States, when they form in their ordinary condition by themselves, or by uniting with other waters, a continued highway over which commerce is or may be carried on with other States or foreign countries in the customary modes in which such commerce is conducted by water.[270]

Under this first requirement, there is also a geographic boundary — the mean high water mark — land above this line does not qualify as part of the government's navigational servitude.[271] In utilizing this servitude, the government must also show a navigational purpose or effect behind its actions.[272] In most cases, the general theme is that governmental "action to keep the channels of commerce free of obstructions has long been understood to lie near the core of the police power, and claims for compensation when property has been damaged by such efforts have been uniformly rejected."[273]

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267. *Id*. at 331 (citations omitted).

268. Pisarski, *supra* note 259, at 325. This article suggests that there are actually six, including (1) authority, (2) commerce clause purpose, (3) congressional intent, (4) easement, (5) government act is within navigable waters, and (6) "[p]ositive relationship between the governmental activity and navigation." *Id*. at 325-36.

269. The Daniel Ball, 77 U.S. 557, 563 (1870).

270. *Id*.

271. Applegate v. United States, 35 Fed. Cl. 406, 414-15 (1996).

272. Palm Beach Isles Assocs. v. United States, 208 F.3d 1374, 1384 (Fed. Cir. 2000).

273. DAVID A. DANA & THOMAS W. MERRILL, PROPERTY: TAKINGS, 117-18 (Foundation Press

Even when the federal government can successfully claim that an action falls under the navigation servitude, a riparian owner's rights to compensation are not totally destroyed. As a rule, the navigation servitude extends to the mean high water mark.[274] Therefore, when an action of the federal government destroys or devalues upland property above the mean high water mark, just compensation is due.[275] Nevertheless, there is a twist — the courts have consistently held that when the determination is made as to what amount of compensation is just, property is not valued the way one would normally value coastal property. In *United States v. Rands*,[276] the court recognized that "just as the navigational privilege permits the Government to reduce the value of riparian lands by denying the riparian owner access . . . without compensation," that same navigational privilege "permits the Government to disregard the value arising from this same fact of riparian location in compensating the owner when … [uplands] are appropriated."[277]

Under this doctrine, if the government has the right to take riparian rights and devalue coastal property, the government may never have to pay. In addition, even if the effects cross the mean high water mark, the amount received by the property owner may fall short of the actual value of the property lost. This doctrine is especially harsh due to the unique nature of coastal property, the sometimes outrageous price tags attached, and the importance of riparian rights to the land value. However, just as the federal government may hold navigation above private property rights, the state government may hold the rights of the public as superior.[278]

C. Public Trust Doctrine

The final and most well known doctrine that plays a major role in the erosion of riparian rights is the Public Trust Doctrine, under which states hold in trust for the public all the lands under navigable waterways.[279] This doctrine traces its roots back to Roman

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2002).

274. *Applegate*, 35 Fed. Cl. 406, 414-15 (1996).

275. *See* United States v. Rands, 389 U.S. 121, 123 (1967).

276. 389 U.S. 121 (1967).

277. *Id*. at 123-24 (quoting U.S. v. Virginia Elec. & Power Co., 365 U.S. 624, 629 (1961)).

278. *Id*. at 126.

279. "Traditionally, the scope of the public trust was confined to navigable lakes and streams, submerged lands, and the foreshore (the area between high and low tides) . . . [but, i]n some states, court decisions and statutes have extended the trust doctrine to nonnavigable water, state parks, wildlife, groundwater, air and other natural resources." Carter H. Strickland, Jr., *The Scope of Authority of Natural Resource Trustees*, 20 COLUM. J. ENVTL. L. 301, 313-14 (1995).

law and English common law.[280] Under the Roman natural law, it was thought, "the sea belonged to no one, that use rights in it, and on its shores, were common to all."[281] This concept was lost in Europe through the Middle Ages, but then reemerged thanks to Sir Matthew Hale's treatise, De Jure Maris (1670).[282] It is well recognized that "Hale's treatise laid the groundwork for the English common law rule that title to lands over which the tide ebbed and flowed was *prima facie* in the Crown and held by it in a sort of trust for the public."[283] From this foundation, the law in the United States and in Florida has evolved into a doctrine that has crept beyond its customary boundaries landward.

No discussion of the Public Trust Doctrine would be complete without a mention of the leading United States Supreme Court decisions that laid the framework for the public trust, *Illinois Central Railroad v. Illinois*.[284] In *Illinois Central*, the Court held that

> The soil under navigable waters being held by the people of the state in trust for the common use and as a portion of their inherent sovereignty, any act of legislation concerning their use affects the public welfare. It is therefore appropriately within the exercise of the police power of the state.[285]

Even though *Illinois Central* deals with what right a state has to grant control of a harbor, it has set the groundwork for much of public trust law in Florida.[286]

In Florida, the common law doctrine of public trust[287] has been codified into a constitutional mandate that the Trustees[288] keep in trust "[t]he title to lands under navigable waters, within the boundaries of the state, which have not been alienated, including beaches below mean high water lines."[289] Traditionally, through the public trust, the state protects public benefits such as fishing, navigation, and commerce; however, in some states the public trust

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280. KALO, *supra* note 96, at 3.
281. *Id.*
282. *Id.* at 4.
283. *Id.*
284. 146 U.S. 387 (1892).
285. *Id.* at 459.
286. Gross-Arnold, *supra* note 31, at 535. *See* Hayes v. Boyman, 91 So. 2d 795, 799-800 (Fla. 1957) (containing a historical analysis of this doctrine's common law development in Florida).
287. *See* Broward v. Mabry, 50 So. 826, 830 (Fla. 1909).
288. *See* FLA. STAT. § 253.03(1)(B) (2002).
289. FLA. CONST. art. X, § 11.

has been expanded "to include protection of the air, water, wildlife, aesthetic values, public access, and recreational uses such as boating, swimming, and bathing."[290] In Florida, the public trust includes the public's right to use the lands under navigable waters and the foreshore for navigation, fishing, bathing, and similar uses.[291] However, the court has recognized that "[i]t is difficult, indeed to imagine a general and public right of fishing in the sea, and from the shore, unaccompanied by a general right to bathe there, and of access thereto over the foreshore for that purpose."[292]

Riparian owners property rights are interfered with, and sometime destroyed in the name of public interest, especially with regard to the right to wharf-out.[293] One of the best illustrations of this is the court's decision in *Krieter v. Chiles*.[294] The court in *Krieter* recognized that "[a]lthough the riparian right of ingress and egress is an appurtenance to the ownership of private upland property, it is a qualified right which must give way to the rights of the state's people."[295] Based on this concept of the superiority of the public's rights over a private property owner's rights, the court found that the denial of an application to build a private single-family dock was not a taking.[296] The court reasoned, "the Public Trust Doctrine dictates that there be some impairment of a citizen's right to enjoy absolute freedom before allowing a citizen the use of public submerged land."[297] The coastal property owner could not show that the only way of ingress and egress to her property was by way of a dock, therefore, without such necessity this claim could not be held as superior to that of the public.[298] Because of this decision, this property owner could only reach her property by way of a public road and not from the water.[299]

It has been argued that this doctrine is not necessary in the face of the modern police power. One commentator has written,

> Today, the extent of sovereign authority does not turn on such strained fictions of property law, which are all contemporaries of the public trust doctrine. It is now well settled that the police power is the most

290. Strickland, *supra* note 279, at 314.
291. *Hayes*, 91 So. 2d at 799.
292. White v. Hughes, 190 So. 446, 449 (Fla. 1939).
293. *See* 57 FLA. JUR. 2D *Wharves* § 11 (2004).
294. 595 So. 2d 111 (Fla. 1st DCA 1992).
295. *Id.* at 112 (citation omitted).
296. *Id.*
297. *Id.*
298. *Krieter*, 595 So. 2d at 112.
299. *Id.* at 112-13.

> fundamental source of governmental authority to prevent needless environmental harm and related risks to human health and welfare. To be sure, the 'police power' too could be described as a legal fiction, but unlike the trust doctrine, the police power is a live fiction that reflects current legal analysis and social values. The extent of police power authority does not depend on the application of formalistic categories of property law, but ultimately on the precise nature of both the governmental interest and the private property expectations at odds in a particular case.[300]

The author concluded that takings law has evolved so that the courts would allow a taking without requiring just compensation being paid in situations where the public trust could be exercised;[301] however, this conclusion was reached prior to the United States Supreme Court decision in *Lucas v. South Carolina Coastal Council*.[302] But, what it did not mention was that when the state exercises the Public Trust Doctrine, there is no taking of private property that requires just compensation be paid. As *Krieter* illustrates, this aspect of the doctrine will keep the public trust alive. It totally shields governments from paying private property owners just compensation for the destruction or devaluation of their land[303] — even the modern police power is not this strong.

IV. CONCLUSION

At common law, riparian rights attached to upland property and the courts held them out to be property themselves. Even though this classification is not dependant on the state constitution or the statutory law, these rights can be limited just as any common law rights can. The "rights" that today may be at best a priority for coastal owners include rights of navigation, commerce, boating, and fishing, along with the right to ingress and egress, the right to an unobstructed view, and the right to wharf-out. However, as the statutory and regulatory law has evolved, all of these rights have become qualified, and many have become nothing more than a right commonly shared with the public. Therefore, currently, the surviving rights that a riparian owner can still exercise in Florida

300. *See* Lazarus, *supra* note 209, at 665 (citations omitted).
301. *See id*. at 668-74.
302. 505 U.S. 1003 (1992).
303. *Kreiter*, 595 So.2d at 112-13.

in a way where they will be compensated for a loss, actually only include those that do not interfere with the state's use of sovereignty lands, the federal government's use of the navigational servitude, or the public trust.

ESSENTIAL FISH HABITAT: BUILDING A BARRIER TO AFFORDABLE HOUSING?

STEPHEN MCDANIEL

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I. INTRODUCTION

"*The fish off the coasts of the United States . . . and the anadromous species which spawn in United States rivers or estuaries, constitute valuable and renewable natural resources. These fishery resources contribute to the food supply, economy, and health of the Nation and provide recreational opportunities.*

. . . .

One of the greatest long-term threats to the viability of . . . fisheries is the continuing loss of marine, estuarine, and other aquatic habitats."[1]

. . . .

"*The American Dream for every family has at its core a comfortable home in a safe neighborhood, a home available to buy or rent at a cost within the family budget, a home reasonably close to the wage earner's place of work.*"[2]

When examined separately, an individual would be hard pressed to disagree with either of the above-quoted statements of U.S.

1. Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. § 1801(a) (2000).

2. Letter from Thomas H. Kean, Chairman of the Advisory Commission on Regulatory Barriers to Affordable Housing, to Jack Kemp, Secretary of Housing and Urban Development for the United States (July 8, 1991) (on file with author).

policy. While individually the policy statements and ideology embodied therein are easily agreeable to the American psyche, when read in concert, one must wonder if the policy concerns imbedded within each statement are easily reconciled with those imbedded within the other. This article attempts to address this issue, whether one of the goals of the Magnuson-Stevens Fishery Conservation and Management Act (the MSA),[3] protecting Essential Fish Habitat (EFH),[4] can be reconciled with the simultaneous goal of the National Affordable Housing Act (the AFHA),[5] ensuring affordable housing to low- and moderate-income families.[6]

The article will provide a detailed overview of the history and controversy surrounding the 1996 EFH amendments to the MSA and the regulations that followed, along with a brief overview of the history and purpose of the AFHA. Additionally, the article will discuss the housing implications that have emerged from the MSA amendments and subsequent regulations. Because the EFH amendments to the forty existing fishery management plans (FMPs) required by the MSA are extremely in depth, covering each life stage of more than 900 managed species, any specific discussion of the FMP amendments will be limited to the Gulf of Mexico Fishery Management Council (GMFMC).[7] My intentions in writing this article are to demonstrate that there are inherent conflicts between the goals of the MSA and the AFHA and to evoke a healthy debate as to how these conflicts might best be resolved without sacrificing the ultimate goal of either Act.

II. THE MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

There is no doubt that commercial and recreational fisheries in the United States are important national resources and provide substantial contributions to the coastal communities of the United States.[8] In 1998 alone, the nation's commercial fisheries produced

3. 16 U.S.C. §§ 1801-1883 (2000).

4. *Id.* § 1801(b)(7).

5. Cranston-Gonzalez National Affordable Housing Act, 42 U.S.C. §§ 12701-12899i (2000).

6. 42 U.S.C. § 12702 (2000).

7. The Gulf of Mexico Fishery Management Council is one of eight regional Fishery Management Councils established by the MSA. The councils prepare fishery plans which are designed to manage fishery resources from where state waters end out to the 200-mile limit of the Exclusive Economic Zone. Gulf of Mexico Fishery Management Council, About the Council, *at* http://www.gulfcouncil.org/about.htm (last visited Oct. 23, 2003).

8. *Fisheries Reauthorization Before the House Subcomm. on Fisheries Conservation, Wildlife and Oceans Comm. on Resources*, 106th Cong. (2000) (statement of Penelope Dalton, Assistant Administrator for Fisheries for the National Oceanic and Atmospheric Administration) (on file with author).

approximately $3.1 billion in dockside revenues.[9] "[T]he United States is the world's fifth largest fishing nation, harvesting almost 10 billion pounds annually."[10] Additionally, in 1998 the United States' seafood exports were valued at over $2.3 billion, making it the third largest seafood exporter in the world.[11] U.S. fishery resources not only provide a valuable commercial resource for the nation, they also "provided enjoyment for over 8 million saltwater anglers who caught an estimated 312 million fish in 1998."[12] Given the significance of this natural resource's contribution to the nation's economy and its recreational value to its citizens, it is no surprise that Congress has taken steps to ensure its continued viability. The result of Congressional efforts to protect this valuable resource culminated in the passage of the Fishery Conservation and Management Act in 1976.

A. Predecessors to the Current Act

In 1976, in an attempt to eliminate heavy foreign fishing in U.S. waters, Congress passed the Fishery Conservation and Management Act.[13] This initial Act created eight regional fishery management councils that were charged with managing the nation's fisheries through the use of fishery management plans (FMPs).[14] The management of fisheries under the initial Act did not include an emphasis on habitat considerations.[15] The Act merely required the councils to "initiate and maintain . . . research on the effects of habitat degradation"[16] but did not require that research to be considered when drafting the FMPs. The result was that habitat was relegated to strictly a research issue as opposed to a management issue.[17] By the late 1980s, as a result of signs of overfishing, parties began voicing demands that habitat issues be made a higher priority in the management of U.S. fisheries.[18]

In 1986, Congress acknowledged the growing habitat concerns during the reauthorization of the 1976 Act.[19] As a result, the 1986 reauthorization included two provisions that addressed those

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9. *Id*.
10. *Id*.
11. *Id*.
12. *Id*.
13. Kristen M. Fletcher & Sharonne E. O'Shea, *Essential Fish Habitat: Does Calling it Essential Make it So?*, 30 ENVTL. L. 51, 54 (2000).
14. *Id*.
15. *Id*. at 55.
16. 16 U.S.C. § 1854(e) (1982) (subsequently repealed).
17. Fletcher, *supra* note 13, at 55.
18. *Id*.
19. *Id*.

concerns.[20] The first of those provisions required FMPs to include "information regarding the significance of habitat to the fishery and assessment as to the effects which changes to that habitat may have upon the fishery."[21] The councils, in their discretion, were to use the information to comment on proposed federal or state activities that could impact the habitat and make recommendations to the federal action agency.[22] The second provision addressing habitat concerns required the relevant federal action agency to respond to the council's comments and recommendations, when provided, within forty-five days of receipt.[23] The agency's response was merely required to entail "a detailed response, in writing . . . regarding the matter."[24] While the amendments attempted to address the issue of habitat protection, the processes required by them were often times overlooked by the relevant agencies.[25] Moreover, the provisions vested the councils with a broad range of discretion in deciding whether or not they would even comment on proposed actions.

In 1990, Congress again amended the Act in an attempt to strengthen the habitat provisions incorporated into the Act by the 1986 amendments. The 1990 amendments to the Act required the councils to make comments and recommendations concerning any state or federal action that would be "likely to substantially affect the habitat of an anadromous fishery resource under its jurisdiction."[26] Moreover, the amendments beefed up the mandatory agency responses by requiring them to "include a description of measures being considered by the agency for mitigating or offsetting the impact of the activity."[27] The amendments were an attempt by Congress to "increase the Council's participation and influence in decisions affecting habitat critical to the survival of anadromous species."[28]

Since the creation of the MSA in 1976, habitat issues for the species included within the fisheries of the United States have been of increasing concern. These concerns accumulated through the

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20. *Id*. at 56.

21. Fisheries Conservation and Management Act, Pub. L. No. 99-659, § 105, 100 Stat. 3706, 3711 (1986) (repealed 1996).

22. *Id.* § 104, 100 Stat. at 3706.

23. *Id*.

24. *Id*.

25. *See* Fletcher, *supra* note 13, at 57; Helen M. Kennedy, *The 1986 Habitat Amendments to the Magnuson Act: A New Procedural Regime for Activities Affecting Fisheries Habitat*, 18 ENVTL. L. 339 (1988).

26. Fishery Conservation Amendments of 1990, Pub. L. No. 101-627, § 108, 104 Stat. 4436, 4446 (1990) (repealed 1996).

27. *Id*.

28. H.R. REP. NO. 101-393, at 26 (1989).

1990s and culminated with Congress enacting the Sustainable Fisheries Act,[29] implementing sweeping amendments to the Act in 1996. The amendments represented an "effort to strengthen management and conservation of U.S. fishery resources."[30] A significant part of this effort was directed at recognizing the significance of habitat to the management of the nation's fishery resources and expanding "existing Federal authority to identify and protect essential fish habitat."[31] As discussed in more detail below, these amendments have generated much controversy and have been looked upon by some as a step in the right direction and by others as creating unnecessary regulatory burdens for private business and development.

B. The Sustainable Fisheries Act of 1996: The State of the MSA Today

The makeup of the MSA as we knew it prior to 1996 was changed substantially by the addition of three words into the language of fisheries management: Essential Fish Habitat. The Sustainable Fisheries Act's (SFA) EFH amendments have created new regulatory procedures for federal agencies whose activities may affect EFH. Critics have referred to the amendments as the "next great 'train wreck' for federally permitted or funded development activities,"[32] while environmentalists have praised Congressional efforts as constituting "one of the most significant pieces of environmental legislation since the Clean Water Act of 1972."[33]

1. Statutory Amendments

The EFH provisions of the SFA amendments affect "several parts of the [MSA], which combine to create a potentially powerful new tool for affecting coastal development."[34] The first mention of EFH in the MSA, as amended, is found in the Purposes section of the Act where Congress declares that a purpose of the Act is to "promote the protection of essential fish habitat in the review of projects conducted under Federal permits, licenses, or other

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29. Sustainable Fisheries Act, Pub. L. No. 104-297, 110 Stat. 3559 (1996).

30. S. REP. NO. 104-276, at 4 (1996).

31. *Id*. at 1.

32. Eldon V.C. Greenberg, *Essential Fish Habitat: A New Regulatory Hurdle for Development*, 29 ENVTL. L. REP. 10,463 (1999).

33. THE ESSENTIAL FISH HABITAT PROVISIONS OF THE MAGNUSON-STEVENS ACT (Thomas E. Bigford ed., The Coastal Society Vol. 21(2) (1999) (edited statements of Ronald C. Baird from a press event on Aug. 10, 1999), *available at* http://www.nmfs.noaa.gov/habitat/habitatprotection/coastalsociety.htm.

34. Greenberg, *supra* note 32, at 10,463.

authorities that affect or have the potential to affect such habitat."[35] The amendments then go on to broadly define essential fish habitat as "those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity."[36] This definition of EFH includes all habitat used by any particular species of fish during all stages of the species' life cycle. The Act creates no limitations as to what waters may constitute EFH and accordingly, EFH appears to include all state and federal waters within the Exclusive Economic Zone of the United States (3-200 miles offshore).[37]

The portions of the MSA that were previously included in the Act to address habitat concerns prior to the passage of the SFA were completely revamped in 1996 to make way for habitat language intended by Congress to "improve existing requirements for the protection of fish habitat."[38] The starting point of this overhaul of the existing habitat provisions was a requirement by Congress that the Secretary of Commerce, "within 6 months of [the] . . . enactment of the Sustainable Fisheries Act, establish by regulation guidelines to assist the [c]ouncils in the description and identification of [EFH] in [FMPs] (including adverse impacts on such habitat) and in the consideration of actions to ensure the conservation and enhancement of such habitat…[and] set forth a schedule for the amendment of [FMPs] to include the identification of [EFH]."[39] Accordingly, the FMPs created by the regional fishery councils to manage fishery resources under their jurisdiction are now required to "describe and identify essential fish habitat for the fishery based on the guidelines established by the Secretary."[40] Additionally, the councils, within their FMPs, are directed to "minimize to the extent practicable adverse effects on such habitat caused by fishing, and identify other actions to encourage the conservation and enhancement of such habitat."[41]

Although the above amendments to the MSA address habitat issues and their increasing role in managing the nation's fisheries, the meat of the EFH provisions added to the Act by the SFA represent an effort by Congress to toughen the comment, recommendation, and response procedures instituted by the 1986 amendments. Federal agencies are now statutorily required to initiate consultation with the Secretary "with respect to any action authorized, funded, or undertaken, or proposed to be authorized,

35. 16 U.S.C. § 1801(b)(7) (2000).
36. *Id.* § 1802(10).
37. *See* Greenberg, *supra* note 32, at 10,464.
38. S. REP. NO. 104-276, at 23 (1996).
39. 16 U.S.C. § 1855(b)(1)(A) (2000).
40. *Id.* § 1853(a)(7).
41. *Id.*

funded, or undertaken, by such agency that may adversely affect any essential fish habitat identified under this chapter."[42] Prior to these amendments, the responsibility of initiating the comment and response procedures was placed squarely upon the fishery councils. This scheme resulted in a lack of comment and response partly because of the discretion given to the councils in deciding whether to even initiate consultation along with the burden placed upon the councils of having to seek out activities that could potentially affect fishery habitat and the limited resources available to the councils in shouldering that burden. The new consultation scheme enacted by the SFA shifts this burden by requiring the federal action agency whose activities may affect EFH to initiate the comment and response procedures by notifying the Secretary of Commerce. Moreover, consultation is now required for "any . . . action . . . that may adversely affect any [EFH]"[43] as opposed to only being required prior to the enactment of the SFA when an activity was "likely to substantially affect" EFH.[44] At the same time as the SFA amendments to the Act create a new consultation system involving the action agency and Secretary directly, the council comment and recommendation provisions previously included in the Act are preserved; the only difference is that the provision requiring an agency to respond to council recommendations was removed from the Act.

Another significant change made by the 1996 amendments relates to the response required by the action agency upon receiving recommendations from the Secretary. The time frame allotted for an agency response has been reduced from forty-five to thirty days after receiving recommendations from the Secretary.[45] The actual substance of the response required by the federal action agency has been augmented. Subsequent to the passage of the SFA, an agency's response is not only required to include "a description of measures being proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity,"[46] but there is also a requirement "in the case of a response that is inconsistent with the recommendations of the Secretary, [that] the Federal agency shall explain its reasons for not following the recommendations."[47] It is no longer sufficient for an agency responding to habitat concerns to merely "descri[be] . . . measures being considered by the agency for

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42. 16 U.S.C. § 1855(b)(2) (2000) (emphasis added).
43. *Id*.
44. Fishery Conservation Amendments of 1990, Pub. L. No. 101-627, § 108, 104 Stat. 4436, 4446 (1990) (repealed 1996) (emphasis added).
45. 16 U.S.C. § 1855(b)(4)(B) (2000).
46. *Id*.
47. *Id*.

mitigating or offsetting the impact of the activity,"[48] an agency is now required to specifically address recommendations made by the Secretary along with explaining reasons for not following those recommendations.[49]

2. Legislative History of the Amendments

Although the 1996 amendments to the MSA had the potential for significantly impacting federally permitted or funded development activities, the Act was passed "with relatively little fanfare."[50] "Development interests, not focused on or familiar with the MSA, played little role during the legislative process."[51] Given this, it is no surprise that the law is obviously drafted very much in favor of environmental protection.[52] One critic notes that it is "perhaps because of th[is] lack of involvement . . . [that] the EFH provisions do not contain the kind of specific agency guidance that one has come to expect in recent congressional enactments."[53] This same critic notes that:

> Not only is the language of the Act itself general, leaving broad discretion with the Secretary, the legislative history does little to constrain far-reaching interpretations of agency authority. The House Report merely underscores that habitat protection was a 'key area of concern' addressed by Congress. Likewise, the Senate Report simply emphasizes the Act's congressional goal to 'expand existing Federal authority to identify and protect essential fish habitat.' Neither report elaborates significantly on the scope and effect of the new requirements.[54]

The congressional floor debates on provisions of the SFA that dealt with EFH were also "unenlightening" at best, consisting "largely of generalities about the importance of habitat protection."[55] There was slim debate as to the definition of EFH by the SFA and on exactly how that definition correlated with the overall goal of

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48. Fishery Conservation Amendments of 1990, Pub. L. No. 101-627, § 108, 104 Stat. 4436, 4446 (1990) (repealed 1996).
49. 16 U.S.C. § 1855(b)(4)(B) (2000).
50. Greenberg, *supra* note 32, at 10,463.
51. *Id.* at 10,464.
52. *Id.*
53. *Id.*
54. *Id.* (citations omitted).
55. Greenberg, *supra* note 32, at 10,465.

maintaining a sustainable fishery. Senator John Kerry stated the obvious that "if you destroy the habitat, you destroy the nurseries and you destroy the ecosystem on which those nurseries are dependent, which then diminishes the ability to have a sustainable fishery."[56] The Senator acknowledged a lack of scientific information regarding the relationship between habitat and fishery yields when he confirmed that "[w]e need to understand the linkage of . . . [habitat] and the role . . . [it] play[s] in the spawning of fish and of the ecosystem to the total catch that will ultimately be available."[57] Despite the vague discussions on the importance of protecting habitat and its linkage to maintaining a sustainable fishery, "there was little or no detailed discussion during the . . . debate about how the EFH provisions would actually work in practice."[58] One scholar who has written extensively on the subject is quoted as saying that "it is probably fair to say that the implications of the EFH provisions were not well understood by Congress."[59] Nonetheless, the bill was passed by Congress in September of 1996 and subsequently signed into law by the President on October, 11, 1996.

C. The EFH Regulations

As discussed above, the 1996 amendments to the MSA created an obligation on the part of the Secretary of Commerce to promulgate regulations to provide guidance to the eight regional fishery councils in designating EFH within the waters under their jurisdiction and in identifying adverse effects on that habitat. While the 1996 amendments were passed with relatively little "fanfare," one can hardly say the same for the resulting regulations. In this section, I will discuss the efforts that went into developing the EFH regulations promulgated by the Secretary and the various non-fishing concerns voiced during that process.

1. Developing the Regulations

The rulemaking process was initiated just four weeks after the SFA was signed into law. On November 8, 1996, the NMFS "published an advance notice of proposed rulemaking . . . to solicit comments to assist [the] NMFS in developing an approach for the . . . regulations."[60] A second advance notice of proposed rulemaking

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56. 142 CONG. REC. S10794, S10812 (daily ed. Sept. 18, 1996).
57. *Id*.
58. Greenberg, *supra* note 32, at 10,465.
59. *Id*.
60. Magnuson-Stevens Act Provisions; Essential Fish Habitat, 67 Fed. Reg. 2,343, 2,344

(ANPR) was published on January 9, 1997 to "announce the availability of the 'Framework for the Description, Identification, Conservation, and Enhancement of Essential Fish Habitat' and to solicit additional public comment."[61] This document provided a detailed outline of the proposed regulations in order to stimulate informed public comment.[62] Subsequent to this second ANPR and during the comment period, the NMFS held "[fifteen] public meetings and numerous briefings nationwide…[before] issu[ing] an interim final rule on December 19, 1997."[63]

The NMFS has stated two reasons for the decision to issue an interim final rule prior to the adoption of a final rule. First, perhaps recognizing the significance of the regulation, the NMFS wanted to "provide an additional comment period to allow another opportunity for affected parties to provide input."[64] Second, perhaps recognizing the lack of scientific information available to adequately implement the statutory amendments, the NMFS acknowledged that it thought it would be "advantageous to implement the EFH provisions of the [MSA] . . . via interim final regulations, which would afford an opportunity to gain experience adding EFH information to [FMPs] and carrying out consultations . . . with Federal and state agencies whose actions may adversely affect EFH."[65]

"The comment period on the interim final rule closed on March 19, 1998."[66] On November 8, 1999, the comment period was reopened to "request additional public comments on four specific issues: how to improve the regulatory guidance on the identification of EFH; how to improve the regulatory guidance on minimizing the effects of fishing on EFH; whether the final rule should provide additional guidance on using existing environmental reviews to satisfy EFH consultation requirements; and whether to revise in the final rule the requirement for Federal agencies to prepare EFH Assessments."[67] After providing five separate public comment periods for the rulemaking, totaling 270 days and encompassing approximately 3,600 written comments, the NMFS finally published its notice of the final EFH rule on January 17, 2002, with an effective date for the rule of February 19th of that same year.[68]2.

(Jan. 17, 2002) (to be codified at 50 C.F.R. pt. 600).

61. *Id*.
62. *Id*.
63. *Id*.
64. *Id*.
65. 67 Fed. Reg. at 2,344.
66. *Id*.
67. *Id*.
68. *Id*. at 2,344-45.

2. The Language of the Regulations

The regulations promulgated by the NMFS elaborate further on Congress' statutory definition of EFH by defining terms used by Congress in that definition. In doing so, the regulations define the term "waters" as "includ[ing] aquatic areas and their associated physical, chemical, and biological properties that are used by fish…."[69] The regulations also include within the definition of waters, "aquatic areas historically used by fish."[70] In addition, the regulations elaborate on Congress' definition by defining the term "substrate" as "includ[ing] sediment, hard bottom, structures underlying the waters, and associated biological communities."[71] In response to comments received criticizing this broad interpretation of EFH, the NMFS has emphasized that the MSA imposes no geographic limitations on the designation of EFH.[72] While conceding that upland areas cannot be designated as EFH, the NMFS has noted that activities in these areas would be subject to EFH consultation (discussed below) if it is determined that the activities may adversely affect EFH.[73] Critics of the regulations have noted that the expansive definition of EFH adopted by the NMFS under the regulations may exceed the Congressional authority granted to the NMFS by the MSA.[74]

The heart of the new regulations passed as a result of the 1996 amendments lies in two entirely new subparts added to the regulations: Subpart J, dealing exclusively with establishing guidelines for the councils to use in identifying EFH along with adverse effects on EFH, and Subpart K, addressing the highly controversial EFH consultation procedures.[75] Subpart J of the regulations starts by attempting to clarify exactly what is considered an adverse effect for purposes of the MSA. The regulations broadly define an adverse effect as "any impact that reduces [the] quality and/or quantity of EFH . . . [which] may include direct or indirect . . . alterations of the waters or substrate and [the] loss of, or injury to . . . prey species and their habitat."[76]

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69. 50 C.F.R. § 600.10 (2002).

70. *Id.* (emphasis added).

71. *Id.*

72. Magnuson-Stevens Act Provisions; Essential Fish Habitat, 67 Fed. Reg. 2,343, 2,350 (Jan. 17, 2002) (to be codified at 50 C.F.R. pt. 600).

73. *See id.* at 2,350-51.

74. *See Fisheries Reauthorization Before the House Subcomm. on Fisheries Conservation, Wildlife and Oceans Comm. on Resources*, 106th Cong. (2000) (statement of Jack E. Phelps, Executive Director of the Alaska Forest Association and Member of the Essential Fish Habitat Coalition) (on file with author).

75. 50 C.F.R. § 600.805, 600.905 (2002).

76. *Id.* § 600.810(a).

The definition explicitly states that adverse effects "may result from actions occurring within EFH or outside of EFH…."[77] The NMFS has been careful to stress that although EFH may not be designated for prey species not managed under an FMP, the loss of such species through direct harm or through harm to that species' habitat may constitute adverse affects on EFH.[78] One cannot help but wonder if this is not simply a roundabout way of designating prey species' habitat as EFH without expressly doing so. If so, it seems that habitat used by almost every fish in the ocean would be subject to these regulations. While this will be discussed in more detail below, I cannot resist noting at this point how these provisions raise serious concerns of overreaching by the NMFS in its drafting of the rules.

In Section 600.815 of Subpart J, the regulations attempt to set forth the guidance required by the MSA in the identification and description of EFH in the various FMPs.[79] The rule emphasizes that the description and identification of EFH should be based on the often referred to, but seldom understood, concept of "best scientific information available."[80] Neither the MSA nor the regulations provide any guidance as to what constitutes the best available scientific information.[81] Nonetheless, the councils are instructed to "interpret this information in a risk-averse fashion to ensure adequate areas are identified as EFH."[82] This methodology of identifying EFH along with the regulations' expansive definition of EFH has resulted in extremely broad areas being identified as EFH by the councils. A primary example of this is the GMFMC's 1998 amendment to its FMPs identifying EFH. The 1998 amendment to the Gulf's FMPs designated "all estuarine waters and substrates" along with "all marine waters and substrates . . . from the shoreline to the seaward limit of the [Exclusive Economic Zone]" as EFH.[83] This designation includes the entire Gulf of Mexico and all estuaries within that region.[84] Initial broad designations such as this have

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77. *Id*.

78. *See* Greenberg, *supra* note 32, at 10,465; 50 C.F.R. §600.815(a)(7) (2002).

79. 16 U.S.C. § 1855(b)(1)(A) (2000); 50 C.F.R §600.815(a) (2002).

80. 50 C.F.R. § 600.815 (4)(ii)(B) (2002).

81. *See* RESOURCES, COMMUNITY, AND ECONOMIC DEVELOPMENT DIVISION, U.S. GEN. ACCOUNTING OFFICE, FISHERY MANAGEMENT: PROBLEMS REMAIN WITH NATIONAL MARINE FISHERIES SERVICE'S IMPLEMENTATION OF THE MAGNUSON-STEVENS ACT (2000).

82. 50 C.F.R. § 600.815(a)(1)(iv)(A) (2002).

83. Gulf of Mexico Fishery Management Council, Generic Amendment for Addressing Essential Fish Habitat Requirements in the Following Fishery Management Plans of the Gulf of Mexico 22 (1998) [hereinafter GM Generic Amendment] (on file with author).

84. An amendment to this all inclusive designation of EFH in the Gulf of Mexico was completed and proposed by the GMFMC in July of 2003, and is now in the process of being approved by the Secretary. The proposed amendment would reduce the amount of area

drawn criticism from the seafood industry and developers as "creating a burdensome regulatory environment where any activity anywhere will affect EFH for some species."[85] In response to this criticism concerning the extremely broad designations, the NMFS has stated that the councils were "justified in designating broad areas as EFH."[86] The basis given by the NMFS for approving these broad designations was astonishingly that "[f]or many species there is little available scientific information linking the biological requirements of managed species to specific habitats."[87]

An entirely new subset of EFH referred to as "habitat areas of particular concern" (HAPC) was created in Subpart J of the regulations.[88] The regulations recommend that designation of such habitat should be based on one or more of the following considerations: "[t]he importance of the ecological function provided by the habitat[, t]he extent to which the habitat is sensitive to human-induced environmental degradation[, w]hether, and to what extent, development activities are, or will be, stressing the habitat type[, a]nd the rarity of the habitat type."[89] It seems strange that none of the factors directed to be used in the identification of HAPCs involve fishing activities, while development is specifically mentioned. The non-fishing industry has expressed concern with this extra-statutory classification of EFH by asking whether the NMFS has been forced to create a new category of "really essential" fish habitat as a result of the broad all-inclusive approach utilized in designating EFH.[90]

Subpart J also requires that FMPs identify "activities other than fishing that may adversely affect EFH."[91] The regulation provides a non-exhaustive list of examples of such activities that includes

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designated as EFH in the Gulf but would still continue to encompass a very large amount of the waters and estuaries of the Gulf. The comment period on the proposed amendment is scheduled to end on December 1, 2003. *See* Gulf of Mexico Fishery Management Council, Draft Environmental Impact Statement for the Generic Essential Fish Habitat Amendment to the Following Fishery Management Plans of the Gulf of Mexico (2003) [hereinafter GM EIS] (on file with author).

85. Lee Benaka & Dennis Nixon, *Essential Fish Habitat and Coastal Zone Management: Business As Usual Under the Magnuson-Stevens Act?*, 30 GOLDEN GATE U. L. REV. 969, 984 (2000).

86. Magnuson-Stevens Act Provisions; Essential Fish Habitat, 67 Fed. Reg. 2,343, 2,351 (Jan. 17, 2002) (to be codified at 50 C.F.R. pt. 600).

87. *Id*.

88. 50 C.F.R. § 600.815(a)(8) (2002).

89. *Id*.

90. *See Fisheries Reauthorization Before the House Subcomm. on Fisheries Conservation, Wildlife and Oceans Comm. on Resources*, 106th Cong. 6 (2000) (statement of Jack E. Phelps, Executive Director of the Alaska Forest Association and Member of the Essential Fish Habitat Coalition) (on file with author).

91. 50 C.F.R. § 600.815(a)(4) (2002).

dredging and filling along with numerous other coastal activities outside those activities traditionally thought to be regulated by the NMFS.[92] This authority to address non-fishing activities, such as coastal development, was one of the most hotly contested issues during the development of the final regulations.[93] Members of the non-fishing industry "questioned NMFS' authority to address non-fishing activities" under the MSA.[94] The NMFS responded to the comments posed by these groups by noting that "[o]ne of the stated purposes of the Magnuson-Stevens Act is to promote the protection of EFH through the review of projects conducted under Federal permits, licenses, or other authorities that affect, or have the potential to affect, such habitat."[95] The NMFS went on to state that "[t]hese projects include non-fishing activities."[96] Additionally, the NMFS noted that the requirement for FMPs to identify conservation and enhancement measures was not limited by statute to addressing only fishing activities; the MSA requires consultation for "any federal action that may adversely affect EFH regardless of whether it is a fishing or non-fishing activity."[97]

Although many interested parties have questioned the authority of the NMFS to address non-fishing activities, the NMFS, through the councils, has made it clear that its authority extends to these activities. A striking example of this is seen by a cursory review of the GMFMC's table of contents to its 1998 FMP amendment. In identifying activities with the potential to adversely impact EFH, the GMFMC devoted almost forty pages to describing various non-fishing related activities, "compared to less than ten pages devoted to fishing activities that may adversely affect [such habitat]."[98] Moreover, in addressing options to manage those activities identified as having the potential to adversely affect EFH, the Gulf's 1998 amendment commits a single page to addressing management options for fishing activities compared with twenty-four pages dedicated to addressing non-fishing management options.[99] Although the GMFMC's 1998 amendment was only partially approved by the Secretary as a result of this cursory dealing with fishing activities, the problem with the guidance provided to the

92. *Id*.
93. Greenberg, *supra* note 32, at 10,465.
94. Magnuson-Stevens Act Provisions; Essential Fish Habitat, 67 Fed. Reg. 2,343, 2,346 (Jan. 17, 2002) (to be codified at 50 C.F.R. pt. 600).
95. *Id*. at 2,355.
96. *Id.*
97. *Id.* at 2,357.
98. Benaka & Nixon, *supra* note 85, at 993-94; *See* GM Generic Amendment, *supra* note 83, at 4-5.
99. GM Generic Amendment, *supra* note 83, at 173-98.

councils by NMFS' regulations is easily seen.[100] Even assuming that the MSA gives the NMFS the authority to address non-fishing activities and their effects on EFH, the burden that would come with this responsibility is enormous.[101] Between 1981 and 1996, in the five coastal states bordering the Gulf alone, more than 50,485 individual development proposals were received by the NMFS.[102] A subset of 7,848 of these proposals involved over 925,181 acres of various habitats.[103]

Subpart K of the final regulations passed by the NMFS addresses the consultation procedures required by the MSA.[104] This area of the regulations has been referred to as "combining [the] environmental assessment obligations parallel to those of the National Environmental Policy Act (NEPA) with the consultation obligations similar to those of the Endangered Species Act (ESA)."[105] Consultation is required by the MSA and the regulations "regarding any…actions authorized, funded, or undertaken" by a Federal agency "that may adversely affect EFH."[106] This requirement subjects a broad range of coastal development activities to the consultation requirement. Every development project that may adversely impact EFH and that requires a federal permit or approval (i.e., Clean Water Act (CWA) section 404 wetlands permit, CWA section 402 national pollutant discharge elimination system permit, ESA section 7 or 10 permit) or that is subsidized with federal funding (i.e. affordable housing projects) will be subject to the consultation procedures detailed in the regulations. The rules list five approaches for consultation: "use of existing environmental review procedures, General Concurrence, abbreviated consultation, expanded consultation, and programmatic consultation."[107] Spokespeople for the development industry have expressed concern that these consultation procedures, made mandatory by the regulations, will result in increased delays in permitting timelines with a concomitant increase in costs to developers which will inevitably be passed on to consumers through increased housing costs.[108] Of even more concern is the lack of a provision within the

100. Benaka & Nixon, *supra* note 85, at 993.
101. *See* Benaka & Nixon, *supra* note 85, at 994.
102. *See* GM Generic Amendment, *supra* note 83, at 162.
103. *Id*.
104. 50 C.F.R. § 600.920 (2002).
105. Greenberg, *supra* note 32, at 10,463.
106. 50 C.F.R. § 600.920(a)(1) (2002).
107. *Id*. § 600.920(a)(2).
108. THE ESSENTIAL FISH HABITAT PROVISIONS OF THE MAGNUSON-STEVENS ACT (Thomas E. Bigford ed., The Coastal Society Vol. 21(2) (1999)) (edited statements of Michelle Desiderio from a press event on Aug. 10, 1999), *available at* http://www.nmfs.noaa.gov/habitat/habitatprotection/coastalsociety.htm.

MSA or the regulations that would provide permit applicants, the conservation community or other interested, non-governmental parties the opportunity to participate in the consultation process.[109] "Despite complaints, [the] NMFS has made no special provision for such involvement, though it has explained that [c]ouncil deliberations are open to the public."[110] One commentator on the MSA has noted that this perhaps is "cold comfort for non-fishing industry groups that typically have not participated in the [c]ouncil process."[111]

For any activity determined by an agency to require consultation, the relevant federal agency is required to provide NMFS with a written assessment of the effects of the activity on EFH.[112] The assessment is required to contain: "[a] description of the action[, a]n analysis of the potential adverse effects of the action on EFH and the managed species[, t]he Federal agency's conclusions regarding the effects of the action on EFH" and "[p]roposed mitigation, if applicable."[113] The timing of when the EFH assessment is required is unique in the instances of General Concurrences and programmatic consultations. In a General Concurrence (GC) scenario (see below for details), the "EFH assessment should be completed during the development of the [GC] and is not required for the individual actions."[114] Similarly, in programmatic consultations (see below for details), the EFH Assessment is not required for individual actions implemented under the program unless the activities are identified by the NMFS during the programmatic consultation as requiring separate EFH consultation.[115] In an attempt to avoid duplications, the regulations provide that EFH assessments may be incorporated into documents prepared for other purposes, such as ESA biological assessments or NEPA documents, provided the assessment is clearly identified as an EFH assessment and all information required by the regulations is included.[116]

In an effort to streamline the consultation requirements and avoid duplication with other environmental reviews, the regulations state that EFH consultation should be consolidated with other environmental review procedures "where appropriate."[117] The

109. Greenburg, *supra* note 32, at 10,466.
110. *Id*.
111. *Id*.
112. 50 C.F.R. § 600.920(e)(1) (2002).
113. *Id.* § 600.920(e)(3).
114. *Id.* § 600.920(e)(1).
115. *Id*.
116. *Id*.
117. 50 C.F.R. § 600.920(f)(1) (2002).

regulations specify that consolidation is appropriate when: the existing process provides the NMFS with timely notification of the action (defining timely as at least sixty days notice prior to a final decision, or ninety days if the action would result in substantial adverse impacts), an assessment meeting the requirements of the EFH rules is made, and NMFS has made a finding that the existing process can be used to satisfy the requirements set forth by the MSA.[118] As of November 1999, NMFS officials reported that "they had completed [eighteen] agreements with other agencies to establish specific procedures for using existing environmental review processes to handle essential fish habitat consultations and were working on [thirty-two] others."[119] The NMFS has expressed its commitment to using "existing environmental review processes . . . to ensure that [EFH] consultations are limited to actions where adverse impacts may occur."[120] If the use of existing consultation processes is found not to satisfy the EFH consultation requirements, or if there is no existing consultation process that addresses a Federal agency's actions, one of the remaining four approaches should be utilized.[121]

General Concurrences are utilized when an action "may adversely affect EFH, but for which no further consultation is . . . required because NMFS has determined . . . that it will likely result in no more than minimal adverse effects individually and cumulatively."[122] In order for an action to qualify for a GC, the NMFS must determine that it meets *all* of the following criteria: 1) the actions must be similar in nature and similar in their impact on EFH; 2) the actions must not cause greater than minimal adverse effects on EFH when implemented individually; and 3) the actions must not cause greater than minimal cumulative adverse effects on EFH.[123] Although the NMFS may initiate the issuance of a GC, the process is normally initiated when a Federal agency requests a GC for a category of its activities by providing an EFH assessment for those activities.[124] If the NMFS agrees with the agency that the activities are appropriate for a GC under the criteria discussed above, it will notify the agency that further consultation is not

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118. *Id.* § 600.920(f)(1)(i)-(iii).

119. RESOURCES, COMMUNITY, AND ECONOMIC DEVELOPMENT DIVISION, U.S. GEN. ACCOUNTING OFFICE, FISHERY MANAGEMENT: PROBLEMS REMAIN WITH NATIONAL MARINE FISHERIES SERVICE'S IMPLEMENTATION OF THE MAGNUSON-STEVENS ACT 25 (2000).

120. *Id.*

121. *See* 50 C.F.R. § 600.920(f)(3) (2002).

122. *Id.* § 600.920(g)(1).

123. *Id.* § 600.920(g)(2)(i)(A)-(C).

124. *Id.* § 600.920(g)(3).

required.[125] Although activities falling within the scope of a GC do not require individual EFH consultations, the activities are required to be tracked (in most cases by the Federal agency) "to ensure that their cumulative effects are no more than minimal."[126] If the NMFS determines that the activities do not meet the criteria for issuance of a GC, it will notify the agency that another type of consultation is required.[127]

Programmatic consultation ("PC") is meant to provide a "means for [the] NMFS and a Federal agency to consult regarding a potentially large number of individual actions that may adversely affect EFH."[128] This type of consultation is appropriate to address entire federal programs "where sufficient information is available to address all reasonably foreseeable adverse effects on EFH of [the] entire program."[129] Again, the NMFS may initiate PC but it is traditionally requested by a Federal agency by providing an EFH assessment describing the characteristics of the program that make it appropriate for PC.[130] In response, the NMFS will provide the agency "with programmatic … [c]onservation [r]ecommendations and, if applicable, will identify any potential adverse effects that could not be addressed programmatically and [that] require project-specific consultation."[131] Additionally, the NMFS may determine that PC is not appropriate, in which case project-specific consultation would be required.[132] "[PCs] have been used in a few situations, such as for United States Forest Service Forest Plans."[133]

The two remaining types of consultation procedures are completed only when no GC, PC, or existing environmental review process is available or appropriate for a Federal agency's actions. Abbreviated consultation is appropriate for Federal actions that "do not qualify for a [GC], but do not have the potential for causing substantial adverse effects on EFH."[134] The regulations state that these abbreviated procedures should be used when adverse effects can be "alleviated through minor modifications" to an action.[135] Abbreviated consultation begins when a Federal agency provides the NMFS with an EFH assessment and a request for

125. *Id*.
126. *Id*. § 600.920(g)(2)(ii).
127. 50 C.F.R. § 600.920(g)(3) (2002).
128. *Id*. § 600.920(j)(1).
129. *Id*.
130. *Id*. § 600.920(j)(2).
131. 50 C.F.R. § 600.920(j)(3) (2002).
132. *Id*.
133. Kim Diana Connolly, *An Introduction to the Essential Fish Habitat (EFH) Consultation Process for the South Atlantic Region*, 11 SE. ENVTL. L.J. 1, 3 (2002).
134. 50 C.F.R. § 600.920(h)(1) (2002).
135. *Id*.

consultation.[136] The regulations state that the agency "must submit [the assessment] as soon as practicable, but at least [sixty] days prior to a final decision on the action."[137] Upon receiving an agency's EFH assessment, the NMFS has thirty days to respond in one of three ways: 1) if the NMFS determines that the action would not adversely affect EFH or if no recommendations are needed it will notify the agency and the agency may proceed; 2) if the NMFS believes that the action may result in substantial adverse effects on EFH the NMFS will request the agency to initiate expanded consultation procedures (discussed below); and 3) if the NMFS determines that the action may adversely affect EFH but not substantially, it will provide conservation recommendations to the agency.[138]

When an action could potentially result in substantial adverse effects to EFH, the regulations require that expanded consultation procedures be utilized.[139] Expanded consultation procedures are designed to allow the NMFS and the Federal agency maximum opportunity to "work together to review the action's impacts on EFH and to develop EFH [c]onservation [r]ecommendations."[140] The expanded procedures also provide for site visits and coordination of review with the appropriate councils that could be affected by the action.[141] Similar to the other consultation procedures, expanded consultation is initiated by the agency with the agency's submission to the NMFS of an EFH assessment for the proposed action.[142] In expanded consultations, the agency is required to submit the assessment "as soon as practicable, but at least 90 days prior to a final decision on the action."[143] The deadline for the NMFS' response to the agency's assessment is increased from the period allowed for abbreviated consultation from thirty to sixty days in the case of expanded consultation.[144] After reviewing the assessment, the NMFS is required to provide the relevant agency with its conservation recommendations.[145]

When any of the above-discussed consultation procedures results in the NMFS issuing EFH conservation recommendations to a Federal agency, there are certain responsibilities that are triggered

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136. *Id*. § 600.920(h)(2).
137. *Id*. § 600.920(h)(4).
138. *Id*. § 600.920(h)(3),(4).
139. 50 C.F.R. § 600.920(i)(1) (2002).
140. *Id*.
141. *Id*. § 600.920(i)(3).
142. *Id*. § 600.920(i)(2).
143. *Id*. § 600.920(i)(4).
144. *Id*.
145. 50 C.F.R. § 600.920(i)(5) (2002).

on the part of the agency. Within thirty days of receiving any conservation recommendation from the NMFS, the agency is required to provide a "detailed response in writing to [the] NMFS."[146] The regulations require that the response include a "description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH."[147] When an agency's response is inconsistent with the NMFS' conservation recommendations, the response must be provided "at least 10 days prior to final approval of the action."[148] Moreover, an inconsistent agency response must also explain the reasons the agency has for not following the recommendations, including "the scientific justification for any disagreements with [the] NMFS over the anticipated effects of the action and the measures needed to . . . offset such effects."[149] In the case of an inconsistent agency response, the only alternative available to the NMFS for further consultation is that the Assistant Administrator for Fisheries "may request a meeting with the head of the Federal agency . . . to discuss the action and opportunities for resolving any disagreements."[150]

The end result of this complex system of consultation will ordinarily be a list of EFH conservation recommendations transmitted to the relevant Federal action agency by the NMFS. The interesting thing about this approach, and the thing that the NMFS has often times repeated, is that after everything is said and done, after this complex and often times lengthy consultation process has been navigated through, the recommendations made by the NMFS are just that - recommendations. There is no authority either in the MSA or in the regulations for an attempt by the NMFS at making its EFH conservation recommendations binding on an agency. Although a plain reading of the MSA and regulations reinforce the non-binding aspect of the recommendations, experience has shown just the opposite. While the NMFS has stressed that the recommendations are not binding and are issued merely to foster an understanding on the part of the agencies and developers as to how their projects may harm fish habitat,[151] in reality these so-called recommendations have morphed into requirements. All too often permitting agencies whose granting of permits subjects them to the EFH consultation procedures are deferring to the NMFS and making its EFH conservation

146. *Id*. § 600.920(k)(1).
147. *Id*.
148. *Id*.
149. *Id*.
150. 50 C.F.R. § 600.920(k)(2) (2002).
151. *See* Essential Fish Habitat: Fact and Fiction, *at* http://www.nmfs.noaa.gov/habitat/habitatprotection/fact&fiction.htm (last visited Sept. 2, 2003).

recommendations conditions precedent to the granting of the permit.[152]

III. THE NATIONAL AFFORDABLE HOUSING ACT

The Cranston-Gonzalez National Affordable Housing Act (AFHA)[153] was passed in 1990 as a result of an "intensive, three-year effort to review the country's housing needs and develop a national housing policy that [could] provide more affordable housing for American families."[154] The stated national goal of the AFHA is for "every American family [to] be able to afford a decent home in a suitable environment."[155] The Act goes on to express that the objective of the national housing policy is to promote the goal by "strengthening a nationwide partnership of public and private institutions able … to increase the Nation's supply of decent housing that is affordable to low-income and moderate-income families and *accessible to job opportunities*."[156] An important part of reaching this national goal of affordable housing is an effort on the part of government, state and federal, to foster a regulatory environment that does not lead to inflated housing costs by balancing the benefits achieved by regulatory hoops with the effects of those hoops on our nation's housing costs.

Prior to the passage of the AFHA, President Bush, recognizing that the cost of housing in the nation was being driven up by unnecessary regulations at all levels of government, asked the Secretary of Housing and Urban Development to convene an Advisory Commission that could "identify regulatory barriers to affordable housing and recommend how these barriers could be removed."[157] The President was concerned with "excessive rules, regulations, and red tape that add unnecessarily to the cost of housing."[158] In its report to the President, the Commission noted that one of the obstacles to the goal of affordable housing was slow and overly burdensome permitting processes.[159] An astonishing fact noted by the Commission showed that it was not rare for a $15,000

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152. *See Fisheries Reauthorization Before the House Subcomm. on Fisheries Conservation, Wildlife and Oceans Comm. on Resources*, 106th Cong. (2000) (statement of W. L. Berry, on behalf of the American Petroleum Institute) (on file with author).

153. 42 U.S.C. §§ 12701-12899i (2000).

154. S. REP. NO. 101-316, at 4 (1990), *reprinted in* 1990 U.S.C.C.A.N. 5763, 5764.

155. 42 U.S.C. § 12701 (2000).

156. *Id.* § 12702(2).

157. ADVISORY COMMISSION ON REGULATORY BARRIERS TO AFFORDABLE HOUSING, "NOT IN MY BACK YARD" REMOVING BARRIERS TO AFFORDABLE HOUSING 1 (1991) (on file with author) [hereinafter ADVISORY COMMISSION].

158. *Id.*

159. *Id.* at 5.

surcharge to be added to the price of a $55,000 house in Central Florida "to cover the costs of excessive regulation."[160] The Commission noted that a major contributing factor of the costs and delays in permitting is environmental protection regulations.[161] The Commission explained that considerable duplication existed between Federal and State environmental regulations which rendered the permitting process for wetlands development "unnecessarily lengthy and complicated and therefore unnecessarily expensive."[162] The Commission's report plainly stated that "[h]ousing affordability is becoming an inadvertent casualty of environmental protection."[163] The Commission recommended a comprehensive reform of existing environmental regulations and is in the process of implementing future regulations that would ensure the "proper consideration of housing affordability in the development and implementation of environmental protection policy."[164] A result of the Commission's efforts in identifying regulatory barriers to affordable housing was the passage of the Removal of Regulatory Barriers to Affordable Housing Act of 1992.[165] The stated purposes of this amendatory section of the AFHA are:

> (1) To encourage State and local governments to further identify and remove regulatory barriers to affordable housing (including barriers that are excessive, unnecessary, duplicative, or exclusionary) that significantly increase housing costs and limit the supply of affordable housing; and
>
> (2) to strengthen the connection between Federal housing assistance and State and local efforts to identify and eliminate regulatory barriers.[166]

The focus of this amendment to the AFHA is obviously directed at State and local regulations while the Federal government's role in removing regulatory barriers to affordable housing is suspiciously missing from the statutory purposes.

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160. *Id*.
161. *Id*. at 6-7.
162. ADVISORY COMMISSION, *supra* note 157, at 7.
163. *Id*.
164. *Id*. at 11.
165. Removal of Regulatory Barriers to Affordable Housing Act of 1992, Pub. L. No. 102-550, 106 Stat. 3938 (1992).
166. 42 U.S.C. § 12705a (2000).

The above discussion provides a brief overview of the stated goals and purposes of the AFHA. It is by no means an all encompassing discussion of the Act and its provisions. I include this brief discussion to emphasize our nation's commitment to affordable housing and to provide a basis for my discussion of the MSA and how it affects the goal of affordable housing. The next section attempts to address and stimulate debate on just that: are the goals of the Magnuson-Stevens Fishery Conservation and Management Act and the National Affordable Housing Act compatible with one another or are they necessarily at odds and incapable of being attained simultaneously?

IV. THE EFFECTS OF THE MSA AND ITS REGULATIONS ON AFFORDABLE HOUSING

Coastal population is booming. The indicators of the growth in coastal population are staggering. The nation's "[c]oastal counties account for only 17% of the land area in the U.S., but the population outnumbers the noncoastal interior by more than sixteen million people-- more than 53% of the [total U.S.] population."[167] In 1960, nationally, there was "an average of 187 people per square mile of coastal land."[168] By 1994, that number had increased to 273 people per square mile and this number is expected to reach 327 people per square mile by the year 2015.[169] As the population in coastal areas increases, so does urbanization.[170] "People require places to live and work, requiring related services such as roads, parking lots, schools, water and sewer/water facilities, power, etc."[171] This is supported by the fact that nationally, "coastal counties represent sixteen of the twenty counties … with the largest number of new housing units under construction."[172] Meeting these needs of the budding population in the coastal areas of our country will almost always involve the potential for affecting EFH, particularly with the expansive designations of coastal areas as EFH by the councils. Consequently, the mandatory consultation procedures laid out by the MSA and its regulations will almost certainly be invoked when the development needs of the coastal communities are being fulfilled. An additional effect of the increase in coastal population is the increased need in these communities for low and middle-

167. Donna Christie, Managing the Coasts: Barrier Islands (PowerPoint presentation, on file with author).
168. *Id*.
169. *Id*.
170. *See* GM EIS *supra* note 84, at 3-275.
171. *Id*.
172. *See* Christie, *supra* note 167.

income workers, such as police officers, firefighters, teachers, and other vital workers that are required for a community to function. The increased requirements for low- and middle-income workers in coastal communities will necessarily implicate the objective of the AFHA of ensuring these families with housing that is affordable as well as accessible to their jobs. And this is where the potential for conflict between the MSA and the AFHA rears its head. Can we follow the mandates of the MSA while ensuring the goals of the AFHA, or do the implications that follow from applying the MSA put the goals of the AFHA out of reach in our coastal communities?

The necessary first step in the analysis of the issue we are faced with is to ascertain whether the consultation procedures required by the MSA in fact contribute to an increase in housing costs in the areas affected by the procedures. In trying to answer this question, some historical information is helpful. Over the past twenty years, the median price of a typical new home in the United States has increased almost three-fold, escalating from $69,300 in 1982 to $187,600 in 2002.[173] The housing industry "point[s] to a number of factors believed to be responsible for the dramatic rise in the price of a new home" in the United States.[174] An increase in governmental regulations and the fees associated with those regulations is one of these factors.[175] A recent survey conducted by the National Association of Home Builders (NAHB) found that about "10% of the cost of building a typical new home can be attributed to regulation and regulatory delays, fees associated with building, . . . disposal of construction wastes, higher impact analysis fees and more."[176] This survey also found that in some highly regulated markets, which are sure to involve coastal communities, the total costs associated with these regulations can total "20% or more of the sales price of a typical home."[177] This survey was conducted prior to the effective date of the final EFH regulations. The concerns of the home building industry are that the consultation procedures mandated by the MSA and its regulations are creating additional regulatory processes that increase existing costs and delays in coastal development with little or no

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173. U.S. CENSUS BUREAU, U.S. DEP'T OF COMMERCE, MEDIAN AND AVERAGE SALES PRICE OF HOUSES SOLD BY REGION (2003) *at* http://www.census.gov/const/pricerega.pdf (last visited Nov. 3, 2003).

174. *See Nat'l Ass'n of Home Builders, Building a Balance: Housing Affordability & Environmental Protection, at* http://www.nahb.org/generic.aspx?genericContentID=363&sectionID=128 (last visited Nov. 3, 2003).

175. *Id.*

176. *Id.*

177. *Id.*

environmental benefits added to the host of existing regulatory programs already in place.[178]

The "maze" that is environmental regulation has resulted in significant delays in land development, not to mention the direct costs associated with obtaining regulatory approval. At the end of 1990, at the Federal level alone, housing was regulated by "upwards of 20 Cabinet departments and independent agencies, creating a regulatory maze" for developers.[179] Delays in housing development inevitably result in increased costs to the developer at the expense of the housing consumer.[180] Development industry experts are quick to point out that the consultation procedures implemented by the MSA are sure to result in increased delays for permitting development projects.[181] This concern has been supported by the sheer number of consultations that took place during the two years subsequent to the enactment of the interim final rule. According to the NMFS, by the beginning of January of 2000, almost 5,000 EFH consultations had been completed.[182] To get a feel for the enormity of the challenge facing the NMFS and Federal action agencies alike as a result of this influx of EFH consultations, it is helpful to compare the level of consultations under the MSA with that encountered under the ESA.[183] "In response to Congressional questioning in March of 1999, the National Oceanic and Atmospheric Administration [stated] that approximately 229 formal

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178. *See Fisheries Reauthorization Before the House Subcomm. on Fisheries Conservation, Wildlife and Oceans Comm. on Resources*, 106th Cong. (2000) (statements of W. L. Berry, on behalf of the American Petroleum Institute and Jack E. Phelps, Executive Director of the Alaska Forest Association and Member of the Essential Fish Habitat Coalition) (on file with author); THE ESSENTIAL FISH HABITAT PROVISIONS OF THE MAGNUSON-STEVENS ACT (Thomas E. Bigford ed., The Coastal Society Vol. 21(2) (1999)) (edited statements of Michelle Desiderio from a press event on Aug. 10, 1999), *available at* http://www.nmfs.noaa.gov/habitat/habitatprotection/coastalsociety.htm.

179. ADVISORY COMM'N ON REGULATORY BARRIERS TO AFFORDABLE HOUS., *supra* note 157, at 6-6.

180. *See* BERNARD J. FRIEDEN, THE ENVIRONMENTAL PROTECTION HUSTLE 60 (1979) (arguing that the regulatory system discourages negotiations with developers and works to create deadlocks at the expense of the consumer).

181. *See Fisheries Reauthorization Before the House Subcomm. on Fisheries Conservation, Wildlife and Oceans Comm. on Resources*, 106th Cong. (2000) (statement of Jack E. Phelps, Executive Director of the Alaska Forest Association and Member of the Essential Fish Habitat Coalition) (on file with author); *Burden of Regulations on Small Business Before the House Subcomm. on Gov't Programs and Oversight, Comm. on Small Business*, 106th Cong. (1999) (statement of Michael T. Rose, for the National Association of Home Builders) (on file with author).

182. *See Fisheries Reauthorization Before the House Subcomm. on Fisheries Conservation, Wildlife and Oceans Comm. on Resources*, 106th Cong. (2000) (statement of Jack E. Phelps, Executive Director of the Alaska Forest Association and Member of the Essential Fish Habitat Coalition) (on file with author).

183. *Id*.

and 981 informal [ESA] consultations are completed each year."[184] This is less than half of the number of annual EFH consultations encountered by the NMFS.[185] In addition to costs resulting from delays, fees that developers must pay to biological consultants with technical expertise in the areas for which permits are required and who know how to walk a project through the bureaucracy can be astronomical.[186] History has shown that these increases in development costs will inevitably lead to certain responses by the development industry.[187] The most likely result is that housing costs will rise as the increase in development costs are passed on to the purchaser, further reducing the possibility of providing affordable housing.[188]

Another area of concern for developers is the scope of the NMFS' conservation recommendations made in response to a finding that an activity may adversely affect EFH. Currently, there is no limit on the scope of recommendations made by the NMFS under either the MSA itself or under the regulations passed pursuant to the Act. Moreover, when creating these recommendations, there is no requirement that the NMFS establish any sort of nexus between potential adverse effects on EFH and the recommendations made in response to those effects. With the recommendations developing quickly into requirements,[189] the development industry is expressing fears of increased mitigation requirements which will inevitably result in higher housing costs without any sort of assurance of a commensurate environmental benefit.[190] There is no doubt that mitigation requirements represent significant costs to development projects through both delays and in the amount expended in actually carrying out the mitigation. While the data to determine if mitigation requirements have increased as a result of EFH conservation recommendations has not been accumulated, it is a valid concern and one that deserves attention, especially with the broad grant of authority given to the NMFS by the MSA in this area.

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184. *Id.*

185. *Id.*

186. *See* ADVISORY COMM'N ON REGULATORY BARRIERS TO AFFORDABLE HOUS., *supra* note 157, at 6-6.

187. *See* MARY E. BROOKS, HOUSING EQUITY AND ENVIRONMENTAL PROTECTION: THE NEEDLESS CONFLICT 34 (1976).

188. *Id.*

189. *See supra* Part II.C.2, at 21.

190. *See Burden of Regulations on Small Business Before the House Subcomm. on Gov't Programs and Oversight, Comm. on Small Bus.*, 106th Cong. (1999) (statement of Michael T. Rose, for the National Association of Home Builders) (on file with author).

Whether the addition of the EFH provisions to the MSA and the resulting consultation procedures are providing an incremental benefit to the habitat of the fisheries of the nation is also of concern to the home building industry. The contention is that existing environmental review processes more than adequately address habitat concerns. Spokespeople for the industry have asked that where existing reviews of activities are required by the Endangered Species Act, National Environmental Policy Act, Clean Water Act, and the Coastal Zone Management Act, along with other laws that provide for adequate protection of EFH, the activity should be categorically exempted from the EFH consultation procedures.[191]

While the development industry's arguments noted above are valid, the NMFS has tried to address and alleviate the concerns of the development industry and dispel some of the criticism aimed at the habitat provisions of the MSA and regulations. The overarching point that the NMFS has tried to stress is that habitat degradation poses one of the most serious threats to the Nation's fishery stock and that the EFH amendments to the MSA are a "necessary first step to habitat preservation and enhancement."[192]

The NMFS has validly responded to the criticism aimed at the consultation procedures resulting from the 1996 amendments to the MSA. The NMFS has stressed that its role in providing advice and interacting with Federal agencies regarding their actions and the potential impacts on coastal habitats is nothing new.[193] Spokespeople for the NMFS have noted that the NMFS has been providing conservation recommendations to Federal agencies in accordance with existing environmental statutes for over thirty years, since its inception in 1970.[194] They note that the EFH consultation process "simply adds … more formality and

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191. *See Fisheries Reauthorization Before the House Subcomm. on Fisheries Conservation, Wildlife and Oceans Comm. on Resources*, 106th Cong. (2000) (statement of W. L. Berry, on behalf of the American Petroleum Institute) (on file with author).

192. THE ESSENTIAL FISH HABITAT PROVISIONS OF THE MAGNUSON-STEVENS ACT (Thomas E. Bigford ed., The Coastal Society Vol. 21(2) (1999)) (edited statements of Ronald C. Baird from a press event on Aug. 10, 1999), *available at* http://www.nmfs.noaa.gov/habitat/habitatprotection/coastalsociety.htm.

193. *See* Tanya Dobrzynski, *Essential Fish Habitat and Home Building*, LAND DEV. MAG., Spring/Summer 2000, *available at* http://www.nmfs.noaa.gov/habitat/habitatprotection/efhandhomebuilding.htm; THE ESSENTIAL FISH HABITAT PROVISIONS OF THE MAGNUSON-STEVENS ACT (Thomas E. Bigford ed., The Coastal Society Vol. 21(2) 1999)) (edited statements of Thomas E. Bigford from a press event on Aug. 10, 1999), *available at* http://www.nmfs.noaa.gov/habitat/habitatprotection/coastalsociety.htm.

194. *See* Dobrzynski, *supra* note 193; THE ESSENTIAL FISH HABITAT PROVISIONS OF THE MAGNUSON-STEVENS ACT (Thomas E. Bigford ed., The Coastal Society Vol. 21(2) (1999)) (edited statements of Thomas E. Bigford from a press event on Aug. 10, 1999), *available at* http://www.nmfs.noaa.gov/habitat/habitatprotection/coastalsociety.htm.

structure."[195] The major difference in consultation from prior to the enactment of the amendments and regulations is that now *both* the agency and the NMFS are required to consider impacts on habitat and potential conservation measures and the agency is required to communicate with the NMFS regarding those considerations.[196] Although this is a change, the NMFS has stated it is a welcome one. Prior to the MSA, consultation procedures "[i]n many cases where [the NMFS] commented to the action agency, [it was] unsure whether [the] recommendations were heeded or why they may have been rejected."[197] The MSA and regulations have addressed this issue and changed the way that the NMFS' recommendations are required to be handled by the agency, for better or worse.

As for the criticism concerning the potential for duplication between the MSA consultation procedures and environmental reviews required by other statutes, the NMFS recognizes the concerns and is attempting to alleviate these concerns along with attempting to eliminate any potential for duplication. The NMFS has consistently stated that its "approach to the EFH consultation process is to work with Federal action agencies to build EFH considerations into the environmental reviews that are required under other laws wherever possible. [The] goal is to promote efficiency and avoid duplication."[198] The words of the NMFS have been backed by action; as discussed above the NMFS has worked hard, and is continuing to work, with other agencies to reach agreements concerning the use of existing review processes to satisfy the EFH consultation requirement.[199] In response to the question of whether the addition of the EFH consultation process to the already existing environmental regulations is actually adding protection for the environment, the NMFS answers yes. The NMFS stresses the importance of bringing habitat to the forefront of our nation's fisheries management, resulting in an ecosystems based approach to this management.

All of the above seem to help quell some of the criticisms launched at the EFH consultation procedures, but the real question

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195. THE ESSENTIAL FISH HABITAT PROVISIONS OF THE MAGNUSON-STEVENS ACT (Thomas E. Bigford ed., The Coastal Society Vol. 21(2) 1999)) (edited statements of Thomas E. Bigford from a press event on Aug. 10, 1999), *available at* http://www.nmfs.noaa.gov/habitat/habitatprotection/coastalsociety.htm.

196. *See id*.

197. *Fisheries Reauthorization Before the House Subcomm. on Fisheries Conservation, Wildlife and Oceans Comm. on Resources*, 106th Cong. (2000) (statement of Penelope D. Dalton, Assistant Administrator for Fisheries for the National Oceanic and Atmospheric Administration) (on file with author).

198. *Id*.

199. *See supra* Part II.C.2, at 12.

that needs to be addressed is whether this new consultation is resulting in increased housing costs and thereby hindering the goal of affordable housing. As noted above, delays in land development inevitably lead to costs. So, has EFH consultation resulted in delays? The NMFS feels that it has not, and it appears from the current state of things that the NMFS is right. In an April 2000 report to congressional committees and requesters, which were certain to include members of the development industry, in response to concerns over the implementation of the 1996 amendments and subsequent regulations, the U.S. General Accounting Office noted that there was "little evidence to indicate that the new consultation process has resulted in delayed or cancelled projects."[200] This report tracked ten permit applications that were submitted for EFH consultation to the NMFS' southeast regional office in order to follow up on concerns of delays.[201] Of the ten permit applications reviewed, five received a no objection response from the NMFS within an average of nine days, three received a response from the NMFS that the project required modification within an average of twenty days, one received a do-not-issue response in twenty-seven days, and the remaining permit application received a response from the NMFS that the type of permit should be changed.[202] Out of these ten permit applications, all but three had permits issued within an average of eighty-four days. Two of the remaining applications remained open as of the report because of concerns independent of the NMFS, and the final application was withdrawn by the applicant.[203] So the anticipated horror stories of the increase in permitting times and resulting increase in development costs have not happened since the enactment of the consultation process based on this admittedly small subset of permit applications tracked.[204] Although the foregoing is true, it is significant to point out that these consultation requirements are still relatively new, and it may still be too early to fully identify any adverse effects on permitting timelines.[205]

Although many of the concerns of the non-fishing community about the effects of the EFH consultation procedures have not come to fruition, it appears that Congress is taking note of the chorus of criticism and making efforts to address it. On February 27, 2003,

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200. RESOURCES, COMMUNITY, AND ECONOMIC DEVELOPMENT DIVISION, U.S. GEN. ACCOUNTING OFFICE, FISHERY MANAGEMENT: PROBLEMS REMAIN WITH NATIONAL MARINE FISHERIES SERVICE'S IMPLEMENTATION OF THE MAGNUSON-STEVENS ACT 4 (2000).

201. *Id.* at 27.

202. *Id.*

203. *Id.*

204. *See id.* at 26.

205. *Id.*

Senate Bill 482 was introduced by Senator Collins and referred to the Senate Committee on Commerce, Science, and Transportation.[206] A review of the language of the bill makes it obvious that its introduction is aimed at reigning in the broad designations of EFH across the country. Section 3 of the bill would add a definition of the often criticized term "best scientific information available" to provide specific guidelines for what exactly constitutes this type of information for fishery conservation and management.[207] Additionally, a very significant change is made to the EFH language created by the 1996 MSA amendments. The definition of EFH as it stands today would be completely removed from the Act and replaced with language aimed at decreasing the broad designations of EFH. The bill defines EFH as "[those] marine waters and *discrete*, *unique*, benthic structures that: (A) exist within [the] exclusive economic zone, but *only in discrete areas*; and (B) have been determined under regulations issued by the Secretary to be *crucial* to spawning, breeding, and the continued production of a *specific* stock of fish."[208] The bill also acknowledges the Secretary's use of "habitat area of particular concern" and defines that term legislatively as a "*discrete*, vulnerable subunit of [EFH] that is required for a stock to sustain itself."[209] Lastly, the bill would amend the EFH requirements for the various FMPs. In what seems an answer to EFH critics' prayers, the requirement that FMPs describe and identify EFH would be struck from the MSA and replaced with the requirement that FMPs:

> (A) Describe and identify *habitat areas of particular concern* for the fishery . . . ;
>
> (B) minimize to the extent practicable adverse effects on *habitat areas of particular concern caused by fishing* that prevent a stock of fish from sustaining itself on a continuing basis; and
>
> (C) identify other actions to encourage the conservation and enhancement of such habitat areas.[210]

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206. *See* Fisheries Science and Management Improvement Act of 2003, S. 482, 108th Cong. (2003).
207. *See id.* § 3.
208. *Id.* § 6 (emphasis added).
209. *Id.*
210. *Id.* § 6 (emphasis added).

This bill, if passed, would result in "essential fish habitat" being relegated to nothing more than a definition within the MSA and "habitat areas of particular concern" being elevated to the status that is currently held by EFH. The bill raises interesting questions as to whether Congress believes that the NMFS has gone too far in its attempts to address EFH and whether Congress is in agreement with the criticisms noted above. Whether this bill will be passed remains to be seen. As of August 14, 2004, the bill is still in committee and no debates or testimony have taken place.[211]

V. CONCLUSION

The predictions and fear that the impact of EFH would be as great as that of NEPA, the ESA, or the CWA appear to have been misplaced. The NMFS has strived to make the implementation of the EFH consultation procedures as smooth as possible, has worked to avoid duplication of efforts between these procedures and other environmental reviews, and has made every effort to educate those who are affected by their reach. As to the effects of the EFH provisions of the MSA on the affordability of housing and the AFHA, the current information and studies available suggest that the MSA and its regulations are not significantly driving up the cost of housing. While this is true, the information and studies are by no means complete. The very nature of these two Acts creates the potential for conflict; the goals of each must be carefully balanced with each other and continuing dialogue should be initiated concerning this delicate balancing. No one can deny that our nation's fisheries are an important resource and that protecting the habitat of those fisheries is imperative, but at the same time, we must also acknowledge that protecting the affordability of human habitat is also important.

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211. *See Bill Summary & Status for 108th Congress*, *available at* http://thomas.loc.gov/cgi-bin/bdquery/z?d108:SN00482:@@@X (last visited Oct. 25, 2004).

AGRICULTURAL DIFFUSE POLLUTION CONTROLS: LESSONS FOR SCOTLAND FROM THE CHESAPEAKE BAY WATERSHED

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Table of Contents

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I. INTRODUCTION

The purpose of this paper is to offer suggestions towards agricultural diffuse pollution control for Scotland, based on the experiences of the Chesapeake Bay region. Scotland is at a time of flux in its diffuse pollution controls. Under the requirements of European Community Directives, Scotland is required to establish a system of controls for diffuse pollution. In 2001, the Scottish Environmental Protection Agency created the Diffuse Pollution Initiative to provide research and undertake projects in order to more fully understand diffuse pollution.

Because the problems of agricultural diffuse pollution have been studied in the Chesapeake Bay region for nearly thirty years, it is logical to use the knowledge gained. If there is another region with experience in the area of study, it makes sense to look at that region and learn from their successes and mistakes.

Although the landscape histories of the regions have been documented in other articles, the emphasis in this paper is on the diffuse pollution effects of the alteration of the landscape. Similarly, there have been articles on agricultural diffuse pollution controls. The difference in this paper is that diffuse pollution issues in the Chesapeake Bay and Scotland are brought together. These two regions are similar and yet at the same time dissimilar. The main import of this paper is using the experience of the Chesapeake Bay region, particularly Virginia, and from that, suggesting focus areas for Scotland in diffuse pollution controls.

To accomplish this, in Section II, I have laid out the environmental history of the regions, concluding the section with a comparison of the histories. In Section III, I provide a brief overview of water pollution in general, which I narrow to a diffuse pollution overview in Section IV. It is in Section V that I focus on agricultural diffuse pollution in particular. In Sections VI and VII, I relate the various diffuse pollution controls that have been used in Scotland and in the Chesapeake Bay, particularly Virginia. In Section VIII, I make suggestions for Scotland from the experiences of the Chesapeake Bay region. Appendix I contains a list of Best Management Practices from Virginia and the positive results of their use.

II. LANDSCAPE HISTORY OF THE CHESAPEAKE BAY WATERSHED AND SCOTLAND

In order to fully understand the need for water quality improvement measures, it is essential to understand the history of

the watershed and what brought each watershed to its current state of degradation.

Table 1 The Watersheds in Brief: Chesapeake Bay and Scotland

Chesapeake Bay watershed	**Scotland**
- Area: Over 64,000 square miles[1] - More than 150 major rivers. More than 100,000 streams, creeks, or rivers.[2] - 11,600 miles of tidal shoreline[3] - Six states and the District of Columbia - 200 counties total - Water covers 7% of the watershed[4] - Forest cover: 58.5% of the region (1990)[5]	- Area: 31,510 square miles[6] - 7,000 river systems[7] - 7,375 miles of shoreline[8] (including the islands) - Breadth: 24 miles — 154 miles - Length: 274 miles long - Water covers 2% of the country. - Forest cover: 16.9% of the country (2002)
Chesapeake Bay	**Lochs[9]**

- Surface water area: 2,300 square miles[10]
- 200 miles long[11]
- Width: 4 miles (at Annapolis) — 30 miles (mouth of the Potomac River)[12]
- Holds 18 trillion gallons of water, on average[13]
- Depth: average 27 feet[14]
	- 31,000 lochs, including
	  - largest: Loch Lomond (greatest area: 71 km^2)
	  - longest: Loch Awe (41 km)
	  - deepest: Loch Morar (310 m)
	  - greatest volume: Loch Ness (7452 x 106 m^3)
	  - River Tay is the largest river by flow (194 $m^3 s^{-1}$)

A. The Chesapeake Bay Watershed

The Chesapeake Bay watershed is one of the world's most studied watersheds. This region has been a subject of in-depth studies by governmental and non-governmental organizations for over thirty years. Due to this long period of study, a vast amount of information has been collected on the condition of the watershed. More importantly, considerable information on steps taken to improve the water quality of the watershed is available.

B. Chesapeake Bay Watershed Attributes

More than fifty tributaries in six states[15] contribute directly and indirectly to the Chesapeake Bay's freshwater intake.[16] Five major tributaries provide almost 90% of the freshwater to the Bay.[17]

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1. Chesapeake Bay Program (CBP), *at* http://www.chesapeakebay.net/wshed.htm (last modified Apr. 7, 2004).

2. Chesapeake Bay Riparian Handbook: A Guide for Establishing and Maintaining Riparian Forest Buffers, *at* http://www.chesapeakebay.net/pubs/subcommittee/nsc/forest/ /sect09.pdf (May 1997).

3. *Id.*

4. 2,863 square miles of open water and 1,707 square miles of wetlands, to a combined 7% area of the watershed. CBP, *at* http://www.chesapeakebay.net/wspv31/(brlms0345t03o145 q2i05b2i)/WspAbout.aspx?basno=1&topic=5 (last visited Nov. 19, 2004).

5. Importance of forest cover in a watershed. Forests, their roots, and undergrowth provide soil stabilization and a filtering mechanism for runoff.

6. Slightly smaller than Maine. *See* Mr. Dowling's Electronic Passport, *The Nations and Territories of the World*, *at* http://www.mrdowling.com/800area.html, at 116 (last updated July 16, 2003).

7. A river system is the main channel of a river together with all tributary rivers and streams that flow into it.
Microsoft Encarta Encyclopedia 2003.

8. Scot Mathieson, *A Strategy for Scotland's Coasts and Inshore Waters*, Water Quality and Pollution Task Group (Mar. 2003), *available at* http://www.scotland.gov.uk/environment /coastalforum/waterquality.pdf [hereinafter Task Group].

9. There are different types of lochs: freshwater lochs and sea lochs. Freshwater lochs are similar to freshwater lakes. Inlets called sea lochs, or firths, which mark the coast of Britain, are similar to fjords. Microsoft Encarta Encyclopedia 2003.

10. Kathryn Reshetiloff ed., *Chesapeake Bay: Introduction to an Ecosystem*, *available at* http://www.gmu.edu/bios/Bay/cbpo/intro.htm (1995).

11. *Id.*

12. *Id.*

13. *Id.*

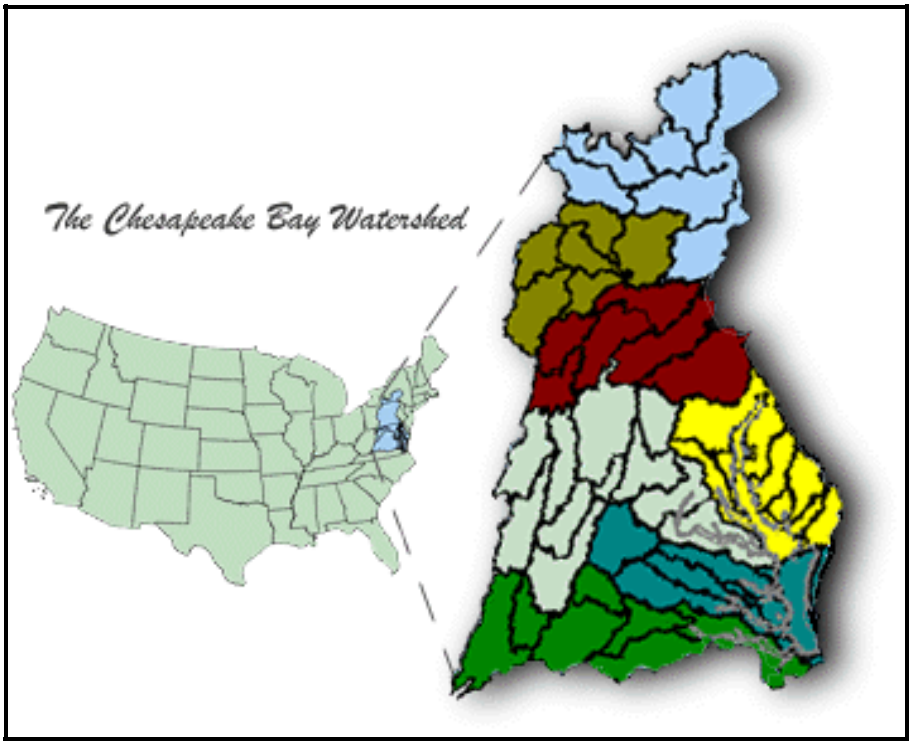
14. *Id.*

15. The six states are New York, Pennsylvania, West Virginia, Delaware, Maryland, and Virginia, as well as the District of Columbia. *See id.*

16. Reshetiloff, *supra* note 10.

17. The five rivers are the York, the Susquehanna, the Rappahannock, the Potomac, and the James. *See id.* at 9.

Figure 1 Chesapeake Bay Watershed — Location Map and Political Boundaries[18]



The Chesapeake Bay Watershed consists of eight sub-watersheds.[19] (See Figure 2 Chesapeake Bay Watershed and Potomac watershed boundaries). The sub-watershed management scheme of the Chesapeake Bay is a good comparison for Scotland because current Scottish legislation[20] calls for two water basin districts, a Scotland River Basin District and a cross-border Scotland-England River Basin District, for purposes of river basin management requirements. These primary River Basin Districts will be composed of sub-basins which will be managed locally.[21] (See Figure 7 Scotland River Basin Districts.)

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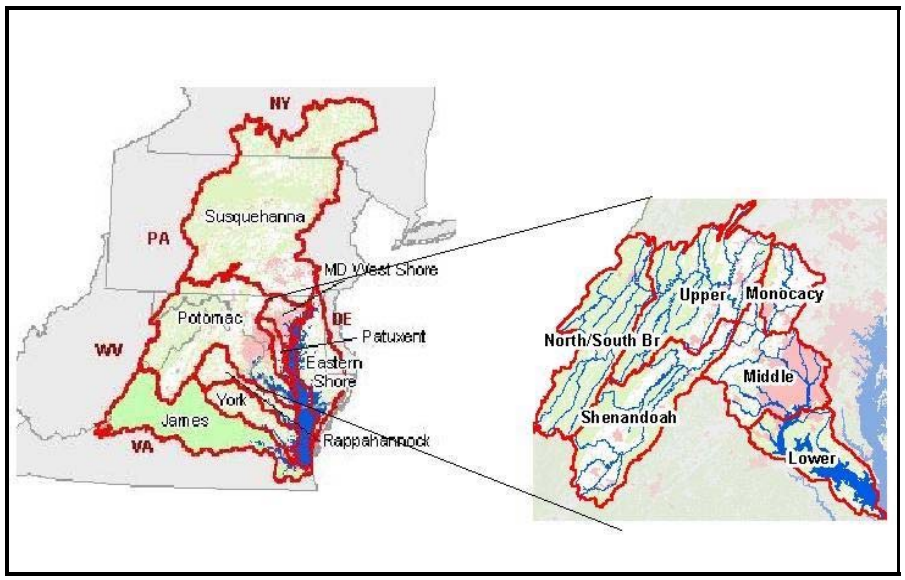
18. CBP, *at* www.chesapeakebay.net/wshed.htm (last modified Apr. 7, 2004).

19. The sub-watersheds are the Susquehanna, the Potomac, the York, the Rappahannock, the Maryland West Shore, the Patuxent, the Eastern Shore, and the James. *See id.*

20. Under the Water Environment Water Services (Scotland) Act 2003, as required by the European Community's Water Framework Directive. *See* Table 8 European Community Directives, as implemented.

21. Scottish Environmental Protection Agency (SEPA), Water Framework Directive: Scottish River Basin District Maps, *at* http://www.sepa.org.uk/wfd/maps/index.htm (last visited Nov. 19, 2004).

Figure 2 Chesapeake Bay Watershed and Potomac Watershed Boundaries[22]



Each of the Chesapeake Bay sub-watersheds is composed of sub-watersheds and so on. For example, the Potomac watershed is composed of the Lower Potomac, Middle Potomac, Upper Potomac, North South Branch Potomac, Monacacy, and Shenandoah. (See Figure 2 Chesapeake Bay Watershed and Potomac watershed boundaries).

The Chesapeake Bay is a shallow body of water, making it far more sensitive to temperature fluctuations and wind than the open ocean.[23] Shallow bodies of water are more sensitive to changes impacted by temperature and wind than lakes, lochs, or free-flowing rivers. In the Chesapeake Bay watershed, "the ratio of watershed land area to tidal water volume is by far the highest of any coastal body of water on earth."[24] This high land to water ratio is key to understanding the extreme levels of pollution in the Chesapeake Bay. The amount of land area that drains into the Chesapeake Bay is substantial and contributes high levels of land-based pollution.

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22. *See* CBP, *at* http://www.chesapeakebay.net/wspv31/(jcjgho45lwjj1y554bn313vl)/WspAbout.aspx?basno=5&topic=5 (last visited Nov. 19, 2004).

23. Reshetiloff, *supra* note 10.

24. *See* Chesapeake Bay Foundation (CBF), *at* http://www.cbf.org/site/PageServer?pagename=resources_maps_watershed (last visited Nov. 19, 2003).

Table 2 Land Use Area, percentage

	Chesapeake Bay Watershed[25]		**Scotland**[26]	
Total Area (sq. mi.)	**66388**		**30436**	
Developed (sq. mi.)	4%	(2,409.)	2%	(561.)
Agriculture (sq. mi.)	28%	(18,895.)	25%	(7,671.)
Forested (sq. mi.)	60%	(39,901.)	15%	(4,575.)
Open Water (sq. mi.)	4%	(2,863.)	2%	(593.)
Wetland (sq. mi.)	3%	(1,707.)	1%	(191.)
Barren (sq. mi.)	1%	(599.)	54%	(16,552.)

C. Environmental History of the Chesapeake Bay Watershed

Written history of the Chesapeake Bay can be traced back to Captain John Smith's 1607 diaries, which chronicled his travels through the Bay.[27] About 45,000 Native Americans already lived in the Chesapeake Bay area when European settlers first arrived in 1607.[28] In Captain Smith's diaries, as well as other written accounts of the time, the Chesapeake Bay was noted as a clear body of water, teaming with a large variety of fish, shellfish, wildlife, and plants. Forests dominated the landscape of the Bay watershed. Nearly 95% of the watershed was covered by forests when European colonists first arrived.[29]

As the area was settled, between 20% and 30% of the original forests were cleared and the wood was used for construction and fuel.[30] The clearance of trees destroyed the integrity of the soils, their functions of soil stabilization, and in filtering runoff. This resulted in increased soil erosion. Soil washed into streams and rivers, increasing sedimentation in the waters and decreasing the amount of light that could reach submerged plants.[31] Sedimentation

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25. CBP, *at* http://www.chesapeakebay.net/wspv31/(iwymqv55ywu23qf15pndey45)/WspAbout.aspx?basno=1&topic=5 (last visited Nov. 19, 2004).

26. Scotland data obtained from G. M. MCGOWAN ET AL., TRENDS IN BROAD HABITATS: SCOTLAND 1990-1998, Scottish Natural Heritage Commissioned Report F00NB03 (2002).

27. CBF, State of the Bay 2002.

28. United States Department of Agriculture, Conserving the Forests of the Chesapeake: The Status, Trends, and Importance of Forests For the Bay's Sustainable Future, *at* http://www.chesapeakebay.net/pubs/127.pdf (Mar. 16, 2004), at 3 [hereinafter USDA].

29. CBP, The State of the Chesapeake Bay: A Report to the Citizens of the Bay Region, at 28 [hereinafter CBP, State of the Bay].

30. USDA, *supra* note 28, at 4.

31. Robert S. Grumet, *Bay, Plain, and Piedmont: A Landscape History of the Chesapeake Heartland From 1.3 Billion Years Ago to 2000*, The Chesapeake Bay Heritage Context Project, *available at* http://www.chesapeakebay.net/pubs/gateways/plainandpiedmont/contents_intro

decreases the clarity of a water body, thereby leading to a decrease in the amount of light which reaches the plants and animals that depend on it for survival.

Once an area was cleared, it was typically converted for agricultural use, primarily tobacco.[32] More tree clearances occurred after iron deposits were found in bogs during the 1730s and 1740s.[33] The purpose of these clearances was to create fuel for the iron furnaces and mills.[34]

By 1865, settlement of the region had caused the following extreme changes in the environmental health of the Bay and its tributaries. The increasingly agricultural character of the region led to increased deforestation to clear the land for farms. Soils washed from this new agricultural land added millions of tons of topsoil into the waterways, to the extreme of changing the shape of the Bay.[35] "By the mid-1800s, less than forty percent of the original forests remained."[36] Such drastic deforestation amplified the level of erosion of the land. As more soil eroded and washed off the land, the rivers and Bay continued to suffer from increased sedimentation.

Table 3 Landscape Development Timeline

Year	Chesapeake Bay Watershed	Scotland
Pre-1400		Pre-750 B.C.: Forests cover over 50% of the land, with the remainder consisting of bogs, loch, alpine meadows, and tundra near mountain-tops. 500 B.C.: Human cultivation of the land causes an increase in deforestation because once cleared, the trees could not regenerate.

.pdf (Sept. 2000).

32. *Id.* at 56.

33. *Id.* at 63.

34. *Id.*

35. Joppatown, Maryland was once a seaport but currently is more than two miles from water due to erosion and sedimentation. *See* Reshetiloff, *supra* note 10, at 7. Port Tobacco, Maryland was also closed due to sedimentation from erosion. *See* Grumet, *supra* note 31, at 60, 71.

36. CBP, State of the Bay, *supra* note 29, at 28.

Year	Chesapeake Bay Watershed	Scotland
1500		Little Ice Age: Inhospitable growth conditions such as increased rainfall and high winds.
1600	About 45,000 Native Americans already lived in the Chesapeake Bay area when European settlers first arrived in 1607. 1607: European settlement in Chesapeake Bay. 95% of the watershed is covered by forests. Bay itself is clear and is teeming with fish.	Unsustainable timber used for fuel and construction. Native woodland reduced to 5% land coverage. Forest protection measures such as coppice management are introduced as a reaction to the exploitation of woodlands.
1700	Iron deposits found in bogs. Forest clearance for agriculture, settlement, and fuel, including for iron furnaces and mills. Soil washes into the waterways as sedimentation, decreasing the clarity of the waters.	Removal of forest cover created more soil erosion, which led to rapid leaching of mineral nutrients, acidification of the soils, and sedimentation in the waterways. 1707: Act of Union between Scotland and England. Mill towns increase the pressure and pollution on the rivers, including channeling.
1750	20–30% of the original forest cleared to accommodate population and agriculture. As population increases, forest clearance continued for	Rivers increasingly used as domestic and industrial sewers and as dumps for iron smelters. Sustainable management is introduced to provide constant fuel, such as

Year	Chesapeake Bay Watershed	Scotland
	agriculture, settlement, and fuel. Timber used for industry, furnaces, and mills. Deforestation causes erosion, which in turn causes increased sedimentation of streams, rivers, and the Bay.	charcoal, for foundries. As coal replaced timber for fuel, woodlands returned to pasture, leading to an increase in the rapidity of runoff and an increase in the propensity for flooding. Flood control measures, such as embankments, are introduced. Floodplains reclaimed, marshes drained and loch levels lowered to provide productive agricultural land.
1800s	Increasing agricultural region leads to increased deforestation. Less than 40% of the original forests remained. Resultant erosion added millions of tons of topsoil into the waterways, changing the shape of the Bay. Increase in sedimentation causes a decline in the seagrass on the bay floor.	Industries and urban centers continue to discharge directly into rivers.
1900s	Waterways used as sewers and dumps by domestic and industry. Less than 30% of original forests remain. Increase of commercial plantations. Urbanization and industrial expansion increase air and water	Opencast mining decreased the quality of waterways. Rivers, such as the Clyde, widened for easier harbor access. Power stations increase the amount of smog and dirt in the air and water.

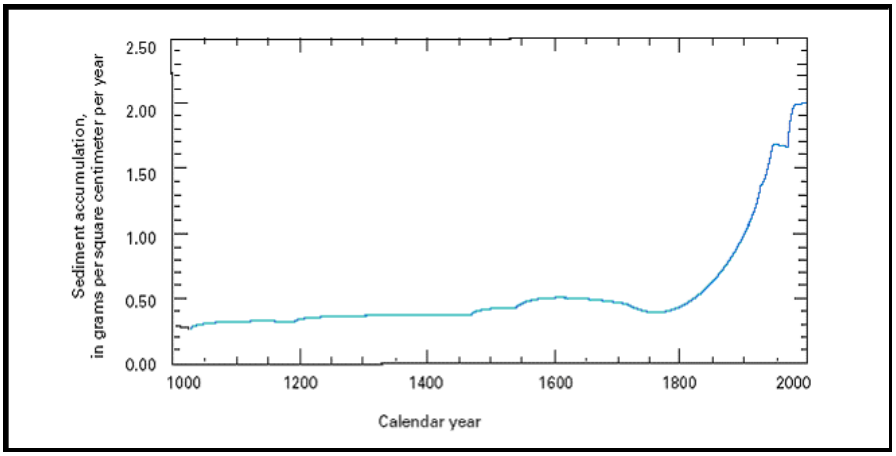
Year	Chesapeake Bay Watershed	Scotland
	pollution. By 1970, forest cover at 62% of the watershed.	Increase of commercial plantations. 1993: Woodland coverage at 1- 2%.
2000s	From 1996 to 2002, the Bay Program partners restored 2,010 miles of buffers.[37] By 1999, 59% of riparian areas in the basin were forested.[38] As of 1990, forests accounted for 58.5% of this land area—an estimated 24.1 million acres.[39] This is a decline from the 1970 forest cover. Forests have been subject to urban expansion and lost to suburbanization at a rate of 100 acres per day.[40]	2002: Woodland coverage at 16.9%, primarily coniferous plantations. Sewage effluent is still the number one source of pollutants in waterways. Diffuse pollution is predicted to overtake sewage as the primary pollutant by 2010.

Diffuse pollution in the form of increased sedimentation and burial of organic carbon continued in the mid–18th century in Chesapeake Bay, as an associated effect of widespread land clearance for agriculture by European colonists. This increase in sedimentation caused a decline in the underwater grasses, also known as submerged aquatic vegetation, on the bay floor. The primary causes of the decline of submerged aquatic vegetation are nutrient over-enrichment and increased suspended sediments in the water, reducing clarity and light availability.[41]

37. CBP, *at* http://www.chesapeakebay.net/restrtn.htm (last modified Jan. 27, 2002).
38. CBP, *at* http://www.chesapeakebay.net/status.cfm?sid=83 (last modified Oct. 26, 2004).
39. USDA, *supra* note 28, at 9.
40. *Id.*at 4.
41. United States Environmental Protection Agency (EPA), *Ambient Water Quality Criteria for Dissolved Oxygen, Water Clarity and Chlorophyll A for the Chesapeake Bay and its Tidal Tributaries*, 9 (Apr. 2003).

Submerged aquatic vegetation, such as eelgrass, is an essential species in an estuary. Submerged aquatic vegetation improves tidal water quality by retaining nutrients as plant material, stabilizing bottom sediments (preventing their resuspension), and reducing shoreline erosion.[42] Eelgrass also provides food, oxygen, and critical habitat for other interdependent species, such as oysters and fish. For example, scallop larvae depend on eelgrass as a settling substrate.[43] Submerged aquatic vegetation is considered a key indicator for the ecological health of tidewater and estuary areas.

Figure 3 Sediment Accumulation in the Chesapeake Bay[44]



The region's plant and animal communities began to show signs of the effects of pollution and sedimentation.[45] Oysters were once so dense offshore, they were primarily regarded as navigational hazards.[46] However, once canning and marketing of oysters began in the mid-1800s, the oyster industry became big business.[47] Sickened by pollution and devastated by crude harvesting

42. *Id.* at 8.
43. Virginia Coastal Program, *at* http://www.deq.state.va.us/coastal/fall97.html (last visited Nov. 19, 2004).
44. Scott W. Phillips ed., *USGS and the Chesapeake Bay — The Role of Science in Environmental Restoration*, USGS Circular 1220, at 8. "The rate of sediment accumulation in some areas of the Chesapeake Bay has increased dramatically over the past 200 years. The increase is due to a change in land-use practices, including clear cutting of forests and an increase in agricultural and urban lands. The increased sedimentation has resulted in degraded water clarity in the bay, which has adversely affected submerged aquatic plants and oyster populations." *Id.*
45. Grumet, *supra* note 31, at 105.
46. *Id.*
47. *Id.*

techniques, Chesapeake Bay oyster breeding stocks were severely threatened by 1880.[48]

Sedimentation was not the only pollutant fouling the Bay. In the Piedmont Province,[49] gold, kyanite, and slate mines, along with associated quarries and furnaces, produced tailings of waste rock, cinders, and other residues, which flowed into rivers and streams.[50] Coal residue from mines farther inland along the upper reaches of the Potomac and Susquehanna River valleys made its way into the Bay.[51] These tailings, residues, and other wastes were flushed into nearby rivers, where they mixed with sediments and poisoned the waters.[52]

In the late nineteenth century, the Chesapeake Bay region was a major industrial and agricultural center. Industries included ship building facilities and factories that mass produced precision goods, such as steam engine parts and rifled muskets. Concurrently, farmers raised production with new and more efficient plows, harrows, fertilizers and other tools, increasing detrimental runoff and erosion on agricultural lands.[53]

As a result of the increase in industry, agriculture, and settlement, eroded soil sediments and human, animal, and industrial wastes polluted Chesapeake Bay waterways as never before.[54] Waters were further polluted by factory wastes and municipal sewage.[55] Untreated sewage and other city wastes were pumped directly into harbor waters by coastal cities.[56]

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48. *Id.*

49. The Piedmont is the largest physiographic province in Virginia. *See* The College of William & Mary Department of Geology, The Geology of Virginia, *at* http://web.wm.edu/geology/virginia/piedmont.html (last visited Nov. 19, 2004).

50. Grumet, *supra* note 31, at 105.

51. *Id.*

52. *Id.*

53. *Id.* at 125. By 1832, Virginian Edmund Ruffin showed how marl (a crumbly dirt rich in calcium carbonate) could provide a cheap, easily obtainable fertilizer for fields that had been depleted by intensive tobacco, corn, and wheat cultivation. *See id.* at 126.

54. *Id.* at 114.

55. Grumet, *supra* note 31, at 105.

56. *Id.*

Figure 4 State Boundaries in the Chesapeake Bay Watershed

The sediment and sewage laden waters of the Bay caused fish, shellfish, plants, and other aquatic life to sicken and die.[57] As these organisms failed, noxious microbes flourished.[58] Reports showed that invasive plants which were unintentionally introduced by passing ships into Bay waters began taking space, light, and nutrients away from eelgrasses and other essential native water plants sometime between 1880 and 1900.[59] As early as the late nineteenth century, fishermen and government scientists published reports speculating that increased water pollution was further threatening the eelgrass in Chesapeake Bay waters.[60] Records show that fish farms were introduced in the late nineteenth century as a reaction to the decreasing fish and shellfish populations, believed to be caused by pollution and intensified use.[61]

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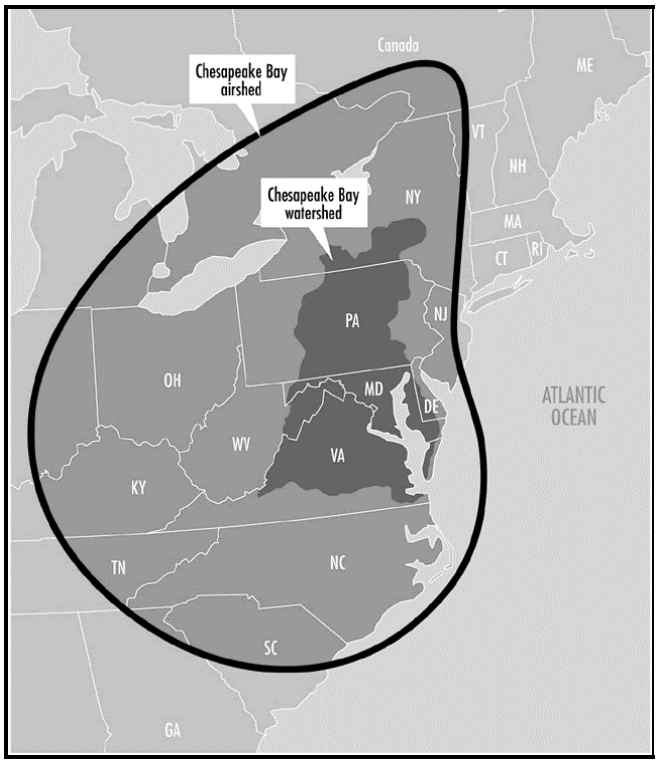
57. *Id.* at 128. Red tides, algae and plankton blooms, and noxious chemicals poisoned the Bay as murky waters, clogged with sediment, blocked life-giving sunlight.
58. *Id.*
59. *Id.*
60. Grumet, *supra* note 31, at 128.
61. *Id.*

By 1900, less than 30% of the watershed's original forests remained.[62] However, by the early 1900s, many forests were reestablishing themselves or were replanted as commercial plantations.[63]

Figure 5 Chesapeake Bay Airshed



In the first half of the twentieth century, urbanization and industrial expansion[64] amplified pollution, overexploitation of resources, and environmental degradation. The effects are still being felt today. Between 1930 and 1980, easterly winds carried airborne pollutants, such as smog and acid rain, from chimneys of coal-fired generating plants, steel mills, and other smokestack industries in the nation's heartland to the Chesapeake Bay watershed.[65] (See Figure 5 Chesapeake Bay Airshed). Smog contains ozone, which in the lower atmosphere is a poison that

62. *Id.* at 129.
63. CBP, State of the Bay, *supra* note 29, at 28.
64. Including railways and agricultural advancements.
65. Grumet, *supra* note 31, at 151.

damages vegetation and kills trees.[66] Acid rain burns the leaves of plants, alters the chemical composition of soils, and makes lakes too acidic to support fish and other living organisms.[67]

Concurrently, industries throughout the region poured untold quantities of heavy metals, petrochemicals, hydrocarbons, mining wastes, and other non-biodegradable pollutants into waterways which flowed into the Bay.[68] These pollutants can bioaccumulate in vegetation and up through the food chain, poisoning and killing submerged aquatic vegetation and dependent species.

Even as agricultural fields yielded increased crop production, they also resulted in increased soil erosion. Vast amounts of nitrogen, phosphorus, and synthetic chemicals used in pesticides and fertilizers washed into Bay tributaries.[69] As a result of the introduction of these pollutants into the waters, toxic chemicals, such as DDT and other pesticides, inadvertently killed off bald eagles in the region and devastated other species.[70] Individual homes and municipalities pumped human waste, detergent phosphates, and other sewage into regional rivers.[71] The addition of sewage and fertilizers to the ecosystem created an overabundance of algae and plankton. Fertilizers and sewage contain nutrients necessary for plant growth. However, an overabundance of these nutrients plays havoc in the ecosystem, resulting in too much plant growth, such as algae blooms and red tides.

Amplifying these harmful effects, forests once again were being slashed for domestic and commercial development or being converted into agricultural lands or pastures, increasing sedimentation.[72] The red tides, algae and plankton blooms, clogged further with this sediment, blocked life-giving sunlight.[73] Consequently, submerged aquatic vegetation died from the deficiency of light in these cloudy polluted waters.[74] This loss of eelgrass in turn resulted in a loss of food and shelter to numerous species.[75] Moreover, the destruction of oxygen producing plants,

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66. Microsoft Encarta Encyclopedia 2003, Air Pollution.
67. *Id.*
68. So much anthracite coal waste was dumped into the Susquehanna River at Scranton, for example, that it has become economically feasible to dredge coal from sediments trapped within the still waters impounded by the *Conowingo Dam* and other barriers thrown across the lower river to store water and generate hydro-electric energy. *See* Grumet, *supra* note 31, at 150.
69. *Id.*
70. *Id.*
71. *Id.*
72. CBP, State of the Bay, *supra* note 29, at 28.
73. Grumet, *supra* note 31, at 151.
74. *Id.* at 152.
75. *Id.* at 149.

such as eelgrass, lowered the volume of dissolved oxygen in the water.[76] Since oxygen is necessary to support aquatic life, this condition, known as anoxia, amplified the loss of plants and animals.[77]

Table 4 Population Data through 2000

Year	**Chesapeake Bay Watershed**[78]	**Scotland**[79]
1350[80]	Not available.	400000[81]
1500	Not available.[82]	750000[83]
1600	13000	800000
1700	380000	1000000
1755[84]	700000	1265380
1800	1000000	1608420
1850	1800000	2888742
1900	3000000	4472103
1950	7000000	5096000
2000	15,594,241. (population density — 244 people per sq. mile)	5,062,011.[85] (population density — 161 people per sq. mile)

In 1973, United States Senator Charles "Mac" Mathias of Maryland began a fact finding tour of the Bay. Senator Mathias convinced Congress to provide funding for the Environmental Protection Agency (EPA) to carry out a seven year comprehensive environmental study of the Bay, to determine why the Bay was in trouble. The EPA study confirmed earlier research conducted on the

76. *Id.* at 152.

77. *Id.*

78. Grumet, *supra* note 31, at 151.

79. Population data obtained from Genuki, UK & Ireland Genealogy, *at* http://www.genuki.org.uk/big/sct/population.html (last updated Aug. 23, 2002).

80. After the Black Death.

81. 1350 population data obtained from Medieval Life & The Hundred Years War, *at* http://www.hyw.com/books/history/Black_De.htm (last visited Nov. 19, 2004).

82. It is estimated that prior to European settlement in the Chesapeake Bay region, the region supported approximately 45,000 Native Americans.

83. 1500 data obtained from Steven Gunn, *Britian 1500—Sixteenth Century Life in the United Kingdom*, Looksmart Findarticles, *available at* http://www.findarticles.com/cf_dls/m1373/8_50/63986764/p1/article.jhtml (last visited Nov. 19, 2004).

84. First census in Scotland by Alexander Webster.

85. Scotland's Census Results Online, *at* http://www.scrol.gov.uk/scrol/browser/profile.jsp?profile=Population&mainArea=&mainLevel= (last visited Nov. 19, 2004).

Bay environment.[86] The study resulted in five EPA reports, released in 1983, recognizing the significant detrimental contribution of diffuse pollution both from agricultural practices and the rapidly increasing population and development.[87] "These findings included an increased occurrence of algae blooms, significant decreases in submerged aquatic vegetation," such as eelgrass, and significant decreases in the supply and reproduction of various varieties of shellfish.[88]

The study found that increases in the levels of nitrogen and phosphorus were causing serious over-enrichment in the Bay and its tributaries.[89] A substantial amount of the high levels of nitrogen and phosphorus present in the Bay resulted from agricultural activities.[90] Additionally, levels of dissolved oxygen had decreased substantially in certain areas, due to the destruction of oxygen producing plants, such as eelgrass.[91] "[H]igh levels of toxic compounds were found at the Bay's bottom near Baltimore and Norfolk, the two main industrial centers on the Bay."[92] Following the publication of these reports, Maryland, Virginia, Pennsylvania, the District of Columbia, and the United States Environmental Protection Agency united to form the Chesapeake Bay Program.

D. Scotland Watershed

Given that water plays such an important role in the history, culture, and economy of Scotland, it is impossible to overstate the importance of keeping it healthy and vibrant. Tourism and the production of whisky are two vital industries for Scotland, and both are dependent on the quality of Scotland's waters. High water quality is the basis of the international view of Scotland as a land of lochs and streams that enhance the beauty of the landscape. The water quantity contributes to making Scotland a golfer's mecca.

The Scottish Executive has recognized this importance. Consequently, the Scottish Environmental Protection Agency has been charged with developing policies that upgrade and protect the quality of Scotland's waters. To understand the tasks ahead, it is essential to consider what has gone before.

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86. William Eichbaum, *The Chesapeake Bay: Major Research Program Leads to Innovative Implementation*, 14 ENVTL. L. REP. 10,237 (1984). The Chesapeake Bay and its tributaries have been among the most studied aquatic systems in the world since the 1930s.

87. *Id.* at 92.

88. Paul D. Barker, Jr., *The Chesapeake Bay Preservation Act: The Problem With State Land Regulation Of Interstate Resources*, 31 WM & MARY L. REV. 735, 744-45 (1990).

89. Eichbaum, *supra* note 86, at 5.

90. Barker, *supra* note 88, at 744-45.

91. *Id.*

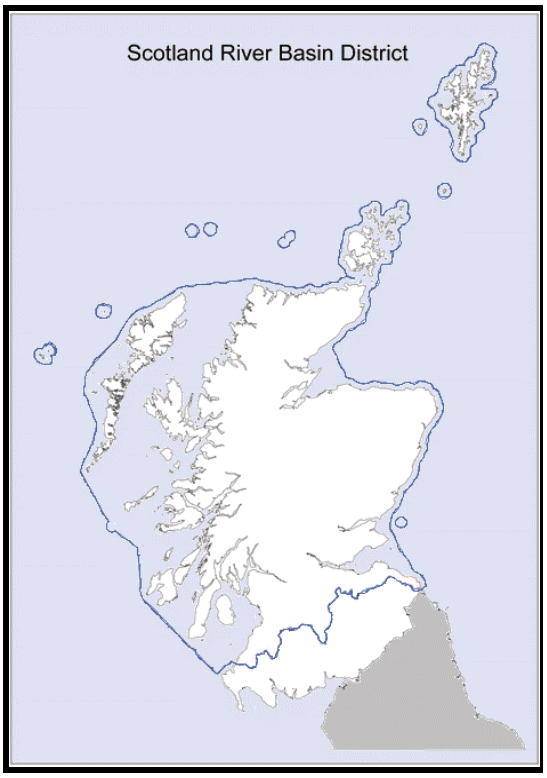
92. *Id.*

Figure 6 Scotland[93]

Scotland's watersheds consist of more than 7,000 river systems and 31,000 lochs. Similar to the Chesapeake Bay watershed, water quality in Scotland is to be determined and controlled on a watershed basis. In 2003, under the requirement of the European Community's Water Framework Directive, Scotland was divided into two primary river basins, the Scotland river basin and the Scotland-England Border river basin. [94] Further sub-river basin district divisions are planned but have not yet been realized. [95]

93. Image obtained from Microsoft Encarta Encyclopedia 2003.
94. SEPA, *at* http://www.sepa.org.uk/wfd/maps/index.htm (last visited Nov. 19, 2004).
95. *Id.*

Figure 7 Scotland River Basin Districts[96]



Due to its location, Scotland receives a tremendous amount of rainfall. This rainfall is considered both a blessing and a curse by Scots. Scotland has some of the most spectacular waters in Great Britain, including the largest loch, longest loch, deepest loch, and the loch with the greatest volume.[97] In all, 90% of the volume of standing fresh water in Great Britain is within Scotland.[98]

III. ENVIRONMENTAL HISTORY OF SCOTLAND

To establish an image of a Scotland unblemished by man, it is necessary to venture into pre-history. Pollen samples have established that from 6000 to 750 B.C., Scotland was densely forested, with the remainder of the land consisting of bogs, lochs, alpine meadows and tundra near mountain-tops.[99] The land

96. Map available online, *see id.*
97. *See* Table 1 The Watersheds in Brief: Chesapeake Bay and Scotland, *supra* p. 3.
98. Scottish Natural Heritage, Fresh Waters of Scotland, at 1.
99. *See* R. N. MILLMAN, THE MAKING OF THE SCOTTISH LANDSCAPE (1975); T. C. SMOUT, *Woodland History Before 1850*, *in* SCOTLAND SINCE PREHISTORY: NATURAL CHANGE AND

coverage of woodlands was estimated at 50-60%.[100] (By comparison, this is the current woodland coverage estimate for the Chesapeake Bay.)

According to pollen analysis, after 750 B.C., deforestation began with the natural change to a cooler and wetter climate, which caused a spread of peat bogs.[101] Human impact on woodland was limited until the Iron Age, around 500 B.C.[102] The deforestation brought about by the changing climate was intensified by an increase in the cultivation of land by early settlers.[103] Once trees were cleared for fuel and to create fields for farming, the trees were unable to regenerate, since the change in climate modified the growing conditions for the native species.[104] In addition to the deforestation caused by agriculture and fuel need, forest land was also cleared by war raiding and to remove cover where enemies could hide.[105]

Between the fourteenth and seventeenth centuries, there was a Little Ice Age which brought inhospitable growth conditions, including vast rainfall and high winds.[106] The population of the time was primarily rural and dependant on grazing and agriculture.[107] The population used wood for fuel as well as construction. This high demand for wood led to unsustainable exploitation of the resource.[108] By 1600, natural woodland was reduced to 5% of land coverage.[109]

HUMAN IMPACT (1993).

100. SMOUT, *supra* note 99, at 41.

101. MILLMAN, *supra* note 99, at 46-47; SMOUT, *supra* note 99, at 42.

102. MILLMAN, *supra* note 99, at 47. Rebecca Hughes & Edward Mackay, *Developing Cultural Landscape Indicators for Agricultural Settings in Scotland*, *at* http://www.nijos.no /Publikasjoner/Rapporter/2003/oecd/24_Hughes_Mackey.pdf (2002).

103. SMOUT, *supra* note 99, at 43.

104. *Id.*

105. MILLMAN, *supra* note 99, at 47.

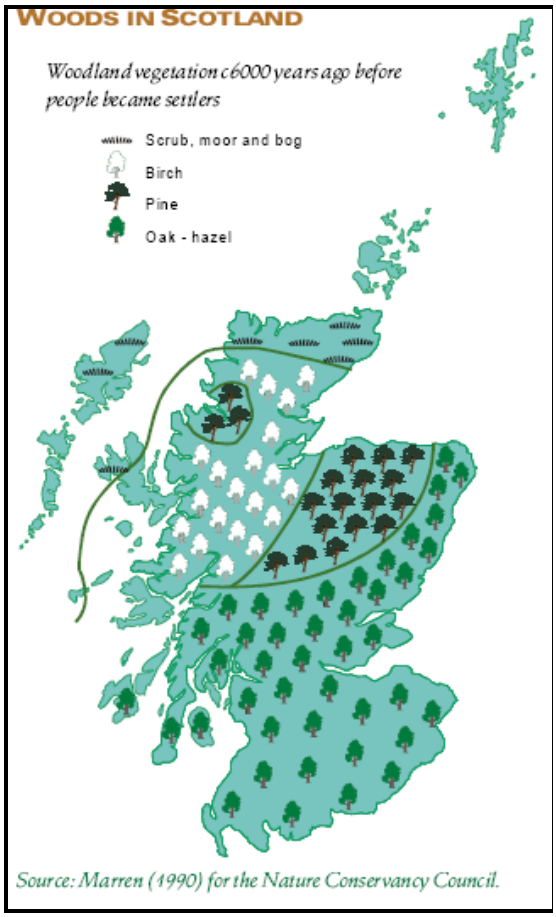
106. SMOUT, *supra* note 99, at 46.

107. *Id.*

108. *Id.*

109. *Id.*

Figure 8 Ancient Forest Cover in Scotland[110]



By 1607 (the year of John Smith's entry into the Chesapeake Bay), England began crossing the border and pillaging the woodlands of Scotland, having exhausted English forests.[111] In Scotland, forest protection measures, including coppice management, were established in the seventeenth century, since wood was such a valuable resource.[112] When the population began using peat as a substitute fuel, these measures were relaxed.[113]

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110. Image obtained from Carol Inskipp, *Forests and Woods in Scotland*, WWF Data Support Scotland, *at* http://www.wwf.org.uk/core/about/scotland/sc_0000000383.asp (last visited Mar. 3, 2004).

111. MILLMAN, *supra* note 99, at 87.

112. SMOUT, *supra* note 99, at 43.

113. *Id.*

Deforestation began a chain reaction of environmental changes. Trees are essential to return water to the atmosphere through their leaves and to delay the water's course through the soil by its roots.[114] With the removal of forest cover, this function of the trees disappeared, allowing more water to be released into streams and rivers.[115] Increased water release led to erosion and rapid leaching of mineral nutrients, as well as acidification of the soil and the formation of podsols (infertile, acidic soils).[116]

The wetter and colder climatic change also impacted the soil and waters. The increased rainfall washed the natural pH out of soil, causing the soil to become more acidic.[117] To counter this, liming of the soil was introduced to raise the pH level by neutralizing the acid.[118] This solution became a problem, increasing pollutants on the land and in waterways.

By the Act of Union[119] in 1707, mill towns had been established in Scotland, always along streams, using natural water pressure to power the mills.[120] In order to provide additional power, streams and rivers were frequently channelled, that is, they were modified to increase the effective flow of the waterway.

Rivers were also key transport routes and therefore canals were dredged to create a more extensive transportation network.[121] This resulted in further channelling: every river modification created resultant problems, such as increased flooding downstream, erosion, and sedimentation.

At this time, similar to the Chesapeake Bay region, rivers were being used as domestic and industrial sewers.[122] Households and communities dumped their wastes into gutters, which were flushed into the waterways. Edinburgh earned the nickname "Old Reekie" because of the extreme odours from its open sewage system. Industries, such as iron smelters, were often set up alongside streams, lochs, and rivers to make twofold use of the proximity of the water for cooling and as a dumping ground.[123]

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114. T. M. DEVINE & J. R. YOUNG, *The Improvers and the Scottish Environment*, *in* 18TH CENTURY SCOTLAND: NEW PERSPECTIVES; *see* SMOUT, *supra* note 99.

115. DEVINE, *supra* note 114; SMOUT, *supra* note 99, at 42-43.

116. DEVINE, *supra* note 114.

117. *Id.*

118. *Id.*

119. The Act of Union creating a United Kingdom of England and Scotland was signed in 1707. This contentious act was not widely supported by the population. There were riots in Edinburgh and the signers of the Act were known as a "Parcel o' Rogues" for selling out their country in exchange for power and monetary gain.

120. MILLMAN, *supra* note 99, at 89.

121. CHARLES WARREN, MANAGING SCOTLAND'S ENVIRONMENT (2002).

122. *Id.* at 116-18.

123. *See* MILLMAN, *supra* note 99, at 87-88.

By the eighteenth and nineteenth centuries, sustainable management of woodland was reintroduced primarily for the use of ironmasters and tanbarkers to provide charcoal for foundries.[124] This sustainable management involved timber planting, for which land was enclosed and drained and ground was limed and manured.[125]

Once again the solution created its own resultant problems by redirecting natural water flow and storage, and increasing flooding, sedimentation and erosion. The increased use of lime and manure also introduced more pollutants to the environment. However, when substitute fuel, such as coal, was discovered, these managed woodlands were either left to grow wild or returned to pasture.[126] This decrease in forested land produced an increase in the rapidity of runoff, leaving rivers to become more susceptible to flooding and sedimentation.[127]

As a result, unsophisticated flood control measures were taken, such as the straightening of rivers and the construction of embankments, further modifying the natural movement of water.[128] To sustain the need for productive agricultural land, floodplains were reclaimed, marshes drained, riparian woodlands and reed beds were cut down, and freshwater loch levels were lowered.[129] These landscape changes increased sedimentation of the waterways, deprived organisms of life-sustaining dissolved oxygen, and reduced the essential light and clarity of the waters. Drainage of wetlands and loss and fragmentation of habitat has led to more environmental damage, including increased water pollution from agrochemicals — pesticides, nitrates, and livestock waste.[130]

Industries and urban centers continued discharging waste directly into the rivers. By the nineteenth century, many rivers were little more than open sewers.[131] The resultant pollution and chemicals destroyed fish and wildlife populations.

Opencast mining[132] and power stations increased the amount of smog and dirt.[133] Urban growth also contributed to the decreasing quality of waterways. In Glasgow, to encourage ship-building and

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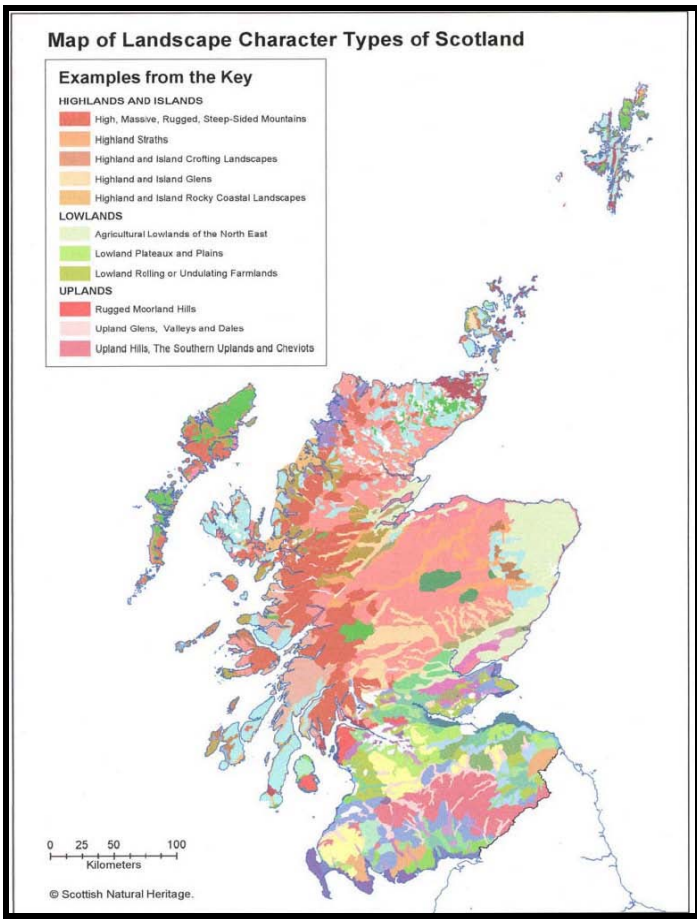
124. SMOUT, *supra* note 99, at 43; *see* MILLMAN, *supra* note 99, at 88.
125. MILLMAN, *supra* note 99, at 104.
126. SMOUT, *supra* note 99, at 43-44.
127. MILLMAN, *supra* note 99.
128. WARREN, *supra* note 121, at 124.
129. *Id.* at 124-25.
130. *See id.* at 128-31.
131. *Id.*
132. Hyperdictionary.com defines "opencast mining" as "the mining of ore or coal from an open mine," also known as strip mining. Hyperdictionary, *at* http://www.Hyperdictionary.com (last visited Nov. 19, 2004).
133. MILLMAN, *supra* note 99, at 188.

to enable entry to sea-going vessels, the Clyde River was dredged to widen and deepen it.[134] By the twentieth century, many small harbors and creeks were silted up by the additional runoff and erosion, the effect of centuries of deforestation and sedimentation.[135]

As of 1977, much of Scotland's sewage effluent was still being discharged into tidal waters, either untreated or following basic treatment.[136] As a result of sewage and industrial effluent discharge, serious pollution effects were evident.[137] For example, due to extremely low oxygen levels in the water of the Clyde Estuary, it became impossible for the Atlantic Salmon to survive in the River Clyde.[138]

134. *Id.* at 194.
135. *Id.*
136. Task Group, *supra* note 8, at 3.
137. *Id.*
138. *Id.*

Figure 9 Scotland Landscape Character Types[139]



By 1993, woodland coverage was estimated at a rock bottom 1% to 2%.[140] However, due to efforts by reforestation groups as well as commercial plantations, by 2002, woodland coverage was estimated at 16.9%.[141] This is a dramatic increase within approximately one decade. In reality, the coverage increase is not as positive for the environment as it initially sounds. Commercial plantations (primarily Douglas Fir plantations) account for almost half of all woodland.[142] Commercial plantations for the most part consist of conifers. Conifer plantations are economically sound because they produce more timber in a much shorter time than a native

139. Hughes & Mackay, *supra* note 102, at 2.
140. SMOUT, *supra* note 99.
141. WARREN, *supra* note 121, at 57.
142. *Id.*

hardwood forest.[143] Conifers can also produce timber of adequate quality on infertile soils.[144] Unfortunately, these coniferous plantations exacerbate soil acidity and acid rain because acidity is concentrated in the dense foliage and washed off by rain into the river.[145] Furthermore, conifers allow a lesser amount of light through to the forest floor than native hardwoods, which results in an almost complete absence of undergrowth.[146] The lack of dense undergrowth decreases the retention of soils, consequently increasing the level of soil runoff into the river.[147]

As reported in the Scottish Environmental Protection Agency's 1996 State of the Environment Report — the most recent such report available — agricultural diffuse pollution is second only to sewage as a source of water pollution.[148] However, it is projected that by 2010, agricultural diffuse pollution will become the top source of water pollution.[149]

IV. SIMILARITIES AND DIFFERENCES: SCOTLAND AND THE CHESAPEAKE BAY WATERSHED

Scotland's human history can be traced back much further than the European settlements in the Chesapeake Bay watershed. Population growth was slower in Scotland than in the Chesapeake Bay. Their current environmental landscapes are due to the human interaction with the land and the changes wrought by settlement. Therefore, the time period of population change is important enough to take note of, but would fail as a sole determining factor on the environmental landscape. That is, the changes brought about by humans in Scotland, such as forestry clearances for fuel and agricultural fields, occurred at a much earlier time period than the same changes in the Chesapeake Bay. These changes occurred in conjunction with a Little Ice Age, which greatly affected the regeneration ability of the landscape.

The landscape changes in the Chesapeake Bay escalated rapidly with population growth in the nineteenth and twentieth centuries, during and after the Industrial Revolution. (See Table 4 Population Data through 2000.) The population change over different time

143. Inskipp, *supra* note 110.
144. *Id.*
145. Carol Inskipp, *Fresh Waters of Scotland*, WWF Data Support Scotland.
146. Inskipp, *supra* note 110, at 10.
147. *Id.*
148. SEPA, 1996 State of the Environment — Water Quality Report, *at* http://www.sepa.org.uk/publications/state_of/1996/water.htm (last visited Nov. 19, 2004) [hereinafter SEPA, Water Quality Report].
149. SEPA, Water Quality Report, *supra* note 148.

periods has also created a difference in the rate and severity of the environmental effects. Scotland's population has been static over the last few centuries, whereas the population in the Chesapeake Bay watershed has increased at a monumental rate, primarily in urban areas. The pressures of an urban population in the twentieth and twenty-first centuries on waterways are much greater and more detrimental to water resources. The level of diffuse pollution continues to grow along with population growth. Population growth causes increased pressure on agriculture to produce greater levels of crops, which leads to additional fertilizers, drainage of more wetlands, and the associated destruction of soil integrity.

The technology available during the early landscape changes in Scotland was much less sophisticated than that available in the later changes of the Chesapeake Bay. The earlier land clearances meant that Scotland's waterways have been altered over a greater time period and to a greater extent than those of the Chesapeake Bay watershed, leaving behind rivers that can never be returned to a natural condition. Many of Scotland's rivers had their beds and sides altered drastically to prevent flooding and to increase pressure by building walls along the riversides.

The Chesapeake Bay watershed has benefited from more modern technologies in water management. The technology for flood protection has changed, for example. More advanced flood control measures in the Chesapeake Bay make use of best management practices, such as riparian forest and grass buffer zones to absorb and filter runoff before it enters the river.

One major difference between the agricultural diffuse pollution controls in Scotland and in the Chesapeake Bay watershed is the governmental landscape. Scotland is a self-contained country and its water resources are primarily in a single watershed. Although Scotland is a member of the United Kingdom, Scotland has had an independent legislature and executive since 1998. The historic laws and regulations for water control were legislated by a primarily English government, which many Scots believe was biased towards English environmental concerns. New laws and regulations must still be approved by the crown but are determined in and for Scotland only. However, Scotland must still work with England on water control issues because they have a shared boundary and cross-border waterways.

Although Scotland has self-rule, since the United Kingdom is a member of the European Union, any directives from the European Community must be implemented into Scottish law. Most of the Scottish legislation on water pollution results from European Community directives. This is similar in effect to legislation or re-

gulations adopted at the federal level in the United States and subsequent implementation into state law.

In the Chesapeake Bay watershed, there are multiple levels of government control of water resources. Similar to the European Community directives, the federal government adopts legislation, such as the Clean Water Act, and it is up to the states to implement that legislation. In the Chesapeake Bay watershed, the states have agreed to an additional level of regional control through the Chesapeake Bay Agreement. The laws at the regional and federal level often are to be implemented in whatever manner the states see fit, so long as the end result is achieved. This provides a benefit to the Chesapeake Bay region. Since the optimal management of water pollution control is unclear, there is no need for each state to undertake the same management. States can thus determine if their system is providing the solution or can look to a neighbouring state and see if that state adopted a better resolution.

Although there is this multi-governmental benefit in the Chesapeake Bay watershed, Scotland has a more controllable system. Since all resources are controlled by a central government, that government has the authority to adopt a more uniform system of controls. In the Chesapeake Bay water resources are affected by the laws and regulations of seven different governments, and a neighbouring state could have a less stringent level of control resulting in uncontrollable pollution.

A. Water Pollution

Water pollution has been a problem in both the Chesapeake Bay watershed and in Scotland for hundreds of years. Both regions recognized the importance of water to their environment and economy and determined to control water pollution. (For control efforts, see Section VI Agricultural Diffuse Pollution Control in Scotland and Section VII Agricultural Diffuse Pollution Control in the Chesapeake Bay.) Water pollution can be traced to point sources and nonpoint sources.

In essence, point source pollution arises from an identifiable and localised area, structure, or facility, such as a discharge pipe. Point sources are discrete and usually easily identified. They include the effluents from sewage treatment works, effluents from industry and fish farms, and the discharge of collected farm wastes.

Table 5 Point Source and Diffuse Water Pollutants: Source and Chemical Impact[150]

Water Pollutant Source	**Chemical Impact**[151]	**Chesapeake Bay**	**Scotland**[152]
Sewage Effluent	Biochemical Oxygen Demand[153] Nitrogen Phosphorus Organics	15%	33.9%
Agricultural Diffuse Pollution	Nitrogen Phosphorus Potassium Herbicides Pesticides	41%	22.4%
Acidification	Nitrogen Sulphur	1%	11.7%
Urban Drainage	Potentially all pollutants	*	11.4%
Mine Drainage	Trace metals.	*	8.9%
Agricultural Point Source	BOD Nitrogen Phosphorus Ammonium	*	6.3%
Industrial Effluent	Potentially all pollutants.	*	2.1%
Waste Management	BOD Nitrogen Phosphorus Ammonium	*	1.0%
Forestry	Nitrogen Phosphorus Potassium Herbicides Pesticides	15%	0.4%
Fish Farming	Nitrogen Phosphorus BOD	*	0.3%

150. * indicates information unknown by author because sources for Scotland and the Chesapeake Bay differed in their classifications of pollutant source.

151. Inskipp, *supra* note 145, at 8.

152. Information obtained from SEPA, *at* http://www.sepa.org.uk/publications/stateofthe

Point source pollution has been controlled in both Scotland and the Chesapeake Bay by various laws and regulations requiring permits for any discharge from a point source. In the Chesapeake Bay watershed, pollutant loads from agricultural lands and point source nutrient loads from urban/suburban lands have generally declined due to management actions, such as biological nutrient removal.[154] Point sources are the second largest contributor of nutrient pollution to the rivers of the Bay,[155] accounting for approximately 20% of the total load of nitrogen and phosphorus reaching the Chesapeake Bay.[156]

In Scotland, however, point source sewage effluent is currently the most important source of pollution affecting tidal waters.[157] Nevertheless, as a result of European Community Directives, such as the Bathing Waters Directive, "there has been a significant reduction in point source water pollution from agriculture."[158]

In both Scotland and the Chesapeake Bay region, diffuse pollution has been more difficult to control. This is primarily because diffuse pollutants are non-discrete, making it difficult to trace the source of the pollutants. The difficulty of tracing the source of pollution creates a high cost of enforcement. Since point source pollution is chiefly understood and controllable (and under control, at least in the Chesapeake), the key to further restoring and protect-

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environment/1996waterquality/report/tables/TABLE8.gif (Mar. 18, 2004).

153. Biochemical Oxygen Demand is the amount of oxygen taken up by a sample of effluent or river water. BOD gives a measure of organic pollution which reduces the water's oxygen supply.

154. *See* CBP, *at* http://www.chesapeakebay.net/status.cfm?sid=137 (last modified Apr. 6, 2004); CBF, *Biological Nutrient Removal*, State of the Chesapeake Bay, at 32. Nutrient reduction technology (NRT), also known as biological nutrient removal (BNR), is the process whereby nutrients (in addition to organic content) are removed from wastewater. CBP, *at* http://www.chesapeakebay.net/status.cfm?SID=140 (last updated May 26, 2004). Point source phosphorus loads declined 53% between 1985 and 2002 as a result of improved treatment capability and implementation of phosphate detergent bans, annual phosphorus loads reduced by 7.6 million pounds. CBP, *at* http://www.chesapeakebay.net/status.cfm?SID=128 (last modified Jan. 21, 2004); CBP, *at* http://www.chesapeakebay.net/status.cfm? (last modified Apr. 12, 2004). Point source nitrogen loads declined 33% 1985 - 2002 through industrial reductions and some installment of nutrient reduction technology (NRT) technology. Annual nitrogen loads were reduced by 60 million pounds and sediment loads by 0.8 million tons. CBP, *at* http://www.chesapeakebay.net/status.cfm?SID=127 (last modified Jan. 21, 2004).

155. CBP, Restoring and Protecting Chesapeake Bay and River Water Quality Powerpoint Presentation, April 2004.

156. CBP, State of the Bay, *supra* note 29, at 32.

157. Scottish Executive, Key Scottish Environmental Statistics, *at* http://www.scotland.gov.uk/library5/Environment/kses03-05.asp (2003) [hereinafter Key Scottish Environmental Statistics].

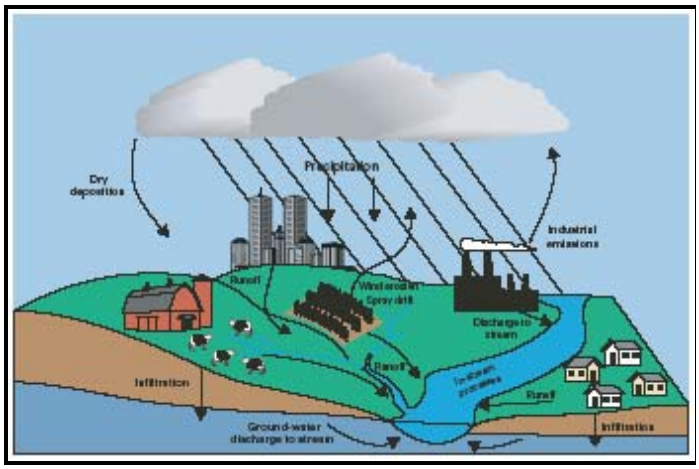
158. Scottish Executive, *Custodians of Change*, Agriculture and Environment Working Group, at 19.

ing waters is non-point source pollution, more simply diffuse pollution.[159]

B. Diffuse Pollution

As much as half of the pollutants entering the Chesapeake Bay come from diffuse sources, such as soil erosion and acid rain.[160] According to Virginia's 1998 *303(d) Total Maximum Daily Load Priority List Report*, agricultural diffuse pollution is the largest source of pollutants causing non-attainment of designated water uses in monitored segments of Virginia's rivers. Diffuse pollution in Scotland is second only to sewage effluent in water pollution.[161]

Figure 10 Diffuse Pollution[162]



Nutrients from urban, suburban, and agricultural sources enter the ground water and streamflow that discharge into the waters.

Each individual source by itself may not be a serious problem, but when aggregated, the scope of the problem becomes apparent.[163] Identifying the amount and origins of manmade diffuse pollution is problematic because a certain amount of runoff occurs naturally;

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159. Stephen J. Hipfel, *Enforcement of Nonpoint Source Water Pollution Control and Abatement Measures Applicable to Federal Facilities, Activities and Land Management Practices Under Federal and State Law*, 8 ENVTL. LAW. 75 (2001).

160. Todd Doley & Jose Lopez-Collado, *Nonpoint Source Pollution and the Chesapeake Bay*, *available at* http://www.isis.vt.edu/~jlopezco/als5984/NPS.htm (last visited Nov. 19, 2004) [hereinafter Doley & Lopez-Collado].

161. SEPA, Water Quality Report, *supra* note 148.

162. Image obtained from United States Geological Survey: Fact Sheet, FS125-01, *available at* http://pubs.usgs.gov/fs/fs125-01.pdf.

163. Doley & Lopez-Collado, *supra* note 160.

manmade runoff is diffuse and often intermittent, irregular or singular in occurrence, making it difficult to segregate and measure.[164]

Diffuse pollution is closely linked to land use.[165] When rainwater, snowmelt, or irrigation water moves over or through land surfaces, it picks up and transports dissolved or solid pollutants and deposits them into rivers, lakes, coastal waters, and groundwater.[166]

Diffuse pollution is true nonpoint source contamination, such as sheet runoff from fields or seepage of nutrients from soil into groundwater.[167] Diffuse pollution can also be pollution arising from multiple, dispersed, minor point sources, such as field drains and surface water drains in urban areas.[168]

Diffuse pollutants are difficult to prevent or predict and hence are difficult to effectively control.[169] The costs of enforcement for controls of diffuse pollution are much larger than for point source pollution, because unlike a point source, there is seldom an easily identifiable specific location to monitor. Sources of diffuse pollution tend to be spread over a broad area, and can be transported by the wind, rain, or even ground water.[170]

The adoption of diffuse pollution controls into law is the first stumbling block. Diffuse pollutant control enforcement affects everyone, and is more invasive on the public than a permit control over a large corporation. In a democracy, it is very difficult to impose a government regulation on more than 50% of the populace. A government regulation on diffuse pollution would essentially apply to the entire populace. Those affected would simply vote for representatives who will either never impose such a restriction or else will appeal any restriction that is already in place. It is much easier to impose a regulation on a corporation which has no voting power. Of course, corporations do have the power of the pocket book, which has been used to lobby against pollution control laws.

Enforcement of diffuse pollution controls tends to be ineffective. This creates greater difficulty for enforcement agencies because enforcement against one polluter appears to be discriminatory when others are polluting in the same manner. Additionally, individuals do not typically comprehend the aggregate harm of their actions — it is much easier to see, understand, and be offended by pollution

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164. Hipfel, *supra* note 159, at 84.

165. SEPA, Diffuse Pollution Initiative, *at* http://www.sepa.org.uk/dpi/initiative/index.htm (last visited Nov. 19, 2004) [hereinafter SEPA DPI].

166. Hipfel, *supra* note 159, at 87.

167. SEPA DPI, *supra* note 165.

168. *Id.*

169. CBP, State of the Bay, *supra* note 29.

170. Doley & Lopez-Collado, *supra* note 160.

when it is running from a corporate pipe than when it is entering the groundwater from your own driveway.

For all of these reasons, diffuse pollution controls have been slower to take hold than point source controls. It is difficult to trace diffuse pollution. It is difficult to enforce controls of diffuse pollution. It is difficult to create enthusiasm in the public and the electorate on controlling diffuse pollution. Regardless of the difficulties, however, diffuse pollution control is recognized as essential for maintaining water quality by both Scotland and the Chesapeake Bay region.

Table 6 Diffuse Pollution Sources[171]

Agriculture Nitrogen Phosphorus Potassium Herbicides Pesticides
Urban Runoff
Timber Harvesting
Fertilizer
Sedimentation
Livestock
Industrial / Commercial Handling of Chemicals, Oils, and Raw Materials[172]

Due to the increasing commercial and residential development of forested and agricultural lands, runoff is increasing.[173] Forests that previously filtered pollutants have been cut down and replaced with cities, suburbs, and farms.[174] Car parks and the accompanying oil and petrol spills, as well as toxic metals from cars, contribute to diffuse pollution through runoff into drains, which pollute nearby watercourses.[175] The runoff from industrial yards is on an even larger scale than off car parks, making industrial yards an even

171. Hipfel, *supra* note 159, at 87.

172. SEPA, What is Diffuse Pollution?, *at* http://www.sepa.org.uk/dpi/whatis/index.htm (last visited Nov. 19, 2004) [hereinafter SEPA What is DP].

173. CBP, State of the Bay, *supra* note 29.

174. United States Geological Survey, *The U.S. Geological Survey and the Chesapeake Bay — The Role of Science in Environmental Restoration*, *at* http://pubs.usgs.gov/circ/c1220/ (last modified Jul. 11, 2002).

175. SEPA What is DP, *supra* note 172.

greater contributor to diffuse pollution.[176] Similarly, runoff from roads carries many pollutants, such as grit and dirt, which are often contaminated with toxic metals from vehicle brake linings and oil leaked from vehicles.[177] Additionally, salt from winter gritting contributes to diffuse pollution of nearby waterways.[178]

Since diffuse pollution problems are numerous, decentralized, and hard to protect, control requires the coordinated efforts of both government and private citizens.[179] To be successful, diffuse pollution controls require the input and participation of both community and government. Those affected need to be involved in the control process, overcoming the inherent refusal of individuals to have their actions controlled. With the involvement of the community in establishing controls, the community is able to suggest actions by which they are willing to abide. They are able to appreciate that they have a voice in the process and a stake in the outcome.

To establish voluntary diffuse pollutant controls in a region, the community can be trained to recognize and monitor for diffuse pollutants. In Virginia, a volunteer diffuse pollution monitoring program has been successful at training and monitoring diffuse pollutants. Although volunteers monitor, the government is on hand for additional testing and enforcement support. The volunteer monitoring program in Virginia proves that concerned citizens are willing to expend the effort to improve their community.

C. Agricultural Diffuse Pollution

Diffuse pollution is a recognized worldwide problem. In 2003, the United Nations identified nearly 150 dead zones around the globe, double the number identified in 1990, with some dead zones stretching across 27,000 square miles, about the size of Ireland.[180] Experts believe they now represent as big a threat to the world's fish stocks as over-fishing.[181] The main causes are sewage, industrial pollutants, and excess nitrogen run-off from farm fertilizers.[182]

Nutrient overabundance and its follow-on effects are a direct result of agricultural activities. Farms are the primary source of

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176. *Id.*
177. *Id.*
178. *Id.*
179. Doley & Lopez-Collado, *supra* note 160.
180. Hans Griemel, *Ocean 'Dead Zones' Double in Number Since 1990*, THE SCOTSMAN, *available at* http://news.scotsman.com/international.cfm?id=363342004 (Mar. 30, 2004).
181. *Id.*
182. *Id.*

diffuse water pollution, "with farm runoff acting as a primary transport mechanism for fertilizers, animal waste, pesticides, sediments and bacteria."[183]

Agriculture is Virginia's top industry, contributing approximately $35.9 billion in total sales for the state, or 12.3% of all sales in Virginia.[184] Farmland comprises 8.7 million acres (34%) of Virginia.[185]

Approximately 79% of Scotland is used for agriculture.[186] Agriculture contributed 1.4% of Scotland's Gross Domestic Product in 1999, at £1.9 billion.[187]

"Farms are by far the leading cause of soil erosion."[188] Between 25% and 40%[189] of soil eroded will reach a water body, leading directly to sedimentation.[190] Inappropriate cultivation, such as off-season tilling and ploughing of steep inclines, causes diffuse pollution by increasing soil erosion on the effected land.[191] Ploughing at unsuitable times of year, such as when there is heavy rainfall, can greatly increase runoff and soil erosion.[192] Agricultural soil erosion decreases soil productivity and substantially affects water quality and atmospheric resources.[193]

In addition to soil erosion, "farming also releases nutrients and other chemicals that are absorbed by the sediment soil particles entering" waterways.[194] Farmers use large quantities of chemicals, including insecticides, herbicides, and fungicides.[195] The application of fertilizer, pesticides, and herbicides contribute to diffuse pollution.[196] In Scotland, lowland beef and dairy farming depend on well fertilized pasture receiving regular inputs of lime and the major plant nutrients of nitrogen, potassium, and phosphate.[197] This

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183. J. B. Ruhl, *Farms, Their Environmental Harms, and Environmental Law*, 27 ECOLOGY L.Q. 263, 288 (2000).

184. Virginia Agriculture — Facts and Figures, *at*http://www/vdacs.state.va.us/agfacts/ /index.html (last visited Nov. 19, 2004).

185. *Id.*

186. Carol Inskipp, *Agriculture and the Environment in Scotland*, WWF Data Support Scotland, at 3.

187. *Id.*

188. Ruhl, *supra* note 183, at 277.

189. The exact percentage depends on a wide variety of factors, including "climate and soil type as well as numerous factors directly influenced by cropping systems, such as the amount of organic inputs, crop coverage of the soil, tillage practice, and length and type of fallow." *Id.* at n.60.

190. *Id.* at 278.

191. SEPA What is DP, *supra* note 172.

192. *Id.*

193. Ruhl, *supra* note 183, at 279.

194. *Id.* at 278.

195. *Id.* at 282.

196. SEPA What is DP, *supra* note 172.

197. Inskipp, *supra* note 186, at 4.

improved grassland, (often grown for silage[198]), now covers at least 13% of the land area of Scotland.[199]

Although the application of pesticides has improved agricultural efficiency and human living conditions, the adverse environmental effects are undeniable.[200] A significant amount of pesticides applied to agriculture fails to reach its intended target.[201] Pesticides get into waterways via runoff to surface waters, by leaching into groundwaters, or by aerial deposition.[202] This can also have a negative impact on surrounding habitats.[203]

Fertilizers are another major agrochemical pollutant. Nitrogen, phosphorus, and potassium are applied on farms to promote crop growth.[204] However, when applied improperly or in "excessive amounts, the excess nutrients are carried" by runoff into waterways.[205] These nutrients also play an important role in aquatic environments, forming the basis for plant growth.[206] However, excess nutrients threaten watercourses by creating excessive plant growth, such as algal blooms.[207] Nutrient runoff causes eutrophication, resulting in anoxia, toxic to marine animal populations.[208] Exceptional algal blooms (in terms of size, density and duration) and the occurrence of dense algal mats are two of the ecological responses to eutrophication. In the Chesapeake Bay, excessive nitrogen and phosphorus "have led to excessive plankton production and the demise of submerged aquatic vegetation."[209]

There is general agreement that the two major pollutants causing degradation in the Chesapeake Bay are the nutrients nitrogen and phosphorus, found in the region's discharges of human sewage and in fertilizer runoff from farmland.[210] These nutrients over-fertilize the Chesapeake Bay, causing dense growth of algae.[211] Dense algae growth is a major problem in the Chesapeake Bay. Algae harm the marine life in two significant ways: (a) the

198. Silage: a conserved food for cattle and sheep made from herbage cut at a relatively early stage which is pressed and fermented in summer for winter feeding.
199. Inskipp, *supra* note 186, at 4.
200. Ruhl, *supra* note 183, at 283.
201. *Id.*
202. *Id.* at 284.
203. SEPA What is DP, *supra* note 172.
204. Ruhl, *supra* note 183, at 284.
205. *Id.*
206. Task Group, *supra* note 8, at 10.
207. Ruhl, *supra* note 183, at 285.
208. *Id.*
209. *Id.* at 289.
210. LINDA A. MALONE, ENVIRONMENTAL REGULATION OF LAND USE (2003). These findings are contained in a 1983 report by the EPA after seven years of study of the Bay's ecosystem. UNITED STATES EPA, CHESAPEAKE BAY PROGRAM: FINDINGS AND RECOMMENDATIONS 5 (1983).
211. *Id.*

decomposition of these algae uses the oxygen in the water, suffocating the other marine life; and (b) algae block the sunlight, depriving bottom grasses, which provide food and shelter for other waterfowl, fish, and shell fish.[212]

Scientists agree that the primary pollutant degrading the Chesapeake Bay is excessive nitrogen, coming from three principal sources: un-updated sewage treatment facilities, runoff from agriculture and developed lands, and other airborne sources.[213] "[N]itrogen triggers blooms of microscopic algae known as phytoplankton." [214] The overgrowth of algae blocks vital sunlight from reaching subaquatic plants and animals. Additionally, as the algae die and rot, they consume oxygen, thereby suffocating everything from clams and lobsters to oysters and fish.[215]

Though it appeared in 2001 and 2002 Bay reviews that nitrogen loading was decreasing in the Bay, this reduction was in reality the result of a drought during 2001 and 2002. Due to heavy rainfalls in 2003 (50% more rainfall than average), the nitrogen and phosphorus that had remained in place during the drought were mobilized, causing the flow of nitrogen and phosphorus to increase, and resulting in one of the largest nutrient loads to the Bay in twenty-five years.[216] Nitrogen is the nutrient most likely to control the growth of algae in marine waters.[217] These nutrient overloads increased the "dead zone" of the Bay, with numerous fish kills, harmful algal blooms, red tides, and beach closures.[218]

Unlike the Chesapeake Bay, in Scotland, phosphorus is the primary pollutant. [219] Phosphorus comes from one of three primary sources: industrial pollution, sewage, and agricultural diffuse pollution.[220] Almost all soils in Scotland are phosphate deficient, and for over 100 years, farmers have used chemical phosphate fertilizers to increase crop yields.[221] Since phosphorus leaches very slowly, the current phosphorus level of most arable and improved grasslands soils is now adequate for its needs.[222] However, farmers are still applying phosphorus at levels similar to those used when soils had

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212. Marshall Groom, *The Chesapeake Bay Preservation Act: A Status Report*, 2 DICK. J. ENVTL. L. & POL'Y 217, 218 (1993).
213. CBF, State of the Bay 2003, *available at* http://www.cbf.org (last visited Nov. 19, 2004).
214. Griemel, *supra* note 180.
215. *See id.*
216. CBF, State of the Bay 2003, *supra* note 213.
217. Task Group, *supra* note 8, at 10.
218. CBF, State of the Bay 2003, *supra* note 213.
219. SEPA VIEW, *Farming Special*, 18, *available at* http://www.sepa.org.uk/publications/sepaview/index.htm (Winter 2000) [hereinafter SEPA View Farm].
220. *Id.*
221. *Id.*
222. *Id.*

inadequate phosphorus, with no measurable crop response.[223] Farmers must still add phosphorus to the soil at a replacement level returning only what is removed in the grain, meat, or milk sold.[224] By adding phosphorus wastefully, the excess is washed into sensitive lochs and rivers and destroying them. Most of the lowland lochs are threatened by eutrophication.

Livestock are multiple contributors of diffuse pollutants.[225] First, animal waste is a major component of agricultural runoff.[226] Wet manure is applied to fields as a natural fertilizer, which washes into surface water as diffuse pollution.[227] Second, when livestock have unrestricted access to wet areas, along streambeds for example, the areas become cut up and eroded through trampling, leading to muddied water and increased sedimentation.[228] Unrestricted livestock access to wet areas also causes problems when faecal pathogens from their manure enter the watercourse.[229] An additional reason to prevent livestock access to wet areas is that this increase of faecal pathogens contributes to the increased rates of disease suffered by livestock due to standing in and drinking from dirty water.[230]

D. Agricultural Diffuse Pollution Control in Scotland

No formal, thorough system currently exists within Scotland to address all sources of diffuse pollution. However, a number of legislative controls and codes of practice[231] exist which reduce the potential for diffuse pollution and address particular aspects of diffuse pollution. Many of the programs in Scotland that address diffuse pollution are voluntary without incentives and therefore unlikely to be followed by farmers.

Under Scottish common law, there exists a claim of nuisance which can be used by any person with relevant rights in order to control or diminish water pollution.[232] (See Table 7 Scottish Common and Statutory Law). Nuisance claims are limited in

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223. *Id.*
224. SEPA View Farm, *supra* note 219.
225. Ruhl, *supra* note 183, at 290.
226. *Id.*
227. *Id.*
228. SEPA What is DP, *supra* note 172.
229. *Id.*
230. *Id.*
231. Code of Practice can mean practical guidance in a documentary form or formal regulation pursuant to an Act of Parliament. Legislation may describe itself as a code of practice. A code of practice sets out the parameters of internal relationships and external transactions. The function of the rules of a code of practice is to provide a systematic outline.
232. FRANCIS LYALL, AIR, NOISE, WATER AND WASTE: A SUMMARY OF THE LAW IN SCOTLAND 108 (1982); Duke of Buccleugh v. Cowan & Sons, 2 M. 653 (1864), 5 M. 214 (1866).

applicability since they can only be used by affected parties, who often are not willing to make a complaint. Frequently, affected parties have an interest in the operation that is the pollutant's source.[233] For example, they might be a neighbour or an employee of the polluter. They are therefore unwilling to complain about their own operation, or that of a neighbour. Moreover, nuisance claims are not useful in controlling diffuse pollution since case precedent holds that although water must be sent downstream unimpaired in quality, minor impairment of a stream for natural purposes such as washing, drinking, and watering cattle does not create a nuisance action.[234] The problem is that the cumulative impact of all of these "minor" impairments can be major. Moreover, nuisance claims are typically made after the pollution has occurred, and it is more expensive and nearly impossible to restore a water body than it is to protect the water body in the first place.[235]

Additionally, to bring a successful nuisance action, one must show a fairly direct cause and effect relationship between the source of the nuisance and impairment of use and enjoyment of your property. The very nature of diffuse pollution makes it difficult to demonstrate any direct causal relationship.

Table 7 Scottish Common and Statutory Law

Common Law	Nuisance
Rivers (Prevention of Pollution) (Scotland) Act 1951, section 1	To promote the cleanliness of the rivers, inland waters, and tidal waters.
Control of Pollution (Scotland) Act 1974 [COPA 1974], Part II	Made it an offense to pollute a stream by introducing any poisonous, noxious, or other polluting matter, or by impeding the flow of the stream and thus aggravating pollution, or by

233. In the United States, a nuisance claim is an unreasonable interference with another person's use or enjoyment of real property. A *public nuisance* is one that causes a broad, general harm to the public, such as contaminating the public water supply. A *private nuisance* is an unreasonable interference with the right or interest of a private individual, usually an adjoining landowner. A government department or agency usually will bring a public nuisance action and a private citizen will bring a private nuisance action. The claimant's use or enjoyment must be affected by the nuisance and the claimant must be able to prove their frequent use.

234. COLIN T. REID, ENVIRONMENTAL LAW IN SCOTLAND 52 (2d ed. 1997).

235. *Id.* at 53.

	putting solid waste into a stream.
Water (Scotland) Act 1980	Water supply requirements for domestic and non-domestic purposes. Domestic: wholesome water, if practicable at reasonable costs. Non-domestic: no "wholesome" requirement.
Land Drainage (Scotland) Act 1930, 1958	Provides for the creation or maintenance of drainage for agricultural land, through or beside another's land.
Scottish Office "Code of Good Practice for the Prevention of Environmental Pollution from Agricultural Activity" "PEPFAA" 1985	Encourages good practices by farmers in order to avoid direct and diffuse pollution of water bodies.
Control of Pesticides Regulation 1986	Regulates the spreading of pesticides, their safe use and storage.
Rural Stewardship Scheme	Completely voluntary scheme by the Scottish Executive. Enforcement only exists if funding is received.
The Four Point Plan	Voluntary agricultural best management practices by the Scottish Executive. A guidance document with no enforcement provisions.

Since common law water protection was unsuccessful in maintaining the quality level of Scotland's water, water pollution legislation was introduced. During the second half of the twentieth century, various regulations were implemented to preserve the quality of Scotland's waters, such as the Rivers (Prevention of Pollution) (Scotland) Act 1951. (See Table 7 Scottish Common and Statutory Law.) The Rivers Act created a duty on the Secretary of State to promote the cleanliness of rivers, inland waters, and tidal waters.[236] Furthermore, River Purification Boards were established

236. *Id.* at 54.

to control the entry of pollutants into the waters, permissible only by approved permit.[237] This is similar to the Clean Water Act's point source permits in the United States.

The Rivers Act was extended with the enactment of the Control of Pollution (Scotland) Act of 1974,[238] which made it an offense to pollute a stream by introducing any poisonous, noxious, or other polluting matter, or by impeding the flow of the stream and thus aggravating pollution, or by putting solid waste into a stream.[239] The Control of Pollution Act sets forth a duty and obligation on both the Secretary of State and the Scottish Environmental Protection Agency to ensure that water quality objectives are met, similar to the responsibilities of the Administrator of the United States Environmental Protection Agency under the Clean Water Act.[240] However, water quality exceptions are permissible if granted by statute or exempted by the Scottish Environmental Protection Agency.[241] For example, though the discharge of any liquid from premises used for any trade or industry, including agricultural and horticultural premises, is considered an offense, the entry of matter into water consequent of "good" agricultural practices is not unlawful.[242] The problem then occurs that "good" agricultural practices continue to cause the entry of diffuse pollutants into waterways.

In 1985, the Scottish Office (the former executive body of Scotland, predecessor to the Scottish Executive) adopted a Code of Good Practice for the Prevention of Environmental Pollution from Agricultural Activities (PEPFAA Code), which provides practical guidance to Scottish farmers on how to prevent pollution.[243] The PEPFAA Code is frequently revised and farmers receive a copy of the PEPFAA Code's Do's and Don'ts for reference.

In 2002, the Scottish Executive in coordination with the Scottish Agricultural College published a guidance publication, commonly called the Four Point Plan. This plan is a practical workbook which encourages action on livestock farms, such as risk assessments, nutrient planning, water margin management and livestock access,

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237. *Id.*
238. LYALL, *supra* note 232, at 117.
239. REID, *supra* note 234, at 56.
240. *Id.*
241. *Id.* at 58.
242. *Id.* at 59. Code of Good Practice approved by Secretary of State, under COPA 1974, Section 51.
243. SEPA View Farm, *supra* 219, at 20.

and farm steading drainage audits.[244] The PEPFAA Code recommends adherence to this Four Point Plan.[245]

Scotland has also implemented a Rural Stewardship Scheme, which is a completely voluntary program in which farmers agree to implement agricultural best management practices in exchange for grant money from the government. Enforcement of this program only exists if money is received from the government. This program is controversial in its effect. In 2001, 476 farmers applied for grants and were initially granted awards, which were then greatly reduced. [246] Critics of the scheme say that 6/7 of the allocated £28 million goes to organic farms, which are automatically accepted, leaving only £4 million for other farming operations.[247]

In 2001, the Scottish Executive funded a three-year Diffuse Pollution Initiative to develop a strategy for dealing with diffuse water pollution, to be incorporated into the Scottish Environmental Protection Agency's routine business. The Diffuse Pollution Initiative will focus on the water environment because of European Community Directives, such as the Bathing Waters Directive, the Nitrates Directive, and the Water Framework Directive. The Diffuse Pollution Initiative plans to:

- define the diffuse pollution problem in Scotland,
- quantify diffuse pollution as a Water Framework Directive pressure,
- develop a diffuse pollution monitoring strategy for the Scottish Environmental Protection Agency,
- engage with the Scottish Environmental Protection Agency staff and ensure work is incorporated into routine business,
- develop and promote programs of training for the Scottish Environmental Protection Agency officers,

244. *Id.* at 2.
245. *Id.* at 3.
246. Fordyce Maxwell, *Anger at Executive Scheme Changes*, The Scotsman, *available at* http://news.scotsman.com/topics.cfm?tid=78&id=90572002 (Jan. 25, 2002).
247. *Id.*

- measure the effectiveness of existing measures for controlling diffuse pollution,
- inform the process of drafting new legislation,
- increase awareness of diffuse pollution issues through education, advice and engagement with target sectors, and
- investigate and promote advice to target sectors.[248]

The Diffuse Pollution Initiative is working together with an urban diffuse pollution program, Sustainable Urban Drainage (SUDS), to develop guidelines which promote the implementation of drainage systems utilizing natural attenuation and filtration to reduce the likelihood of flooding and reduce pollutant loading in urban runoff.[249]

V. EUROPEAN COMMUNITY DIRECTIVES

In 1996, an additional level of diffuse pollution control was added to the Control of Pollution Act through the implementation of a European Community directive, Pollution by Nitrates from Agriculture, as the Protection of Water against Nitrate Pollution (Scotland) Regulations.[250] Nitrate is a nutrient that contributes to eutrophication and is also a potential health hazard in waters that are used as drinking waters.[251] The highest average nitrate concentrations in rivers are found in the SEPA South East area, though concentrations in the South East and South West have fluctuated.[252]

The objective of this directive is to reduce water pollution caused or induced by nitrates from agricultural sources and preventing

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248. SEPA DPI, *supra* note 165.

249. Babtie Group Shadow River Basin Management Project, Appendix E-5: Section E1 Summary of Measures and Programs, at E-5, *available for download at* http://www/scotland.gov.uk/library5/ environment/srbmp-00.asp (last visited Nov. 19, 2004) (download "Appendices").

250. As a sub-member of the European Community, Scotland is required to implement European Community regulations and directives. The European Community has set forth a number of regulations addressing diffuse pollution and/or its effects, such as the Bathing Waters Directive and the Water Framework Directive, which Scotland has implemented as legislation and/or regulation. (See Table 8 European Community Directives, as implemented.)

251. Task Group, *supra* note 8, at 15.

252. Key Scottish Environment Statistics, *supra* note 157.

such further pollution.[253] Under these regulations, the Secretary of State has the authority to designate Nitrate Sensitive Areas, and the Scottish Environmental Protection Agency has a duty to monitor nitrate concentrations in these designated areas.[254] Nitrate Sensitive Areas are waters that may be affected by nitrates and the areas of land that drain into these waters.[255] Geological evidence, such as highly permeable aquifers in eastern Scotland, indicates the susceptibility of Scotland's groundwater in many places to nitrate leaching.[256] In Nitrate Sensitive Areas, regulators may impose requirements, prohibitions, or restrictions on activities on agricultural land.[257] Under the Control of Pollution Act, Section 31B, the Secretary of State has the further authority to agree with or impose land management in Nitrate Sensitive Areas.[258] By 2002, there were four designated Nitrate Sensitive Areas in Scotland, covering a large percentage of the east coast. Regulations have been made designating 14% of the area of Scotland as Nitrate Vulnerable Zones.[259]

Table 8 European Community Directives, as implemented

EC Directive	Implemented as:	Description
Surface Water for Drinking Directive (75/440/EEC)	**Surface Waters (Classification) (Scotland) Regulation 1990 (SI/1990/121)**	**Treatment of specified categories of water**
Dangerous Substances Discharged into the Aquatic Environment Directive (76/464/EEC)	**Surface Water (Dangerous Substances) (Classification) (Scotland) Regulations 1990 (SI/1990/126)**	**Elimination of pollution of waters by some substances and reduction of pollution by others.**
Quality of Water for Human Consumption	**Water Supply (Water Quality)**	**Quality standards for**

253. Task Group, *supra* note 8, at 15.
254. REID, *supra* note 234, at 59.
255. *Id.*
256. SEPA View Farm, *supra* note 219, at 9; Derek F. Ball & Alan M. MacDonald, *Groundwater Nitrate Vulnerable Zones for Scotland*, British Geological Survey, *at* http://www.scotland.gov.uk/library3/environment/bgs_nvz/contents-bgs_nvz.pdf (2001).
257. REID, *supra* note 234, at 59.
258. *Id.*
259. Key Scottish Environment Statistics, *supra* note 157.

EC Directive	Implemented as:	Description
Directive (80/778/EEC)	**(Scotland) Regulations 1990 (SI/1990/119, as amended by SI/1991/1333)**	**drinking water and private water supplies**
Bathing Water Directive (76/160/EEC)[260]	**Bathing Water (Classification) (Scotland) Regulations 1991 (SI/1991/1609)**	**Measures to be taken to ensure that the quality of bathing waters conforms to the prescribed values.**
Pollution by Nitrates from Agriculture Directive (91/676/EEC)	**Protection of Water against Nitrate Pollution (Scotland) Regulations 1996 (SI 1996/1564)**	**To reduce water pollution caused or induced by nitrates from agricultural sources and preventing such further pollution.**
Groundwater Directive (80/68)	**Implemented partially by Groundwater Regulations 1998**	**Controls the indirect release of List I and List II substances to groundwater.**
Water Framework Directive (2000/60/EC)	**Water Environment Water Services (Scotland) 2003**	**To establish a framework for community action in the field of water quality to protect inland surface waters, groundwaters, estuaries, and coastal waters.**

260. For US readers: a bathing water in Scotland is analogous to a swimming beach in the United States.

The European Community Bathing Water[261] Directive requires each Member State to take all necessary measures to bring their identified bathing waters up to the quality standards contained in the Directive.[262] Water quality objectives were set out in the Bathing Water (Classification) (Scotland) Regulations 1991. The Scottish Environmental Protection Agency monitors and reports annually on the quality of bathing waters in Scotland.[263] In 2003, fifty-seven of the sixty designated bathing waters were of either "good" or "excellent" quality and met the Directive's mandatory standards; only three of the sixty identified waters were of "poor" quality and failed to meet the standards — two of which were due to agricultural pollution of streams.[264] Due to these consistent failures along the Ayrshire coast, a major research project was initiated in the late 1990s, which concluded that the failure of the bathing waters to meet established criteria was a result of primarily point source agricultural and sewage discharges to the marine environment.[265] It is only since 2002 that the Scottish Environmental Protection Agency has assessed and identified key factors influencing local water quality and prepared Environmental Quality and Improvement Plans to achieve compliance and reduce the risk of human and animal faecal matter.[266]

The European Community Water Framework Directive (2000/60/EC) requires measures to prevent or control the input of diffuse pollutants.[267] The Water Framework Directive requires members to establish River Basin Districts for water pollution control. The Water Environment Water Services Act (Scotland) 2003 provides direction for the implementation of the Water Framework Directive. It is important to note that this statute contains no direct

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261. A "bathing water" is a fresh or sea water where bathing is either explicitly authorized or is not prohibited, and is traditionally practiced by a large number of bathers. Scotland has sixty identified bathing waters, and fifty-two non-identified bathing waters. *See* Task Group, *supra* note 8, at 5, 14.

262. *Id.* at 14. The quality standards are prescribed for the protection of the environment and public health and are set out in the form of values for microbiological, physical and chemical parameters. *Id.*

263. *Id.* at 5.

264. SEPA VIEW, *Bathing Waters*, at 8, *available at* http://www.sepa.org.uk/publications/sepaview/index.htm (Summer 2003).

265. SEPA View Farm, *supra* note 219, at 3.

266. Task Group, *supra* note 8, at 5.

267. European Community Directive, Water Framework Directive, 2000/60/EC, *at* http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=en&numdoc=32000L0060&model=guichett (Dec. 12, 2000). "[F]or diffuse sources liable to cause pollution, measures to prevent or control the input of pollutants. Controls may take the form of a requirement for prior regulation, such as a prohibition on the entry of pollutants into water, prior authorization or registration based on general binding rules where such a requirement is not otherwise provided for under Community legislation. These controls shall be periodically reviewed and, where necessary, updated." *Id.* at art. 11(3)(h).

language regarding diffuse pollution.[268] However, the Water Environment Water Services Act is primarily setting the stage for future legislation, and it is expected that river basin management will encompass both point and diffuse pollution controls.

268. Babtie Group, *supra* note 249.

Table 9 Water Pollution Control Timeline: A Timeline from Circa 1900 through the Present that Displays the Adoption of Controls in the Comparative Regions

United States								Virginia Chesapeake Bay Preservation Act of 1987	Virginia Agricultural Best Management Practices Tax Credit Program 1998	
									Virginia Agricultural Best Management Practices Cost Share Program	
							Clean Water Act 1973	1987 Chesapeake Bay Agreement	Virginia Nutrient Management Certification Regulations 1996	
	Rivers and Harbors Act 1899						Virginia Erosion and Sediment Control Law	Virginia Conservation Reserve Enhancement Program 1985	Virginia Agricultural Stewardship Act 1996	
	Common Law: Nuisance			Water Pollution Control Act of 1948			Coastal Zone Management Act of 1972 Amended 1990	1983 Chesapeake Bay Agreement	Virginia Stormwater Management Law 1990	2000 Chesapeake Bay Agreement
	Pre-1900	1900	1930	1940	1950	1960	1970	1980	1990	2000
Scotland	Common Law: Nuisance		Land Drainage (Scotland) Act 1930, 1958		Rivers (Prevention of Pollution) (Scotland) Act 1951, section 1		Control of Pollution (Scotland) Act 1974 [COPA 1974], Part II	Water (Scotland) Act 1980	Dangerous Substances Discharged into the Aquatic Environment Directive Surface Water (Dangerous Substances) (Classification) (Scotland) Regulations 1990	EC Water Framework Directive (2003) Water Environment Water Services (Scotland) 2003
								Food and Environmental Protection Act 1985	EC Surface Water for Drinking Directive Surface Water (Classification) (Scotland) Regulations 1990	
								Scottish Office "Code of Good Practice for the Prevention of Environmental Pollution from Agricultural Activity" 1985	EC Quality of Water for Human Consumption Directive Water Supply (Water Quality) (Scotland) Regulations 1990	
								Control of Pesticides Regulation 1986	EC Bathing Waters Directive Bathing Water (Classification) (Scotland) Regulations 1991	
								Code of Practice for the safe use of Pesticides on Farms and Holdings	EC Nitrates Directive Protection of Water against Nitrate Pollution (Scotland) Regulations 1996	
									EC Groundwater Directive Groundwater Regulations 1998	

VI. AGRICULTURAL DIFFUSE POLLUTION CONTROL IN THE CHESAPEAKE BAY

Bay program states are using several techniques to control agricultural diffuse pollution, such as nutrient management plans,[269] farm plans,[270] and streambank fencing.[271] Runoff from farms is in decline as farmers adopt nutrient management and runoff control techniques, and also because the area of farmland is in decline.[272]

A. United States' Federal Legislation Requiring State Action

In the late 1960s, the United States recognized that water pollution was out of control. In 1972, the Federal Water Pollution Control Act was enacted "to restore and maintain the chemical, physical, and biological integrity of the Nations' waters" through the reduction and elimination of pollutant discharges into those waters.[273] This legislation was primarily directed at controlling point sources of pollution through a pollutant permit scheme.[274]

Initially, the Clean Water Act did not directly prohibit or restrict diffuse pollution, rather the Act provided exceptions for typical sources of diffuse pollution such as runoff from agriculture, mining operations and oil production.[275] However, under Section 303(d)(1)(A), states are required to identify and rank those waters for which technology based effluent limitations fail to achieve or maintain water quality standards.[276] These ambient water quality standards are based on designated uses, like drinking water, recreational or industrial uses. Waters identified would require measures to protect those uses, such as diffuse pollution control and abatement measures.[277]

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269. Nutrient management plans balance crop need with nutrient application. These plans take into account the crops being grown, the residual nitrogen and phosphorus in the soil, the nutrient content of manure and soil productivity.

270. Farm plans combine field-specific conservation practices to reduce soil erosion while maintaining soil productivity and crop yields. Field plans combine all engineering and agronomic practices applied to all fields on each farm to meet the objective.

271. Streambank fencing is used along pasturelands to control pollution where cattle cross streams. Fences prevent the direct deposit of nutrient-laden manure to streams and control damage to streambanks, which can increase sedimentation. CBP, State of the Bay, *supra* note 29, at 34.

272. *Id.*

273. Clean Water Act §101, 33 U.S.C. § 1251(a) (1994 & Supp. 2000).

274. *Id.*; John P. Almeida, *Nonpoint Source Pollution and Chesapeake Bay Pfiesteria Blooms: The Chickens Come Home to Roost*, 32 GA. L. REV. 1195, 1198 (1998).

275. Almeida, *supra* note 274, at 1199.

276. Hipfel, *supra* note 159, at 90.

277. *Id.* at 80.

Congress has largely given regulatory authority of diffuse pollution control to the states under the federal diffuse programs of the Clean Water Act (CWA) Sections 208 and 319.[278] Initially, under Section 208, state governors were required to identify areas that have "substantial water quality problems."[279] These areas would then be controlled under area-wide waste treatment management plans.[280] Section 208 was primarily a voluntary program, and area-wide waste treatment management plans were predictably non-existent.[281] The lack of progress in controlling diffuse water pollution under CWA Section 208 led to the Clean Water Act amendments of 1987, which included Section 319, Nonpoint Source Management Programs. Additionally, the Clean Water Act does not allow for the enforcement of state water quality standards, as affected by diffuse pollution, under the citizen suit provision.[282]

The Section 319 amendments formalize that diffuse pollution control is delegated to the states by authorizing states to implement diffuse control programs.[283] However, if the states do not choose to implement diffuse pollution control programs, the Clean Water Act does not force them to do so.[284] Though the Clean Water Act requires states to adopt nonpoint management programs, there is no direct mechanism to control nonpoint source pollution.[285] Rather the Act provides for grants to encourage a reduction in nonpoint source pollution.[286] Given that diffuse pollution control is a state issue, enforcement of any such program is a state privilege, with the sole enforcement mechanism under the federal government of a "threat and promise" of grant money.[287]

Sections 303(d) and 319 act together towards pollution reduction. Under Section 303(d), for each pollutant, a state identifies the Total Maximum Daily Load (TMDL) for establishing pollution reduction goals.[288] After setting TMDLs, states must take additional measures to control both point and diffuse pollution through such measures as more stringent point source permits and Best Management Practices (BMP) for non-point source pollutants[289]

278. *Id.* at 81.
279. *Id.* at 98.
280. *Id.* at 98-99.
281. Hipfel, *supra* note 159, at 99.
282. Oregon Natural Res. Council v. U.S. Forest Serv., 834 F.2d 842, 849 (9th Cir. 1987).
283. Almeida, *supra* note 274, at 1199.
284. *Id.* at 1200.
285. Oregon Natural Desert Ass'n v. Dombeck, 172 F.3d 1092, 1096-97 (9th Cir. 1998).
286. Pronsolino v. Nastri, 291 F.3d 1123, 1126-27 (9th Cir. 2002).
287. Hipfel, *supra* note 159, at 82.
288. *Id.* at 89-90.
289. EPA defined BMPs as methods, measures, or practices selected by an agency to meet

if water quality standards are not met.[290] It is up to states, however, to identify programs that achieve BMP implementation as required by Section 319. Virginia has identified and developed TMDL implementation plans for impaired waters in three waterways, for which approximately $1.5 million of EPA Section 319 funds have been targeted annually towards restoration efforts in those areas.[291] Reduction numbers are not yet available.[292]

Table 10 United States Regulations and Agreements that Apply to the Chesapeake Bay Watershed

Clean Water Act of 1972	
CWA §319 Nonpoint Source Management Program 33 USC §1329	States develop NPS assessment reports that identify NPS problems and sources responsible. States then adopt and implement management programs to control NPS. EPA awards grants to states to help with implementation.
CWA §208 Area wide waste treatment management 33 USC §1288	State governors identify areas that have "substantial water quality problems", to be controlled under area-wide waste treatment management plans. Since this was primarily a voluntary program, area-wide waste treatment management plans were unsurprisingly non-existent.
CWA §303 Total Maximum Daily Load (TMDL) 33 USC §1313	States identify and rank waters for which technology based effluent limitations fail to achieve or maintain water quality standards, which are based on designated uses, like drinking water,

its nonpoint source control needs. BMPs include but are not limited to structural and non-structural controls and operation and maintenance procedures. BMPs can be applied before, during, and after pollution-producing activities to reduce or eliminate the introduction of pollutants into receiving waters. *See id.* at 92, quoting EPA policy definition.

290. *Id.* at 90.

291. Virginia Department of Conservation and Recreation (VDCR), Virginia Nonpoint Source Pollution Program, 2002 Annual Report, at 1 [hereinafter VDCR NPSP].

292. *Id.* at 1.

	recreational or industrial uses.
CWA §117 Chesapeake Bay Program, 33 USC §1267 (1987)	Section 117 of the Clean Water Act authorizes a Chesapeake Bay programs office to publish information pertaining to the environmental quality of the Chesapeake Bay, as well as to coordinate Federal and state efforts to improve the quality of the Bay.
Coastal Zone Management Act of 1972 Coastal Zone Act Reauthorization Amendments of 1990	
§6217 Coastal Nonpoint Source Pollution Control Program 33 USC §6217	Any state with a federally approved Coastal Zone Management Program must develop a Coastal Nonpoint Pollution Control Program, which uses best available technology measures. Federal grants are dependent on the consistency of actions with the federally approved program.

The Coastal Zone Management Act (CZMA) of 1972 is also applicable to the Chesapeake Bay. In the 1990 Coastal Zone Act Reauthorization Amendments, the Coastal Nonpoint Source Pollution Control Program Section 6217 was enacted. Any state with a federally approved Coastal Zone Management Program must develop a Coastal Nonpoint Pollution Control Program, subject to federal review and approval. Only coastal states have this incentive from the federal government, and entrance to the coastal zone management program is voluntary.[293] Also, state plans only need to address coastal zones, not inland areas, which contribute diffuse pollution as well.[294]

Within a Coastal Nonpoint Pollution Control Program, the state will describe how it will implement diffuse pollution controls. After having identified land uses that lead to diffuse pollution, the state must develop measures to apply "best available nonpoint pollution control practices, technologies, processes, siting criteria, operating

293. Almeida, *supra* note 274, at 1204.
294. *Id.*

methods, or other alternatives."[295] Once the program is approved by the Environmental Protection Agency and the National Oceanic and Atmospheric Administration, the federal government agrees not to fund, authorize, or carry out projects inconsistent with the state's plan.[296] Federal grants for other state coastal concerns are also tied to satisfactory diffuse pollution management programs.[297] For coastal states, this requirement can serve as an impetus for more aggressive regulation of diffuse pollution, but federal funding assistance is woefully short of the expected cost of plan preparation. Implementation is not even covered by the federal grant program.[298] States have consistently objected to this program.[299] As a result, the EPA and NOAA have modified the standards, requirements, and deadlines.[300]

Maryland, Virginia, and Pennsylvania all participate in the Coastal Zone Management Program, and therefore must have diffuse management plans in place that comply with federal diffuse pollution goals.[301] (See Table 10 United States Regulations and Agreements that apply to the Chesapeake Bay Watershed.) Although all states submitted programs later than the submittal deadline, no funding was reduced to the states.[302] All twenty-nine states that submitted management plans under the program received conditional approval, although all were deficient in almost every management measure.[303] Virginia received full federal approval on May 16, 2001.[304]

B. Regional Action in the Chesapeake Bay Watershed

The federal government chose to delegate diffuse pollution control to the states. The issue of diffuse pollution is inherently tied to historically locally regulated activities like land development and

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295. Ruhl, *supra* note 183, at 299.
296. *Id.* at 300.
297. Almeida, *supra* note 274, at 1203. 16 U.S.C. §§ 1451-1464 (1994). For example, unsatisfactory diffuse pollution management programs could affect Coastal Zone Management grants that states may receive for such varied programs as the preservation of coastal recreational resources, the redevelopment of deteriorating waterfronts and ports, and access to public beaches. 16 U.S.C. § 1455a(b) (1994). When states lose grant money for inadequate water pollution programs, they automatically lose grants for these other coastal management areas as well. *See* Almeida, *supra* note 274, at n.41.
298. Ruhl, *supra* note 183, at 300.
299. Andrew Soloman, *Section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990: Is there Any Point?*, 31 ENVTL. L. 151, 163 (2001).
300. *Id.*
301. Almeida, *supra* note 274, at 1207.
302. Soloman, *supra* note 299, at 164.
303. *Id.* at 165
304. VDCR, *at* http://www.dcr.state.va.us/sw/czreauth.htm (last modified June 8, 2004).

farm operations. The Chesapeake Bay was one of the primary watersheds that brought about the enactment of the Clean Water Act. The state of the bay in the early 1970s was desperate. Since the pollution of the Bay is a regional problem and several states contribute to the pollution in the Chesapeake Bay, the states in the region were compelled to meet and discuss a regional solution to the pollution affecting the Bay.

Table 11 Chesapeake Bay Regional Agreements

1983 Chesapeake Bay Agreement	- Established the Chesapeake Bay Program — a unique federal-state-local partnership committed to restoring the Chesapeake Bay. - To reduce and control point and nonpoint sources of pollution to attain the water quality condition necessary to support the living resources of the Bay.
1987 Chesapeake Bay Agreement	- In 1987, the Bay Program partners set a 40% loading reduction goal for nitrogen and phosphorus to improve low oxygen conditions in the deep trench of the mainstem Bay.
1992 Chesapeake Bay Agreement Amendments	- Bay Program partners redefined the 1987 goal to apply only to "controllable" sources. Controllable sources are only located within Virginia, Maryland, Pennsylvania, and the District of Columbia. (Leaving out of the program: West Virginia, Delaware, and New York.) - The Bay Program partners recognized the importance of a watershed approach by

	adopting "tributary strategies" to achieve and maintain loading goals.
2000 Chesapeake Bay Agreement	- Bay Program partners expand tributary strategies to apply to the entire 64,000 square mile watershed. - With a commitment to correct the nutrient and sediment related problems by 2010, sufficient to remove the Bay and its tidal tributaries from the EPA "impaired waters" list. - Bay Program partners will coordinate designated uses of waterbodies.

In 1983, Virginia, Maryland, and Pennsylvania met with the United States Environmental Protection Agency, the District of Columbia, and the Chesapeake Bay Commission[305] to discuss a regional solution to the pollution of the Bay. This meeting resulted in the historic 1983 Chesapeake Bay Agreement, in which the signatories agreed to coordinate efforts "to fully address the extent, complexity, and sources of pollutants entering the Bay."[306] This agreement established the Chesapeake Bay Executive Council "to assess and oversee the implementation of coordinated plans to improve and protect the water quality and living resources of the Chesapeake Bay estuarine systems."[307] "A key goal of this agreement was to reduce and control point and nonpoint sources of pollution to attain the water quality condition necessary to support the living resources of the Bay."[308]

The Chesapeake Executive Council adopted the 1987 Chesapeake Bay Agreement, an expansion of the previous 1983

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305. The Chesapeake Bay Commission is "an advisory body composed of state legislators, agency heads and citizen representatives." *See* Jon Cannon, *Choices and Institutions in Watershed Management*, 25 WM. & MARY ENVTL. L. & POL'Y REV. 379, 395 (2000).

306. 1983 Chesapeake Bay Agreement of the Chesapeake Executive Council, *at* http://www.chesapeakebay.net/pubs/1983ChesapeakeBayAgreement.pdf (last visited Nov. 19, 2004) [hereinafter CB Agreement].

307. *Id.* "The Council [consists] of the appropriate Cabinet designees of the Governors and the Mayor of the District of Columbia and the Regional Administrator of EPA." *Id.*

308. Robert E. Baute, Jr., *Adrift Without a Paddle: The Present and Future of the Chesapeake Bay Preservation Act*, 26 Wm. & MARY ENVTL. L. & POL'Y REV. 441, 446 (2001).

Agreement.[309] In order to control point and diffuse pollution, the Council agreed to reduce by forty percent the amount of nitrogen and phosphorous reaching the Bay by 2000.[310] "Achieving a forty percent nutrient reduction [would] improve the oxygen levels in Bay waters and encourage aquatic life to flourish."[311] The agreement required promotion of the use of Best Management Practices in farming and forestry, assistance to local governments in evaluating land use and development decisions, and an evaluation of state and federal development projects for their impact on the environment.[312]

In 1987, the Chesapeake Bay Program was codified into federal law in CWA Section 117.[313] CWA Section 117 is based on the 1987 Chesapeake Bay Agreement (see Table 11 Chesapeake Bay Regional Agreements) which established a goal to "reduce and control point and diffuse sources of pollution to attain the water quality necessary to support the living resources of the Bay."[314]

The Chesapeake Bay Agreement is a dynamic document, allowing for adjustments in the parties' objectives and commitment, indicating "the ability to respond to new information about conditions in the watershed and the success [or failure] of prior program measures."[315] Through the 1992 Amendments, in response to the realization that the Bay Program was unable to meet its 1987 goals, the partners agreed to extend the forty percent reduction goal beyond the year 2000 and to "attack nutrients at their source[,] upstream in the Bay's tributaries."[316] The 1992 Amendments required the signatories to adopt watershed management by "developing 'tributary strategies' to achieve the nutrient reduction targets."[317]

Tributary strategies are detailed descriptions of planned local actions — riparian forest buffer replanting, waste water treatment upgrades, nutrient management on farms, stormwater treatment, stream restoration, and many others — and a schedule for undertaking those actions necessary to reduce nutrients and sediment loads from each tributary watershed to reach the assigned loading caps by 2010.[318] This is the primary tool for the

309. MALONE, *supra* note 210; CB Agreement, *supra* note 306, at 3.
310. CB Agreement, *supra* note 306, at 3.
311. Reshetiloff, *supra* note 10, at 26.
312. MALONE, *supra* note 210.
313. Hipfel, *supra* note 159, at 103.
314. *Id.*; CB Agreement, *supra* note 306, at 3.
315. Cannon, *supra* note 305, at 396.
316. Reshetiloff, *supra* note 10, at 26.
317. *Id.*
318. *See* CBP, *at* http://www.chesapeakebay.net/wqctributarytech.htm (last modified Oct. 29, 2004).

implementation of agricultural nonpoint source controls in the Chesapeake Bay watershed.

In 1993, the Executive Council addressed key areas of the restoration effort by introducing five directives, including agricultural nonpoint source pollution, by working with the agricultural community to implement total resource management programs on farms in the watershed.[319] In 1994, the Executive Council announced "new initiatives for riparian forest buffers, habitat restoration, and agricultural certification programs."[320]

"A recent analysis revealed that between 1985 and 2000, phosphorus loads delivered to the Bay from all of its tributaries declined by fifty-two percent (eight million pounds per year) and nitrogen loads declined by thirty-one percent (fifty-three million pounds per year)."[321] However, according to the United States Geological Survey, "environmental data collected since 1985 do not show a significant improvement in the summer dissolved oxygen conditions."[322]

These agreements were reaffirmed in the Chesapeake Bay 2000 Agreement.[323] The "Bay Program partners pledged to continue to restore, enhance and protect the Bay's living resources and their habitats."[324] This new agreement recognized the intimate linkages among species and habitat systems and addressed "their interdependence within the context of a single, broad ecosystem."[325]

Chesapeake 2000 calls for Bay jurisdictions such as Virginia to improve water quality and thus remove the Bay and its tidal waters from the federal list of impaired waters by 2010.[326] These new strategies are to be completed by April 2004. The Chesapeake 2000 Agreement identifies specific commitments on "sediment reduction, land use controls, habitat restoration (submerged aquatic vegetation, wetlands, riparian forest buffer[s]), and increasing oyster populations."[327]

The Bay Program partners agreed to coordinate water quality criteria and designated uses by adopting consistent measures into their state water quality standards.[328] The Bay Program partners

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319. Reshetiloff, *supra* note 10, at 26.
320. *Id.* at 27.
321. CBP, State of the Bay, *supra* note 29, at 32-33.
322. Phillips, *supra* note 44, at 9.
323. CBP, *at* http://www.chesapeakebay.net/agreement.htm (last visited Nov. 19, 2004).
324. CBP, State of the Bay, *supra* note 29, at 1.
325. *Id.*
326. Cannon, *supra* note 305, at 396.
327. *Id.*
328. CBP, *at* http://www.chesapeakebay.net/tribtools.htm (last modified July 1, 2004).

work closely with the groups and individuals within each watershed who will be directly involved in implementation strategy.[329]

"For years, water quality and habitat restoration approaches [isolated] single problems" to fix; Chesapeake 2000 addresses water quality and ecosystem problems at the watershed level.[330] New requirements for local governments and community organizations to create subwatershed-level management plans are included in Chesapeake 2000.[331] Chesapeake 2000 is being implemented in the Bay states through tributary strategies. Therefore, it is appropriate to identify programs at the state implementation level.

While the Chesapeake Bay Agreement provided broad outline for addressing the Bay's specific problems, each state determines their own detailed strategies and structures for implementation.[332] Tremendous variation exists among the methods that states have used in transforming the requirements of the Chesapeake Bay Agreement into state law.[333] These differences occur in scope, intensity and emphasis.[334] "Maryland appears to have made the strongest commitment to Bay preservation" by defining a larger protected zone and imposing more comprehensive requirements on development.[335] However, I have selected Virginia as a study area. Virginia has well-developed internet resources, both governmental and university. Furthermore, I believe that Virginia makes a better case model because of its mix of rural and urban, agriculture and industrial, which is a closer comparative fit with Scotland.

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329. CBP, *at* http://www.chesapeakebay.net/wqctributarytech.htm (last modified Oct. 29, 2004).

330. CBP, State of the Bay, *supra* note 29, at 6.

331. *Id.*

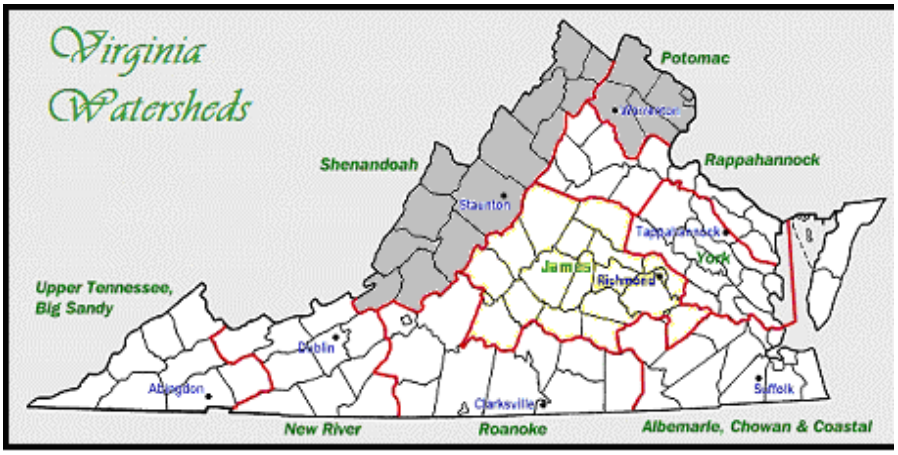
332. Baute, *supra* note 308, at 446.

333. Lynda L. Butler, *State Environmental Programs: A Study in Political Influence and Regulatory Failure*, 31 WM. & MARY L. REV. 823, 864 (1990).

334. *Id.* at 864-65.

335. *Id.* at 865.

Figure 11 Virginia's Watersheds — Selected Areas are the Potomac and Shenandoah Watersheds[336]



To fulfil a requirement under the Chesapeake Bay Agreement of 1987, Virginia enacted the Chesapeake Bay Preservation Act (CBPA) in 1987.[337] The goal of the CBPA is "to improve water quality in the Bay and its tidal tributaries through the use of wise resource management practices."[338] The CBPA established a state and local cooperative program, overseen by the Chesapeake Bay Local Assistance Board (hereafter Local Assistance Board).

The Local Assistance Board establishes criteria and acts in an advisory capacity for tidewater localities that include water quality protection measures into their comprehensive plans, zoning ordinances, and subdivision ordinances. [339] "Local governments lying outside the [t]idewater area are authorized, but not required, to do the same."[340]

336. Picture at VDCR, *available at* http://www.dcr.state.va.us/sw/swintro.htm (last modified July 19, 2004).

337. Available online at Code of Virginia, *at* http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+TOC10010000021000000000000 (last visited Nov. 19, 2004).

338. Baute, *supra* note 308, at 442; Chesapeake Bay Local Assistance Department, About CBLAD and Virginia's Bay Act Program, *at* http://www.cblad.state.va.us/about.cfm (last updated Dec. 6, 2002).

339. Butler, *supra* note 333, at 864.

340. *Id.*

Table 12 Virginia's Diffuse Pollution Controls

Conservation Reserve Enhancement Program (CREP), 1985[341]	The program objective is to improve water quality and wildlife habitat by offering financial incentives to agricultural landowners.
Chesapeake Bay Preservation Act (CBPA) of 1987[341]2	The Act endeavors to create a comprehensive land use management system for Tidewater Virginia, thereby minimizing the adverse impact of land use decisions on water quality.
Agricultural Stewardship Act of 1996 VA Code Ann. §§10.1 – 559.1 to -559.11	The ASA addresses water pollution problems caused by nutrients, sediments and toxins entering state waters from agricultural activities.
1996 Tributary Strategy Law	Tributary strategies to be adopted to address sediment, as well as nutrient reductions in order to protect water quality.
Nutrient management training and certification Regulations, 1996[343]	To encourage proper land application and efficient use of fertilizers, manures, sewage sludges and other nutrients sources utilized for agricultural purposes.
Precision Nutrient and Pesticide Application Equipment Tax Credit program[344]	Tax credit to encourage the use of equipment that will apply nutrients and pesticides with greater precision.
Agricultural Best Management Practices (BMPs) Cost-Share Program. [345]	The Cost-share Program offers financial incentives to agricultural producers to encourage the installation of BMPs on agricultural properties they manage.
Agricultural BMP Tax Credit Program of 1998[346]	Tax Credit program to encourage the installation of BMPs on agricultural properties.
Water Quality Improvement Act of 1997	To restore and improve the quality of state waters and to protect them from impairment and destruction for the

Section 10.1-2118	benefit of current and future citizens of the Commonwealth of Virginia. Water Quality Improvement Fund (WQIF) to provide water quality improvement grants to local governments, soil and water conservation districts and individuals for point and nonpoint source pollution prevention, reduction and control programs. Most recent results: for fiscal year 2002, no money was allocated to WQIF, therefore no grants were given.

The thought behind this cooperative management program is that local governments can more effectively reduce pollution of the Bay from adjacent lands than state government.[347] This provides local governments with the initiative for planning and for implementing the provisions of the CBPA.[348] The state acts "primarily in a supportive role by providing oversight for local governmental programs, by establishing criteria as required,[…]and by providing those resources necessary to carry out and enforce the provisions" of CBPA.[349]

However, this separation of authority results in an ineffective management program. Despite the regional quality of the CBPA, in effect, it leaves all decision and actions to the local governments.[350] Local developers strong-arm localities into weak local programs.[351] Since the CBPA does not give the state adequate power, it does not ensure uniformity in the region, and thus fails as a regional land use mechanism.[352]

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341. VDCR, *at* http://www.dcr.state.va.us/sw/crep.htm (last modified Oct. 8, 2004).
342. Available online at Code of Virginia, *at* http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+TOC10010000021000000000000 (last visited Nov. 19, 2004).
343. VDCR, *at* http://www.dcr.state.va.us/sw/nutmgt.htm (last modified Nov. 15, 2004).
344. *Id.*
345. VDCR, *at* http://www.dcr.state.va.us/sw/costshar.htm (last modified Nov. 10, 2004).
346. *Id.*
347. Baute, *supra* note 308, at 442; Chesapeake Bay Local Assistance Department, About CBLAD and Virginia's Bay Act Program, *at* http://www.cblad.state.va.us/about.cfm (last updated Dec. 6, 2002).
348. Baute, *supra* note 308, at 448 (citing VA. CODE ANN. § 10.1-2100(B) (Michie 1950 & Cum. Supp. 2000)).
349. *Id.*
350. Barker, *supra* note 88, at 756.
351. *Id.*
352. *Id.*

C. Watershed Management / Tributary Strategies

As a result of its inclusion in the Chesapeake Bay Program, Virginia has recognized the importance of watershed management in helping it to protect and restore water quality in the Chesapeake Bay and in Virginia's rivers, streams, and lakes.[353] Virginia established watershed offices to improve local delivery of diffuse pollution control programs.[354] The focus of these offices thus far is on education and community assistance, providing meetings, offering advice, and reviewing localities watershed management plans.[355]

Virginia implemented a Nutrient Reduction Tributary Strategy in the Shenandoah-Potomac watershed in 1996, which successfully resulted in upgrades to wastewater treatment plants.[356] Another outcome of developing this strategy was the creation of the Water Quality Improvement Fund to finance agricultural conservation practices.[357] Water Quality Improvement funds are available through appropriations and interest earned.[358] Other tributary strategies were also established in other areas of Virginia, as well. The tributary strategy process uses a cooperative, partnership approach with extensive public participation by the various stakeholders in the basins, including local governments, farmers, wastewater treatment plant owners, citizen conservation groups, business, industry, and scientific researchers.[359] Unfortunately, due to the downturn in the economy, in fiscal year 2002, no money was allocated to the Fund and therefore no grants were given.

Virginia also has a Nutrient Management Program, which provides education, training, and certification in nutrient management. The Nutrient Management Program also provides criteria for nutrient management plans to be developed by certified individuals.[360] Voluntary participation in the Nutrient Management Strategies program leads to reduced nutrient loss to Virginia's ground and surface waters, including the Chesapeake Bay and its tributaries. As of August 2002, 254 people have become certified to

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353. VDCR NPSP, *supra* note 291, at 3.

354. *Id.*

355. *Id.* at 4-6.

356. Secretary of Natural Resources, Virginia Tributary Strategies: Frequently Asked Questions, *at* http://www.naturalresources.virginia.gov/Initiatives/TributaryStrategies/FAQs.cfm (last visited Nov. 19, 2004).

357. *Id.*

358. Legislative Information System, Document Summary, *at* http://leg2.state.va.us/dls/_2d0j76p3fcdpg_nsf/0/043b40a3239b688e85256e3f0071346b?OpenDocument (Apr. 23, 2004).

359. Virginia Review of Chesapeake Bay 2000 Agreement Actions, at 31.

360. VDCR, *at* http://www.dcr.state.va.us/sw/nutmgt.htm (last modified Nov. 15, 2004).

develop nutrient management plans in Virginia.[361] The Virginia Department of Conservation and Recreation's nutrient management specialist developed 287 nutrient management plans covering 41,532 acres.[362] Non-DCR planners have reported 105,907 acres of plans during the same reporting period.[363]

Virginia's Agricultural Stewardship Act addresses water quality caused by agriculture by giving ordinary citizens the power to bring a complaint that an agricultural operation is polluting to the Commissioner of Agriculture.[364] If a complaint is under the jurisdiction of the ASA, the local Soil and Water Conservation District is given the opportunity to investigate.[365] "After a complaint is investigated, the Commissioner's Office reviews the findings and determines if the complaint is founded and requires further action under the ASA."[366] "If so, the farmer is required to develop a plan to correct the problem and then complete plan implementation within eighteen months."[367] "The Commissioner's Office contacts complainants to inform them of the findings."[368] In the most recent annual report, "more than two hundred inquiries regarding possible agricultural pollution" were received, "of which forty-one became official complaints."[369] Of these, thirty-one were investigated — four were dismissed, fourteen were determined to be unfounded, eleven were founded and are awaiting stewardship plans, and two are awaiting the commissioner's decision.[370] The remaining ten are awaiting investigation. The ASA is a success in that its aim is to provide citizens with an avenue to complain about water pollution and to respond in a timely manner. The program appears to be achieving those ends. However, only twenty percent of the complaints became official, and of those only twenty-seven percent were founded. Overall, that is a six percent rate of return on complaints, which is not an encouraging statistic for a complainant.

Virginia's Agricultural Best Management Practices (BMPs) Cost-Share Program provides funds to help install conservation practices

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361. VDCR NPSP, *supra* note 291, at 13.
362. *Id.*
363. *Id.*
364. VA. CODE ANN. §§ 10.1–10.559.1 to 10.559.11 (Michie Supp. 1996); Almeida, *supra* note 274, at 1209.
365. Virginia Department of Agriculture and Consumer Services, Agricultural Stewardship: A Positive Approach — Working in Cooperation with Virginia's Soil and Water Conservation Districts, *at* http://www.vdacs.state.va.us/stewardship/index.html (last visited Nov. 19, 2004).
366. *Id.*
367. *Id.*
368. *Id.*
369. Virginia Department of Agriculture and Consumer Services, Virginia Agricultural Stewardship Act Annual Report (Mar. 31, 2003).
370. *Id.*

that protect water and make farms more productive. [371] (See Appendix I. Commonwealth of Virginia: Best Management Practices.) The Cost-share Program offers financial incentives to agricultural producers to encourage the installation of BMPs on agricultural properties they manage.[372] Virginia provides up to seventy-five percent of the cost of each BMP, a flat rate amount per acre, or a combination of a flat rate and seventy-five percent of the cost not to exceed an established individual annual funding cap.[373] The state cost-share cap limits funding to an individual landowner in any given year to receiving a maximum of $50,000.[374] The number of farmers participating in the Cost-Share Program reached a high of 1,711 during the 2001 fiscal year due to an infusion of state funding provided through the Water Quality Improvement Act.[375] However, due to a subsequent decrease in funding, the number of participating farmers fell to 1,197 in fiscal year 2002.[376] During the 2002 program, the acreage under program management dropped, from a total in fiscal year 2001 of 196,000 acres, to approximately 99,000 acres. [377] The willingness of farmers to institute BMPs and the success of the Cost Share BMP program is completely dependent on the program funding. However, due to the success of the 2002 program, an additional 1,567,405 pounds of nitrogen, 313,377 pounds of phosphorus, and 280,160 tons of soil were prevented from reaching Virginia's waters.[378]

In 1998, Virginia instituted an Agricultural BMP Tax Credit Program, which "supports voluntary installation of BMPs that will address Virginia's non-point source pollution water quality objectives."[379] Farmers with an "approved conservation plan can take a credit against state income tax of twenty-five percent of the first $70,000 spent on agricultural BMPs." Failure to follow through with the conservation plan results in the refund of all or part of the tax credit amount. There were no results available for this program.

Virginia also instituted a tax credit program for the purchase of more precise farm nutrient and pesticide application equipment. "Recipients of the twenty-five percent tax credit must purchase equipment meeting state specifications and develop a nutrient

371. VDCR, *at* http://www.dcr.state.va.us/sw/costshar.htm (last modified Nov. 11, 2004).
372. VDCR NPSP, *supra* note 291, at 9.
373. *Id.*
374. *Id.*
375. *Id.*
376. *Id.*
377. VDCR NPSP, *supra* note 291, at 9.
378. *Id.* at 10.
379. VDCR, *at* http://www.dcr.state.va.us/sw/costshar.htm (last modified Nov. 10, 2004).

management plan for their farm operations."[380] There were no results available for this program.

Virginia's Conservation Reserve Enhancement Program (CREP) "aims to improve Virginia's water quality and wildlife habitat by offering [land] rental payments," incentive payments, and cost-share assistance "to farmers who voluntarily restore riparian buffers, filter strips and wetlands through the installation of approved conservation practices." [381] Riparian buffers and filter strips "absorb excess nutrients and provide cover, thus preventing erosion and improving water quality."[382] "The Chesapeake Bay CREP targets Virginia's entire bay watershed and calls for the planting of 22,000 acres of riparian buffer and filter strips as well as 3,000 acres of wetland restoration."[383] "Statewide, these programs are expected to reduce annual nitrogen loads to waterways by more than 600,000 pounds, phosphorus by more than 98,000 pounds and sediment by more than 50,000 tons." [384] CREP has been successful at restoring riparian buffers; over 9,000 acres have been enrolled in Virginia, with 448.9 buffer miles established statewide.[385] Riparian buffers currently cover fifty-five percent of pre-settlement coverage.[386]

Virginia has a number of volunteer programs that have involved the community in the control of diffuse pollution. Through the Clean Water Quality Monitoring Program, over 1,000 volunteers have been introduced to diffuse pollution management issues or have provided direct support for monitoring activities.

The Virginia Adopt-a-Stream Program is a prime example of citizen stewardship. The Adopt-a-Stream Program is a voluntary, do-it-yourself waterway clean-up program in which a group adopts a section of a river to maintain. Many groups opt for two cleanups a year, one in the spring and another in the fall. Virginia's Department of Conservation and Recreation helps the volunteers by providing trash bags, gloves, safety vests, first-aid kits, hand-sanitizer, and instructional and promotional documents.[387] Another advantage of the program for volunteer groups is the custom signage featuring the adopted waterway and organization, promoting the group's concern and activities.[388] Over sixty of

380. VDCR, *at* http://www.dcr.state.va.us/sw/nutmgt.htm (last modified Nov. 15, 2004).
381. VDCR, *at* http://www.dcr.state.va.us/sw/crep.htm (last modified Oct. 8, 2004).
382. *Id.*
383. *Id.*
384. *Id.*
385. VDCR NPSP, *supra* note 291, at 15.
386. CBF, State of the Bay 2003, *supra* note 213.
387. VDCR NPSP, *supra* note 291, at 19.
388. *Id.*

Virginia's shoreline miles have been adopted, with a total of 122 cleanup events in 2003 — totaling 275 shoreline miles.[389]

Virginia Cooperative Extension has diffuse pollution education programs, with sponsored events such as on-farm demonstrations, conservation tours, field days, and workshops. These workshops demonstrate the use of cover crops, buffer strips, nutrient management programs, and stream protection programs. In 2002, over 5,000 farmers utilized these programs.[390] The Cooperative Extension program is in trouble due to a lack of funding and resources.[391]

Virginia has created a diffuse pollution education website to educate and communicate information on water status, diffuse reductions, etc.[392] This website is for use and reference for farmers and non-farmers alike. Based on the success of the Chesapeake Bay website, the success of this website project is to be expected.

VII. LESSONS LEARNED

After twenty years of plans, programs, and coordination, the Chesapeake Bay watershed has shown improvement, but "remains degraded with some areas and indicators show[ing] continu[ed] degradation."[393] In 1999, despite programs enacted nationally, statewide, and locally, the Chesapeake Bay and some of its tributaries were "listed as impaired water bodies under the Clean Water Act, due to low dissolved oxygen" and poor water clarity that kills fish and other organisms.[394]

Recent years had given hope as to the Program's effectiveness. However, much of the improvements in nitrogen, phosphorus, and water clarity were retrospectively traced to a drought in the region.[395] It is true that nutrient flows in the region have been affected by a reduction in nutrient loading. However, water flow also plays a part.[396] In those years of low rainfall, fewer nutrients washed into the rivers. In the 2003 reports on the water quality of

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389. *Id.*
390. *Id.* at 10.
391. *Id.*
392. VDCR NPSP, *supra* note 291, at 7.
393. Virginia Secretary of Natural Resources, 2002 Annual Report On The Environmental Conditions Of Virginia's Chesapeake Bay And Tributaries, Implementation Of The Chesapeake Bay Agreement, And Implementation Of Tributary Strategies For The Reduction Of Nutrients And Sediments, at 2 [hereinafter VSNR].
394. United States Geological Survey, Chesapeake Bay Activities, Nutrients, *at* http://chesapeake.usgs.gov/nutrients.html (last modified July 26, 2004).
395. CBF, State of the Bay 2003, *supra* note 213.
396. VSNR, *supra* note 393, at 2.

the Chesapeake Bay, after a year of heavier than normal rainfall, the status of the Bay has declined.

Overall, phosphorus levels have improved, due to both point and nonpoint nutrient source reductions.[397] However, water clarity remains very poor and is in decline.[398] "Submerged aquatic vegetation (SAV) has declined drastically over the past thirty years due to poor water clarity, which is caused by excess sediment and nutrients."[399] Only the Potomac River has shown improving nitrogen trends in water entering from its watershed.[400]

These trends, though dour, remain an improvement over the status of the Chesapeake Bay as it was prior to the implementation of the Chesapeake Bay Agreement. It is only in comparing the actual results with the desired outcome that the Bay Program appears to be failing.

The most important lesson learned from the Chesapeake Bay Program has been the necessity of the involvement of affected parties in all aspects of diffuse pollution control. Profound involvement among all stakeholders, including solicitation of their advice and authority, is imperative for successful diffuse pollution control. Diffuse pollution is difficult and expensive to regulate and the input from those affected will greatly increase their cooperation with any programs, voluntary or regulatory, that are effected.

The Bay Program is a cooperative regional agreement, not mandated by any regulations. The involved parties agreed to work together to improve the quality of the region. The individual states have implemented the recommendations of the Bay Program through a variety of measures, mostly voluntary. Virginia uses both tax incentives and government grants to encourage farmers to adopt recommended diffuse pollution control practices. Some type of monetary assistance is essential for agricultural diffuse pollution control. The majority of farming households in Virginia rely on off-farm income to remain solvent.[401] Similarly, in a three year SEPA study of six Scottish farms, only one had an acceptable income.[402] In all other cases, a significant amount of the farm income was derived

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397. *Id.*

398. *Id.* at 3.

399. United States Geological Survey, Chesapeake Bay Activities, Sediments, *at* http://chesapeake.usgs.gov/sediments.html (last modified Nov. 5, 2004).

400. VSNR, *supra* note 393, at 3.

401. Virginia Conservation Network, *at* http://www.vcnva.org/white_papers/2003/vitality.php (last visited Nov. 19, 2004).

402. Alan Frost et. al., The Impacts of Agricultural Environmental Management Case Studies from Theory to Practice, *available at* http://www.sepa.org.uk/pdf/publications/technical/imp_env_man/report.pdf, 6 (2002).

from government grants.[403] In order to alter their farming customs, farmers need financial assistance from the government. For the years that Virginia had the funding to provide this assistance, a large number of farmers agreed to implement diffuse pollution control measures. However, when the money was no longer available, there was no affordable way for farmers to take action, nor was there any impetus.[404]

It is through cooperation, community actions, and voluntary measures that the programs implemented in Virginia have been successful. It is the people in the community who see the pollution in the rivers and desire improvement. Though individuals are not eager to be regulated for diffuse pollution control, most communities are willing to volunteer time and services to improve the quality of life in the community. The success of Virginia's Adopt-a-Stream program is proof of the willingness of community groups to improve their waterways.

In order to increase public support, it is essential to build a sense of community, which will reduce conflicts, and increase commitment to achieving environmental goals. A successful and informative method that both the Environmental Protection Agency and the Chesapeake Bay Program have taken is Watershed websites.[405] Members of the community are able to learn about the state of their watershed and what is being or can be done to improve it. People are interested in knowing what the state of their watershed is for many reasons, such as fishing, swimming, and perhaps an explanation for the foam floating on the water. For example, the community along the River Irvine in Ayrshire would be able to access environmental information for that particular river system and understand the sources of pollution that degrade the river. This understanding could affect the way that a community views their actions (such as discarding auto waste in the gutter or even fly-tipping[406]) and the outcome of their actions on the river.

Through the Chesapeake Bay's cooperative program, many control methods have been tried. The primary methods of diffuse pollution control have been voluntary, tied to government assistance. The Chesapeake Bay Preservation Act is one example of a control that has not been as successful as desired, due to

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403. *Id.*

404. VDCR NPSP, *supra* note 291, at 9.

405. EPA, Surf Your Watershed, *at* http://cfpub.epa.gov/surf/locate/index.cfm (last revised Nov. 18, 2004); CBP, Know Your Watershed, *at* http://www.chesapeakebay.net/wspv31/(3mtumdu0gbn4sefppylkk4u2)/WspAbout.aspx?basno=1&topic=5 (last visited Nov. 19, 2004).

406. Fly-tipping is the illegal dumping of waste, such as refrigerators, beds, and sofas. *See* SEPA, *at* http://www.sepa.org.uk/board/sepaview/html/17/illegally_dumped_waste.htm (last visited Nov. 19, 2004).

inadequate state authority and lack of uniformity. The most successful diffuse pollution results of the Chesapeake Bay Program have been through Best Management Practices, such as nutrient management, streambank fencing, and buffer strips. For a list of Best Management Practices used in Virginia and results for these practices in the Potomac and Shenandoah watersheds, see Appendix I. Commonwealth of Virginia: Best Management Practices.

The practice of nutrient management, which is a voluntary procedure under Virginia's Nutrient Reduction Tributary Strategy, Nutrient Management Program and Program for Cost-Share Best Management Practices, has been successful. The Nutrient Reduction Tributary Strategy resulted in successful upgrades to wastewater treatment plants and the creation of the Water Quality Improvement Fund. Due to lack of funding and resources, the success of the program has been curtailed. The Nutrient Management Program consists of education and support on informed nutrient application. There are state specialists available to assist in developing nutrient management plans, as well as training programs to certify nutrient management planners. The Cost-Share BMP program provides grant money for farmer's who implement BMP. This program displayed success until a decrease in state funding.

It is my recommendation that Scotland implement a similar system for nutrient management. Both PEPFAA and the Four Point Plan recommend nutrient management. The use of nutrient management plans will result in a decrease in the amount of fertilizer applied. The decrease in the amount of nutrients applied results in an additional benefit — a cost savings to farmers. This cost savings will be a carrot to farmers to enter a nutrient management program. Additionally, programs that encourage field testing and nutrient management need to be provided with adequate government funding and resources. The resource focus should be on education and information sharing to allow the farmers to understand and accept this alteration of fertilizer application. Funding, at least in part, by the government is essential for a nutrient management program to have any chance of success. After all, it is easier for a farmer to continue customary nutrient application than to order a nutrient plan and tests.

The creation of buffer strips and streambank fencing along streams are voluntary procedures under Virginia's Tributary Strategy Scheme and Virginia's Conservation Reserve Enhancement Program. Buffer strips provide filters through which diffuse pollutants will flow, as well as protecting streams from livestock tramping and direct livestock manure deposition. Streambank fencing protects streams from livestock tramping and direct

livestock manure deposition. Thanks to these programs, buffer strips currently cover fifty-five percent of pre-settlement coverage.[407]

It is my recommendation that Scotland implement similar buffer strategies. In areas where a buffer is not possible due to size constraints, fencing should be encouraged to prevent livestock access and the resultant erosion and manure deposits.

VIII. CONCLUSION

Scotland's water resources need to be protected from agricultural diffuse pollution. The quality of the waters is impaired by agricultural nutrients such as phosphorus and nitrogen. Based on the experience of the Chesapeake Bay Program, Scotland must look to incentive measures to control agricultural diffuse pollution. Community and stake holder involvement in the creation of these measures is imperative for the acceptance of any measures adopted.

Three measures that are suggested are nutrient management programs, buffer strips, and streambank fencing. Education and information sharing must be an integral part of any measure adopted to encourage these management practices. Additionally, government funding and resources must be made available in order for actual implementation and acceptance by farmers.

A suggestion for further study would be the potential for the implementation of regulatory enforcement of Best Management Practices such as nutrient management. Agricultural fields are discrete areas. Though it may be difficult to trace the source of diffuse pollution, it is known that agricultural nutrient runoff results in diffuse pollution. Therefore, it would be possible to control the effluent by controlling nutrient application through a regulation requiring nutrient management plans.

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407. CBF, State of the Bay 2003, *supra* note 213.

1. APPENDIX I. COMMONWEALTH OF VIRGINIA: BEST MANAGEMENT PRACTICES

Table 13 Agriculture Best Management Practices[408]

BMP	**Description**	**Result in Shenandoah and Potomac**
Conservation Tillage	Conservation tillage involves planting and growing crops with minimal disturbance of the surface soil.	195,933 acres 172,449 lb nitrogen reduction 15,805 lb phosphorus reduction
Riparian Forest Buffers	Agricultural riparian forest buffers are wooded areas along rivers, stream and shorelines. Forest buffers help filter nutrients, sediments and other pollutants from runoff as well as remove nutrients from groundwater. The recommended buffer width for riparian forest buffers (agriculture) is 100 feet, with 35 feet minimum width required.	1,586 acres 32,981 lbs nitrogen reduction 4,641 lbs phosphorus reduction
Riparian Grass Buffers	Agricultural riparian grass buffers are linear strips of grass or other non-woody vegetation maintained between the edge of fields and streams, rivers or tidal waters that help filter nutrients, sediment and other pollutant from runoff.	2,013 acres 20,932 lbs nitrogen reduction 2,571 lbs phosphorus reduction
Wetland Restoration	Agricultural wetland restoration activities re-establish the natural hydraulic condition in a field that existed prior to the installation of subsurface or surface drainage. Projects may include restoration, creation and enhancement acreage. Restored wetlands may be any wetland classification including	Not available.

408. List of Best Management Practices obtained from CBP, *at* http://www.chesapeakebay.net/pubs/waterqualitycriteria/BMPHandbook1-8f.pdf (Feb. 16, 2004); VDCR, Achieving the Nonpoint Source Pollution Reduction Goals for the Shenandoah and Potomac Rivers in Virginia, 8 (Mar. 30, 2001).

BMP	Description	Result in Shenandoah and Potomac
	forested, scrub-shrub or emergent marsh.	
Land Retirement	Agricultural land retirement takes marginal and highly erosive cropland out of production by planting permanent vegetative cover such as shrubs, grasses, and/or trees. Agricultural agencies have a program to assist farmers in land retirement procedures.	27,445 acres 282,530 lbs nitrogen reduction 45,165 lbs phosphorus reduction
Afforestation, a.k.a. Tree Planting (row crop)	The tree planting (row crop) BMP includes any tree planting on agricultural lands, except those used to establish riparian forest buffers, targeting lands that are highly erodible or identified as critical resource areas. Tree planting involves growing trees and converting the land use from agricultural to forest. This BMP results in a landuse conversion from row crop to forest. It is assumed that the density of the plantings is sufficient to produce a forest like condition over time.	Not available.
Nutrient Management Plan Implementation (Crop)	Nutrient management plan (NMP) implementation (crop) is a comprehensive plan that describes the optimum use of nutrients to minimize nutrient loss while maintaining yield. A NMP details the type, rate, timing, and placement of nutrients for each crop. Soil, plant tissue, manure and/or sludge tests are used to assure optimal application rates.	429,187 acres 1,207,809 lbs nitrogen reduction 168,799 lbs phosphorus reduction
Cereal Cover Crops, non-harvest, for spring nutrient use	Cereal cover crops reduce erosion and the leaching of nutrients to groundwater by maintaining a vegetative cover on cropland and holding nutrients within the root zone. This practice involves the	45,699 acres 205,411 lbs nitrogen reduction 17,934 lbs phosphorus reduction

BMP	Description	Result in Shenandoah and Potomac
	planting and growing of cereal crops (non-harvested) with minimal disturbance of the surface soil. The crop is seeded directly into vegetative cover or crop residue with little disturbance of the surface soil. These crops capture or "trap" nitrogen in their tissues as they grow. By timing the cover crop burn or plow-down in spring, the trapped nitrogen can be released and used by the following crop.	
Commodity Cover Crops, spring harvest	Commodity cover crops differ from cereal cover crops in that they may be harvested for grain, hay or silage and they may receive nutrient applications, but only after March 1 of the spring following their establishment. The intent of the practice is to modify normal small grain production practices by eliminating fall and winter fertilization so that crops function similarly to cover crops by scavenging available soil nitrogen for part of their production cycle.	Not available.
Conservation Plans	Farm conservation plans are a combination of agronomic, management and engineered practices that protect and improve soil productivity and water quality, and to prevent deterioration of natural resources on all or part of a farm. Plans may be prepared by staff working in conservation districts, natural resource conservation field offices or a certified private consultant. In all cases the plan must meet technical standards.	450,959 acres 266,715 lbs nitrogen reduction 74,315 lbs phosphorus reduction
Animal Waste	Animal waste management systems are practices designed for	Not available.

BMP	Description	Result in Shenandoah and Potomac
Management Systems	proper handling, storage, and utilization of wastes generated from confined animal operations and include a means of collecting, scraping or washing wastes and contaminated runoff from confinement areas into appropriate waste storage structures. Lagoons, ponds, or steel or concrete tanks are used for the treatment and/or storage of liquid wastes. Storage sheds or pits are common storage structures for solid wastes. Controlling runoff from roofs, feedlots and "loafing" areas are an integral part of these systems.	
Yield Reserve	Yield reserve is a reduction in nitrogen applied to cropland beyond the nutrient management recommendation. The reduction percentage is currently defined at 15%. Based on research, the nutrient management rates of nitrogen application are set approximately 35% higher than what a crop needs to ensure nitrogen availability under optimal growing conditions. In a yield reserve program, the farmer would reduce the nitrogen application rate by 15%. An incentive or crop insurance is used to cover the risk of yield loss.	Not available.
Alternative Uses Of Manure/Manure Transport	Alternative uses of manure/manure transport is the practice of reducing or eliminating excess nutrient applications within the Chesapeake Bay by either transporting the manure outside of the Chesapeake Bay watershed or finding an alternative use for the excess manure. Excess manure is defined	Not available.

BMP	Description	Result in Shenandoah and Potomac
	as manure nutrients produced within an area that exceeds the recommended application rates associated with the crops grown.	
Stream Protection With Fencing With Off Stream Watering	Stream protection with fencing with off stream watering incorporates both alternative watering and installation of fencing that involves narrow strips of land along streams to exclude livestock. The fenced areas may be planted with trees or grass, but are typically not wide enough to provide the benefits of buffers. The implementation of stream fencing should substantially limit livestock access to streams, but can allow for the use of limited hardened crossing areas where necessary to accommodate access to additional pastures or for livestock watering.	246,370 linear feet 15,635 lbs nitrogen reduction 3,891 lbs phosphorus reduction
Off Stream Watering In Pasture Without Fencing	Off stream watering in pasture without fencing requires the use of alternative drinking water troughs or tanks away from streams. The BMP may also include options to provide shade for livestock away from streams. Limited research has been conducted for this practice that documents changes in livestock behavior resulting in significantly less time spent near streambanks and in streams. The net effectiveness of the practice must reflect partial removal of livestock from near stream areas and relocation of animal waste deposition areas and heavy traffic areas surrounding water sources to more upland locations.	Not available.
Off Stream Watering	Off stream watering with stream fencing and rotational grazing	Not available.

BMP	Description	Result in Shenandoah and Potomac
With Stream Fencing And Rotational Grazing	(pasture) combines stream fencing and alternative watering with cross fencing systems to create paddocks to enable rapid grazing of small areas in sequence. Once an area is intensively grazed of most vegetative matter, the animals are moved to another paddock to enable recovery of the pasture grasses. This BMP is beneficial in removing animals from stream areas, but may be offset by an increased animal stocking rate per acre. This increases the concentration of animal manure per acre and may adversely impact the quality of surface water runoff.	

RECENT DEVELOPMENTS:

CONTEMPORARY DEVELOPMENTS IN ENVIRONMENTAL AND LAND USE LAW

MAUREEN WALTERBACH*

Table of Contents

I. INTRODUCTION

Land use and environmental law has continued its development over the past year. The Supreme Court of the United States heard the most environmentally related cases in its history.[1] There have been several developments in this field in both Federal and Florida case law. This article is a sampling of case summaries related to the recent developments in environmental compliance. Also, some alterations to Florida's land use and environmental law statutes from the 2004 Legislative Session are included to supplement the updates of court decisions.

In addition to this article, several websites provide up-to-date information on this topic. Government websites include the Environmental Protection Agency,[2] Department of the Interior,[3] Department of Transportation Federal Highway Administration,[4] and special reports on land-use from the Pacific Northwest National Laboratory.[5] Private organizations also maintain sites, namely The Florida Bar Environmental Land Use Law Section[6] and the Rand Corporation.[7] In addition, law firms such as Holland & Knight maintain websites with updated information on environmental law.[8]

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* Special thanks to Mark LaFeir.

1. http://www.eli.org/.
2. www.epa.gov.
3. www.doi.gov.
4. http://www.fhwa.dot.gov/environment.
5. http://www.pnl.gov/aisu/pubs/eemw/papers/ipccreports/specialreports/land_use/index.htm; http://www.whitehouse.gov/infocus/environment/; http://www.whitehouse.gov/infocus/everglades/.
6. www.eluls.org.
7. http://www.rand.org/research_areas/energy_environment/index.html.
8. http://www.hklaw.com.

II. FEDERAL CASE LAW

South Florida Water Management District v. Miccosukee Tribe of Indians, 124 S. Ct. 1537 (2004).

The Miccosukee Tribe and Friends of the Everglades (Tribe) filed suit claiming that a pumping facility under the South Florida Flood Water Management District's (District) "Central and South Florida Flood Control Project" (Project) was required to obtain a National Pollutant Discharge Elimination System (NPDES) permit. The Tribe's claim alleged that a station, associated with the Project, moved phosphorous-laden water from a canal into a water conservation area that was part of the original Everglades.

The district court granted the Tribe summary judgment finding that polluted water was being transferred from the canal to the reservoir, two distinct bodies of water. Therefore, the transfer of the water did not occur naturally. The Eleventh Circuit Court of Appeals affirmed. The court concluded that the polluted water from the canal would not flow into the reservoir without the pump station, finding the station was the cause-in-fact of the pollutants in the reservoir.

Under the Clean Water Act (Act), individual states can set water quality standards by considering the designated uses of the navigable waters.[9] These standards affect the local NPDES permits, which limit the type and quantity of pollutants that can be released.[10] The Act defines "discharge of a pollutant" as "any addition of any pollutant to navigable waters from any point source."[11] The District did not contest that phosphorous is a pollutant or that the canal and reservoir are navigable waters. The South Florida Water Management District appealed, however, on the basis that its "operation does not constitute the 'discharge of a pollutant' under the Act" based on (1) the definition of a point source as the original source of the pollutant, (2) all water bodies under the Act should be viewed unitarily for permit purposes, and (3) the canal and reservoir are not distinct water bodies.[12]

The Supreme Court rejected the first argument because the definition of point sources does include those that do not themselves generate pollutants. They declined to resolve the second argument,

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9. 33 U.S.C. § 1251 (2003).
10. 33 U.S.C. § 1342 (2003).
11. S. Fla. Water Mgmt. Dist. v. Miccosukee Tribe of Indians, 124 S. Ct. 1537, 1541 (2004) (quoting 33 U.S.C. §1362(12) (2003)).
12. *Id.* at 1542.

and left it open for review on remand. The case was remanded on the basis of the third argument. The District's belief that the canal and reservoir are two parts of the same body of water was contrasted with the Tribe's contention that they are distinct. The Court saw this division as uncertain because evidence indicated "there is some significant mingling of the two waters…even without the use of the S-9 pump station, water travels" between the canal and reservoir.[13] The Tribe focused on the biological and ecological characteristics of the waters, while the District highlighted the hydrologic similarities. The Court refrained from ruling on the adequacy of the lower court's determination of the distinctness of the water bodies. Several factual issues were unresolved, as arguments remained about what test the courts should use to determine the connection of the waters. Therefore, the Court vacated the judgment of the Court of Appeals and remanded it to the district level, leaving the District's last two arguments open for further proceedings.

Engine Manufacturers Association v. South Coast Air Quality Management District, 124 S. Ct. 1756 (2004).

The South Coast Air Quality Management District (District) is responsible for air pollution control in the Los Angeles metropolitan area. It enacted Fleet Rules (Rules) that prohibit the purchase or lease of vehicles that do not comply with certain emission standards, all of which exclude diesel fueled vehicles. The Clean Air Act (CAA) prohibits the "adoption or attempted enforcement of any state or local 'standard relating to the control of emissions from new motor vehicles or new motor vehicle engines.'" [14] The district court granted summary judgment for the District, holding that the Rules did not come under the CAA because they only regulated purchase and not vehicle sales. The Ninth Circuit Court of Appeals affirmed the ruling on the same basis.

This case hinged on the interpretation of the word "standard" in comparing emissions requirements versus enforcement of emissions standards under the CAA. Using the term's ordinary meaning, as expressed by Congress, the Court found that emissions standards are different than enforcement standards. Emissions standards can be applied to the engines and vehicles themselves, but enforcing the standards can be applied to the manufacturers and producers. The Court applied this distinction to the present case by stating that

13. *Id.* at 1546.

14. Engine Mfrs. Ass'n v. S. Coast Air Quality Mgmt. Dist., 124 S. Ct. 1756 (2004) (quoting 42 U.S.C. § 7543(a) (2003)).

Congress intended to enforce emissions standards by enacting purchase requirements. In so doing, the Court wanted to maintain the CAA's preemption of standards that prevented states from using this distinction to force manufacturers to produce vehicles to state emission standards as a condition of sale.

The Court discussed treating purchase limitations different from sales limitations. The Court could not reconcile the different treatment. If there is no right to buy the vehicles, then it would be useless for another party to have a right to sell the vehicles. Because no distinction between purchase and sale was made within §209, the Court also declined to create one. The Court held that the Fleet Rules were not entirely outside the pre-emptive reach of §209. However, some issues remained unresolved: (1) whether the Rules can be characterized as internal state purchase decisions and if a different standard would apply; and (2) whether §209 would apply beyond the purchasing of new vehicles. All these issues would affect the final decision. The Court vacated the judgments of the lower courts and remanded the case for further proceedings.

Alaska Department of Environmental Conservation v. Environmental Protection Agency, 124 S. Ct. 983 (2004).

Alaska Department of Environmental Conservation (ADEC) issues Prevention of Significant Deterioration (PSD) permits to companies such as Teck Cominco Alaska, Inc. (TCA), which operates a zinc concentrate mine in Alaska. It is a major emitting facility of nitrogen dioxide. ADEC approved a technology known as selective catalytic reduction (SCR) as the best available control technology (BACT) for reducing these emissions. However, when TCA added new generators, ADEC approved Low NOx as the BACT for two of the generators even though it only achieves 30% reduction of nitrogen dioxide compared to SCR's 90%.

The EPA objected that ADEC had established SCR as a BACT, but they still approved the use of Low NOx. ADEC justified this by saying that SCR would impose a disproportionate cost on the mine, contradicting its earlier findings that it could make no judgments of SCRs impact on the mine's operation, profitability, and competitiveness. The EPA issued orders under the Clean Air Act (CAA) that prohibited ADEC from issuing a PSD permit to TCA until it documented why SCR was not a BACT for their Wartsila diesel generator. The EPA also stopped the company from beginning construction at the mine.

The CAA's PSD program prevents the construction of a major air pollutant emitting facility, "unless the facility is equipped with 'the

best available control technology.'"[15] The CAA provides that the BACT should be defined on a case-by-case basis taking into account relevant impacts and costs. The role of the EPA is to halt construction, penalize, or commence a civil action for injunctive relief if they find a state is not complying with the CAA requirement. The EPA designated Alaska as an attainment area for nitrogen dioxide, and thus no facility "emitting more than 250 tons per year" may operate without a PSD permit, which they can only acquire if they use the BACT.[16]

After Cominco petitioned the Ninth Circuit Court of Appeals for review of the EPA's orders, the court ruled in favor of the EPA. The court decided the EPA had not overstepped its authority because the "'provision of a reasoned justification' by a permitting authority is undeniably a 'requirement' of the Act."[17] The court affirmed, stating the TCA did not establish why SCR was economically infeasible, and ADEC did not justify why it had eliminated SCR as the BACT. ADEC challenged this ruling on the basis that the EPA's oversight role should be restricted to only assuring the PSD permit contains a BACT, but not making a BACT determination. The EPA interpreted the definition of the BACT along with CAA's requirement of BACT, as a "preconstruction requirement." [18] It did so in order to bring about a determination of the BACT under the statute's definition. The EPA believes it can review permits to ensure the BACT is reasonable under CAA provisions.

The Court agreed with the EPA and confirmed its role in reviewing the reasonableness of BACT. The Court recognized that Congress had expressly endorsed an expansive surveillance role for the EPA in two independent provisions. As such, the Court could not reconcile why Congress would implicitly preclude the EPA from verifying substantive compliance with BACT provisions but also limit the EPA's role based on "whether the state permitting authority had uttered the key words 'BACT.'"[19] The Court explained further that the EPA did not act arbitrarily or capriciously when determining that ADEC's BACT decision lacked supportive evidence. Therefore, the Court affirmed the Ninth Circuit decision, but emphasized that it does not prevent ADEC from finding support for their decision by revisiting their determination of Low NOx as the BACT.

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15. Alaska Dep't of Envtl. Conservation v. Envtl. Prot. Agency, 124 S. Ct. 983, 990 (2004).
16. *Id.* at 985.
17. *Id.* at 987.
18. *Id.* at 999.
19. *Id.* at 988.

Department of Transportation v. Public Citizen, 124 S. Ct. 2204 (2004).

In November 2002, President George W. Bush lifted the moratorium on Mexican motor vehicles in compliance with the North American Free Trade Agreement. The Federal Motor Carrier Safety Administration (FMCSA) issued an Environmental Assessment (EA) for their proposed Application and Safety Monitoring Rules (application and safety-monitoring requirements for Mexican carriers). The EA was based on different scenarios dependent upon whether the moratorium was lifted. "Because FMCSA concluded that the entry of the Mexican trucks was not an 'effect' of its regulations, it did not consider any environmental impact that might be caused by the increased presence of Mexican trucks within the United States."[20] The Court of Appeals said the EA was deficient because it did not consider the overall environmental impacts, and they should have prepared the more detailed Environmental Impact Statement (EIS) because the rescission of the moratorium was "reasonably foreseeable."[21] The court remanded the case for the FMSCA to prepare an EIS and a CAA conformity determination.

The National Environmental Policy Act (NEPA) imposes evaluative procedural requirements upon federal agencies, with a particular focus on analysis of environmental effects of their actions. Combined with the Clean Air Act (CAA), these statutes require the FMCSA to evaluate the environmental effects of cross-border operations of Mexican motor carriers. The federal agencies are required to provide a detailed EIS about the impacts of any recommendations, reports for legislation, or major federal actions that will ultimately affect the quality of the environment. However, if the agencies determine a "finding of no significant impact," [22] when the actions are not clearly excluded nor included in the requirements to produce an EIS, they may issue an EA, which is a less detailed report.

The Supreme Court reversed the appellates court decision. The Court highlighted the "rule of reason" analysis of NEPA.[23] When a more detailed EIS serves no purpose under NEPA's regulatory scheme taken as a whole, then the agency is not required to prepare the EIS. Therefore, the FMSCA was not required to prepare an EIS for an action that it could not decline to execute. They expressed

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20. Dep't of Transp. v. Public Citizen, 124 S. Ct. 2204, 2212 (2004).
21. *Id*. (referring to Public Citizen v. Dep't of Transp., 316 F.3d 1002, 1022 (2003)).
22. *Id*. at 2210.
23. *Id*. at 2216.

that it is the action of the President, not the FMSCA, to lift the moratorium. Since the emissions from the Mexican trucks are neither directly nor indirectly caused by the issuance of FMCSA's proposed regulations, the FMSCA acted reasonably in issuing the less detailed EA, rather than a full review in an EIS. Thus, the FMCSA did not violate NEPA.

Norton. v. Southern Utah Wilderness Alliance, 124 S. Ct. 2373 (2004).

The land at issue was designated as "wilderness study areas" (WSAs) by the Bureau of Land Management (BLM), a division within the Department of the Interior (DOI) responsible for managing the land pursuant to a land use plan under the Federal Land and Policy Management Act of 1976 (FLPMA).[24] The land use plan is essentially a "multiple use" plan intended to balance competing current and future uses for federally controlled land. Essentially, when land is designated as a WSA, commercial enterprise and permanent roads are prohibited, along with motorized vehicles and man-made structures. One of the competing interests to be considered by BLM is the use of Off-Road Vehicles (ORVs) on federally protected land and the conflict with environmental groups over the protection of wilderness areas.

The Southern Utah Wilderness Alliance (SUWA) sought declatory and injunctive relief over the failure of BLM to protect the land in question from ORV destruction in these WSAs. SUWA claimed BLM: (1) violated its non-impairment obligation under 42 U.S.C. § 1782(a); (2) failed to implement land use provisions related to ORV usage; and (3) failed to take a "hard look" at the environmental impact of ORV usage as required under the National Environmental Policy Act of 1969 (NEPA).[25] SUWA claimed it could compel the agency to act if it has a mandatory, nondiscretionary duty pursuant to the Administrative Procedures Act, 5 U.S.C. § 706(1). The district court dismissed the case and a divided panel at the Tenth Circuit reversed.

Under APA section 706(1), a claim can only proceed where an agency failed to take a discrete action that it is required to take. The "failure to act" was found to be limited to a discrete action as defined by the APA.[26] While the non-impairment obligation is a mandatory requirement of BLM, how the agency accomplishes this is within the agency's discretion. The Court found that the APA

24. 42 U.S.C. § 1701 (2003).
25. 42 U.S.C. § 4321 (2003).
26. 5 U.S.C. § 551(13) (2003).

does not provide for extensive judicial involvement into agency discretion in accomplishing its mandatory requirements.

Regarding SUWA's land use claims, the Court held that such land use management plans are merely guidelines that cannot be used as a basis for a lawsuit under §706(1). The land use plan is generally a statement of projected present and future uses and is a preliminary step in managing public lands. It is essentially a statement of priorities that guides and constrains agency action regarding the land management but does not prescribe them. Judicial enforcement of these priorities would make them legally binding commitments instead of the projections they were intended to be.

Finally, SUWA claims that BLM did not satisfy the "hard look" requirement of NEPA by its failure to supplement its Environmental Impact Statement (EIS) to consider OVR usage. An agency's initial EIS is sufficient unless significant new information or changes relevant to the environmental concerns occur. The agency must take a "hard look" at the new information to determine if the EIS should be supplemented. If a major federal action remains to be completed, such as approving a land use plan, then the EIS should be supplemented based on the new information. In this case, the Court found that the increased ORV usage was not a significant change that required supplementation because the land use plan was the major federal action that had already been approved and no major federal action remained. The Court reversed the Tenth Circuit and remanded the case for further proceedings.

Pennaco Energy, Inc. v. United States Department of the Interior, 377 F.3d 1147 (10th Cir. 2004).

This case originated as an appeal of the Department of the Interior's Board of Land Appeals' (IBLA) decision reversing the Bureau of Land Management's (BLM) decision to auction three oil and gas leases. Pennaco, the winning bidder in the auction, appealed the decision to the District Court of Wyoming under the Administrative Procedures Act (APA). The district court reversed the IBLA's decision on the grounds that it was arbitrary and capricious and reinstated the BLM approval. On appeal, the Tenth Circuit reviewed the record of this administrative action independent of the district court's review to determine whether the IBLA's decision was indeed "arbitrary, capricious, otherwise not in accordance with law, or not supported by substantial evidence."[27] Under the National Environmental Policy Act (NEPA),[28]federal agencies must "take a 'hard look' at the environmental consequences" of the proposed courses of action.[29] In the case of major federal actions, the agencies must prepare an environmental impact statement (EIS) to evaluate the proposed action and the impact on the environment, including consideration of not taking any action. NEPA also allows varying degrees of detail in an EIS to be considered. However, the detail must be sufficient to allow the agency to take a "hard look" at the potential environmental impacts of the proposed action when a reviewing court looks at the administrative record. Agencies are required to supplement the EIS when substantial changes are made to the proposal or relevant information to the environmental concerns changes. If a less detailed environmental assessment (EA) is used, the agency should issue a "finding of no significant impact (FONSI)."[30]

In managing the use of federal oil and gas resources, the BLM initially determines whether the issuance of a particular oil and gas lease is consistent with the resource management plan (RMP). At issue here is whether BLM satisfied the "hard look" requirement of NEPA before auctioning three oil and gas leases for tracts of land in the Powder River Basin, Wyoming. Originally, forty-nine tracts were made available for lease. All but the claims surrounding the instant three were dismissed for lack of standing. The leases were issued for the extraction of coal bed methane (CBM).

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27. Pennaco Energy, Inc. v. U.S. Dep't of the Interior, 377 F.3d 1147, 1157 (10th Cir. 2004).
28. 42 U.S.C. § 4321 (2003).
29. *Id.* at 1150.
30. *Id.*

An underlying question is whether CBM extraction impacts the environment differently compared to non-CBM oil and gas development. Prior to auctioning the leases, the acting field manager of the BLM Buffalo Field Office, Richard Zander, prepared NEPA adequacy worksheets (DNAs) for the tracts to determine whether the agency could properly rely on existing documents in the analysis. He determined that the Buffalo Resource Management Plan (Buffalo RMP EIS) and the Wyodak Coal Bed Methane Project Draft EIS (Wyodak DEIS) were sufficient. The Buffalo RMP EIS, published in 1985, encompassed the appropriate parcels of land but failed to specifically address CBM extraction. The Wyodak DEIS, published in 1999, addressed CBM mining but was a post-leasing project level study that did not consider whether leases should have been issued initially and did not encompass two of the three tracts of land.

The IBLA concluded that the Buffalo RMP EIS was inadequate because it failed to address CBM extraction. The Wyodak DEIS was deficient because it did not consider reasonable alternatives relevant to a pre-leasing environmental analysis as required by NEPA. As such, the documents did not satisfy the "hard look" requirement of NEPA. The district court reversed the IBLA decision and reinstated the decision of the BLM, stating that the IBLA acted arbitrarily and capriciously by refusing to consider the two documents together.

On review, the Tenth Circuit Court concluded the IBLA did consider the relevant factors, and the IBLA decision was supported by substantial evidence in the administrative record. Pennaco relied on a purported uncontroverted affidavit by Zander in support of its claims. The court found this affidavit was a "post-hoc analysis" that did not satisfy the NEPA. The IBLA properly determined that the Buffalo RMP EIS failed to address the environmental concerns of CBM development on these parcels, and the Wyodak DEIS did not consider pre-leasing options, including not issuing leases at all. Even considered together, the documents did not properly supplement each other. Thus, the BLM failed to satisfy NEPA requirements.

E.I. Du Pont De Nemours & Co., Inc. v. United States, 365 F.3d 1367 (Fed. Cir. 2004).

The United States government hired E.I. Du Pont De Nemours & Co., Inc. (Du Pont) during World War II to produce chemicals for the government's use. Du Pont built and operated a plant in West Virginia to produce these chemicals. Later, the Environmental Protection Agency designated that clean up of the plant site was required pursuant to the Comprehensive Environmental Response Compensation and Liability Act (CERCLA). The original contract between the U.S. and Du Pont provided for government indemnification for clean up where the contractor was not directly responsible. Du Pont incurred considerable costs in investigations and feasibility studies and brought suit against the U.S. to recover the associated costs incurred under CERCLA.

The Federal Circuit Court of Appeals stated the trial court correctly held that the government had agreed to indemnify Du Pont for the costs, but had erred in finding that a predecessor to the Anti-Deficiency Act (ADA) barred recovery. Certain contracts are exempted from the ADA by the Contract Settlement Act of 1944 (CSA). The CSA was created to ensure the equitable final settlement of claims under terminated war contracts. The parties signed a Termination Supplement in 1946, two years after CSA was enacted.

Du Pont claimed indemnification recovery under CSA. The Court of Appeals noted that the CSA addressed the issue of authority for the preservation of indemnity clause and that deference may be given to the War Department's contemporaneous interpretation of the statute as implying that authority. The court held that the government's inclusion of a preservation of indemnity clause in their Termination Supplement with Du Pont preserved the indemnity granted to Du Pont in 1940, under CSA. This indemnity was deemed broad enough to include CERCLA costs. The judgment was reversed and the case remanded to determine damages.

In re: Operation of the Missouri River System Litigation, 2004 WL 1402563 (D. Minn. 2004).

The U.S. District Court in Minneapolis ruled in favor of the United States Army Corps of Engineers (Corps) over numerous environmental groups, states, businesses, and a Native American Nation claims to overturn the Corps plan to manage the Missouri River. The claims mainly addressed the Flood Control Act (FCA), the Endangered Species Act (ESA), the National Environmental Policy Act (NEPA), as well as collateral claims by Native American

tribes and businesses. The challenges specifically addressed the substance of the Corps' 2004 Master Manual, and also the procedures used to develop the manual. The court upheld the development of the manual.

The court held, under the FCA, that managing the competing interests of the river was under the Corps discretion. Unless Congress amended the FCA to establish specific requirements, e.g. minimum water levels, prioritizing these interests is completely discretionary and the priorities of river interests is subject to the discretion of the Corps. Thus, the Corps did not have to change these specifics within the Manual according to the desires of the claimants.

The opposition to the plan also alleged that it would jeopardize three animal species: the least term, the piping plover, and the pallid sturgeon. The ESA does not allow any person or agency to "take," defined as harming, hunting, wounding, capturing, etc., a species listed under the ESA.[31] As long as the decisions and plans of the agency are based on a consideration of relevant factors and the interpretation is reasonable, the court defers to the agency to make the final judgments. The court held that the Biological Opinion (that influenced the Manual) issued in regards to the effects on the species was in accord with the ESA and that no capricious or arbitrary acts were involved. In addition, the court held the Master Manual and other planning documents did not violate the ESA.

The claimants also challenged the sufficiency of the Environmental Impact Statement (EIS), as required by NEPA, used by the Corps. Against the claims that the EIS should be supplemented or changed, the court upheld the sufficiency of the EIS and the alternative considerations included therein. The Court ruled that alternatives were considered by the Corps, the final plan was not put together capriciously or arbitrarily, and it was done in good faith.

Lastly, the Court held that the Native American Nation failed to demonstrate how the implementation of the 2004 Master Manual would result in injury to them. Thus, the Court ruled the Nation lacked standing and dismissed their complaint.

Overall, the Court found that because the Corps had a duty to balance all interests in the river, and because it did not act arbitrarily or capriciously, the plans were valid. The Corps was allowed to manage the Missouri River accordingly.

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31. 16 U.S.C. §§ 1532(19), 1538(a)(1)(B) (2003).

Southwest Four Wheel Drive Association v. Bureau of Land Management, 363 F.3d 1069 (10th Cir. 2004).

In 1998, the Bureau of Land Management (BLM) closed roads in the Robledo Mountains Wilderness Study Area to off-road vehicles and deemed the area "roadless."[32] In 2004, Southwest Four Wheel Drive Association (Southwest) filed suit against the BLM to grant the public title to these roads. The district court held that the Quiet Title Act[33] provided the exclusive remedy available to Southwest but that the claim was outside the Act's twelve year statute of limitations.

The Tenth Circuit Court of Appeals affirmed the decision, but with different reasoning. The Court of Appeals stated that Southwest could not state a claim under the provisions of the Act because only states and counties can claim ownership of public highways. Therefore, the federal court dismissed the case for lack of jurisdiction over the claim, so there was no reason to address the issue of the statute of limitations.

III. FLORIDA CASE LAW

D'Alto v. State of Florida Department of Environmental Protection, 860 So. 2d 1003 (Fla. 1st DCA 2003).

D'Alto filed an Early Detection Incentive Program (EDI) Notification Application in an attempt to participate in the Petroleum Cleanup Protection Program (PCPP). The current application form used by the Department of Environmental Protection (DEP) was the Discharge Reporting Form (DRF). When completing the form, D'Alto answered 'unknown' to five of twelve questions on the application. The DEP alleged that the lack of information disqualified the submitted form as a DRF.

The PCPP was enacted as a cleanup program to "encourage detection, reporting, and cleanup of contamination… by… petroleum products."[34] The DEP had the responsibility of directing the program. Because of similar predecessor programs to the PCPP, the DEP was supposed to accept "any discharge reporting form" as an application so the same people did not have to reapply.[35]

The Court held that the Notification Application qualified as a DRF. The source of the contamination, an abandoned Texaco

32. S.W. Four Wheel Drive Ass'n v. Bureau of Land Mgmt., 363 F.3d 1069, 1070 (10th Cir. 2004).
33. 28 U.S.C. § 2409a (2003).
34. D'Alto v. Fla. Dep't of Envtl. Prot., 860 So. 2d 1003, 1004 (Fla. 1st DCA 2003).
35. *Id*. at 1004-05.

station, was identified. Also, the DEP could not say how the lacking information had specifically inhibited D'Alto's ability to participate. The Court held the DEP was free to request needed or missing information, but it had to accept D'Alto's application to participate in the petroleum cleanup program. The Court reversed the decision of the lower court and remanded it back to determine if D'Alto was eligible to participate based on the application.

Thomas v. Southwest Florida Water Management District, 864 So. 2d 455 (Fla. 5th DCA 2003).

This action arose from Southwest Florida Water Management District's (SFWMD) denial of Thomas' request for a modification of his water use permit. Thomas added acreage to his land, and he wanted an increase in his water usage. SFWMD was concerned with the availability of the water and the availability to people outside the county. The court ruled in favor of SFWMD. Thomas appealed the decision, alleging he possessed a superior right to the water since he was within the county, as required under section 373.1961(1)(e) of the Florida Statutes.

The Florida Court of Appeals upheld the denial of his appeal because section 373.217, Florida Statutes, superseded the statute Thomas relied upon. The superseding statute gives SFWMD "supremacy and exclusivity" in its permitting authority. Thus, although, the former statute gives priority of water usage to residents within the county, the latter gives the authority to SFWMD to override it. The lower court judgment was affirmed.

E.I. Du Pont De Nemours & Co. v. Aquamar S.A., 881 So. 2d 1 (Fla. 4th DCA 2004).

E.I. Du Pont de Nemours & Co. (Du Pont) supplies Benlate, a fungicide, to banana farms to prevent the spread of a disease, Black Sigatoka. They supply the fungicide to farms in Ecuador, some of which are near rivers. Nearby shrimp farms depend on those same local rivers. Since the introduction of the fungicide, some shrimp farms have experienced increasing shrimp fatality rates.

The jury in the lower court found in favor of Aquamar. They held that Du Pont negligently distributed Benlate under Florida law by making recommendations for application in combination with other fungicides, not warning the banana farmers of the run-off potential and, expressly, its toxicity to shrimp. Du Pont appealed the decision, arguing that Aquamar's state law claims were preempted by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

If Aquamar would have elected to enter as a foreign plaintiff, relying on foreign law, it could bring an inadequate warning claim in a state court based on an injury arising outside the United States. However, because the claim was brought under state law, FIFRA can preempt Florida law. The court ruled Du Pont's negligence could be remedied by a specific label warning of run-off potential and toxicity to shrimp. Therefore, instead of a negligent distribution claim under state law, this was a labeling claim under FIFRA. The court reversed the jury verdict and remanded the case.

Monroe County v. Ambrose, 866 So. 2d 707 (Fla. 3d DCA 2003).

The Landowners-Appellees own undeveloped land in the Florida Keys, within Monroe County. In 1979, Monroe County was designated as an area of critical state concern, with intent to establish a land use management system. The landowners sought declatory relief to determine the effects of the 1986 Land Development Regulations. The trial court found the landowners had vested rights to build single family homes by recording parcels of land.

The applicable statute, Fla. Stat. §380.05(18), protects the rights of Landowners so the development cannot be limited or modified by a critical concern designation or by subsequent land regulations. The Court of Appeals agreed generally, but disagreed with the trial court's ruling that the landowners had vested rights by recordation alone.

The purpose of section 380, Florida Statutes, is to "protect the natural resources and environment of the state, preserve water resources, and facilitate orderly and well planned development."[36] Thus, the court determined that allowing landowners, who have not previously developed their property, to have vested rights would be contrary to the intent of the statute.

Therefore, the court held that the landowners must prove, in addition to recordation, that they *relied on* section 380.15(18), Florida Statutes, for vested rights to develop the land. The court remanded the case to determine if the vested rights were based on the two components, instead of just recordation. It also concluded that landowners who do have vested rights are not subject to subsequently enacted land regulations. If the regulations did affect the value of the land, the landowners must receive full compensation. Last, the date to determine if vested rights were

36. Monroe County v. Ambrose, 866 So. 2d 707, 711 (Fla. 3d DCA 2003).

obtained was changed from 1972 (when section 380.05(18), Florida Statutes, was enacted) to 1986 when the first land development regulations were enacted. The court reversed and remanded the proceedings with instructions accordingly.

Aramark Uniform & Career Apparel, Inc. v. Easton, 29 Fla. L. Weekly S551 (Fla. 2004).

Chemical solvents from Aramark's property permeated the groundwater, which moved onto Easton's property. The contamination imposed no immediate health risks, but Easton's building occupants had to avoid contact with the groundwater. Easton brought suit for damages and injunctive relief for the continuing passage of the contaminated water.

The district court held for Aramark because Easton failed to prove that Aramark had caused the contamination. The First District Court of Appeal reversed, basing the decision on a strict liability claim under section 376.313(3) of the Florida Statutes (from the Water Quality Assurance Act of 1983) which did not require proof that Aramark caused the contamination. The Florida Supreme Court affirmed the decision of the First District Court of Appeal. It held that the statute created a new cause of action based on strict liability, rather than merely modifying existing common law. The Court remanded the case with instructions not to require proof that the petitioners caused the contamination on their own property, and to determine whether any statutory exceptions and defenses apply.

IV. FLORIDA STATUTES

The 2004 Florida Legislative Session passed several bills regarding the state's natural resources. There are several websites that have information on the various bills proposed and passed.[37] Unless otherwise stated, the information contained herein comes from the Senate Committee on Natural Resources report on the 2004 Legislative Session.[38] In addition, law firms, specifically Holland & Knight, provide summaries of environmental related legislation on their website.[39] Below is a sampling of legislation that was passed into law.

37. http://election.dos.state.fl.us/laws/04laws/shotitle.htm; http://www.flsenate.gov/publications/2004/senate/reports/summaries/pdf/natural.pdf; http://www.flsenate.gov/statutes/index.cfm.

38. http://www.flsenate.gov/publications/2004/senate/reports/summaries/pdf/natural.pdf.

39. www.hklaw.com.

CS/SB 388 Brownfield Loan Guarantees

Under the Brownfield Redevelopment Act, a brownfield is defined as "a site that is generally abandoned, idled, or under-used industrial or commercial properties where expansion or redevelopment is complicated by actual or perceived environmental contamination."[40] The Department of Environmental Protection (DEP) provides oversight and regulation to the contaminated areas.[41] The DEP needed the amendments regarding the brownfields program to be updated, both for clarification and technical reasons. The EPA recently made changes at the federal level, so there were several changes needed at the state level for conformity. The definition of "brownfield site" was revised. The rehabilitation of proposed brownfield sites must create 10 new jobs that are not associated with construction or demolition occupations. The provisions related to the contractor liability coverages were also updated. Last, when a browfield site escheats to a county, this bill gives the county liability protection. These changes will make it easier for the DEP to manage the federal brownfields grants.[42]

CS/SB 540 Manatee Protection

This bill creates an exception to penalties for violations of regulations that control the speed and operation of motorboats to protect manatees. If an activity is reasonably necessary to prevent the loss of human life or a vessel, it will fall under this exception. In regions where the goals set forth by the Fish and Wildlife Conservation Commission have been achieved, this bill can slow the creation of new speed zones.

This bill also mandates that the Fish and Wildlife Conservation Commission (FWC) should define how biological goals will be measured when considering the need for additional manatee protections. Under the enhanced manatee protection study, the FWC must conduct a signage and speed assessment by January 2007, and have specific recommendations for local policies for the placement of signs. The study used by the FWC should conform to its mission of protecting the manatees while providing maximum recreational use of waterways.

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40. http://www.dep.state.fl.us/southeast/hottopics/FAQ/faqs.htm.
41. *Id.*
42. www.hklaw.com.

CS/CS/CS/SB 1214 Wekiva Parkway and Protection Act

The Wekiva Parkway and Protection Act is "a blueprint for building an environmentally sensitive expressway, protecting rivers, springs and wildlife habitat while meeting the growing transportation needs of Central Florida."[43] This bill creates the Act and also provides the legislative intent and legal description of the Wekiva Study Area. Most of the land in the Study Area plays a role in the groundwater recharge to the Wekiva River and springs.

Three main goals were addressed by the Wekiva Committee, who provided the research behind the Act.[44] A parkway will be built to complete a transportation corridor in Central Florida, to help alleviate the traffic congestion.[45] They also wanted to maintain the land surrounding the parkway, especially the spring and groundwater recharge areas in the basin of the Wekiva River.[46] Last, they developed the plan to coordinate the land use and water supply planning.[47]

Local governments within the Study Area must adopt amendments to their comprehensive plan and add an interchange land use plan. Also, they must implement a storm water management plan. They must establish land use strategies to optimize open space and promote development that protects the most effective recharge areas. Last, they must provide a ten year water supply facility work plan for building new drinkable water facilities.

CS/SB 2736 Taking of Fish and Shellfish

This bill raises the annual fee for crawfish trap numbers for those trapping crawfish in commercial quantities or for commercial purposes from $100 to $125. The extra $25 will be used to pay for the recovery of lost and abandoned traps. It clarifies that the traps are included in the retrieval program of the FWC.[48] It also elucidates that those taking crawfish without a trap must pay an annual fee of $100. For each trap number, the trap owner gets the first five traps retrieved for free.

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43. http://www.wekivacommittee.org/wekivaact/pressrelease.htm.
44. *Id.*
45. *Id.*
46. *Id.*
47. *Id.*
48. http://www.flsenate.gov/session/index.cfm?BI_Mode=ViewBillInfo&Mode=Bills&SubMenu=1&Year=2004&billnum=2736.

CS/CS/SB 2820 Fish and Wildlife Conservation Commission

This bill reorganizes the Fish and Wildlife Conservation Commission (FWC). The purpose was to "flatten the agency's organizational structure, improve agency efficiency, and align and integrate similar functions within the agency."[49] The Fish and Wildlife Research Institute will be the primary source for expertise on Florida's saltwater, freshwater, and wild animal life species and their habitats. The Division of Freshwater Fisheries Management will become responsible for the use of freshwater aquatic life resources. The Division of the Habitat and Species Conservation will oversee the protection of the unique fish and wildlife species. The Division of Hunting and Game Management will be responsible for the sustained use of wildlife resources. The Division of Law Enforcement's role is to ensure enforcement of the laws and govern the activities of the FWC. The Division of Marine Fisheries Management is responsible for the use of marine life resources. Last, the Office of Executive Direction and Administrative Support Services will be the main department for clerical and support assistance. The bill also authorized the FWC to publish the Florida Wildlife Magazine.

SB 2832 Water Management District Planning and Reporting

This bill directs the South Florida Water Management District (SFWMD) to begin a pilot project to review plans and reports submitted annually to the Governor and Legislature. SFWMD is to determine how the information in these reports can be provided more effectively and efficiently and submit the plans no later than February 2005. This deadline temporarily replaces the statutory deadlines for the submission of the plans and reports of the district.[50]

HB 293 Water Resources

This bill was backed by several environmental groups to promote the use of reclaimed wastewater and lay a foundation for a water conservation program.[51] The bill compels local governments to address the water supply sources necessary to meet and achieve present and expected water use demand. It requires the districts to

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49. http://www.myflorida.com/myflorida/governorsoffice/pdfs/2004notablebills.pdf.

50. http://www.flsenate.gov/session/index.cfm?BI_Mode=ViewBillInfo&Mode=Bills&SubMenu=1&Year=2004&billnum=2832.

51. http://www.floridaca.org/vote/spotlight_legislature.htm.

use reclaimed wastewater instead of surface or groundwater if it is environmentally, technically, and economically feasible. It also requires the districts to develop landscape irrigation design standards to conserve water under present state plans.

SB 1156 Relating to Sport Shooting & Training Ranges

This bill exempted shooting range owners from environmental laws designed to reduce lead contamination in groundwater.[52] State environmental regulation employees are no longer allowed to enforce the laws.[53] It is instead the responsibility of the federal government to follow the lead pollution allegations.[54] The NRA backed this bill alleging that enforcement of the laws was a back door gun control method by the Department of Environmental Protection.[55]

52. *Id.*
53. *Id.*
54. *Id.*
55. *Id.*