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STUDENT NOTES:

THE RECOVERY IN U.S. FISHERIES

KATRINA M. WYMAN*

I. INTRODUCTION

Environmentalists often think of environmental problems as intractable, or, at the very least, difficult to fix. Perhaps for this reason, we commonly are regarded as pessimists, prone to seeing the negative rather than the positive.[1] This article is about a good news environmental story that has not received enough attention: the improving state of U.S. fisheries under federal control. These are generally the coastal fisheries located 3 to 200 miles from U.S. shores.[2]

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* Sarah Herring Sorin Professor of Law, New York University School of Law. Thank you to Professor David Markell for inviting me to give the Distinguished Environmental Lecture at Florida State University College of Law for the *Journal of Land Use and Environmental Law*. Thank you also to the Journal editors for their patience and suggestions; to André Smith, Sarah Krame and Cory Conley for superb research assistance; and to Chris Costello and Brad Sewell for suggestions in conversation. The Filomen D'Agostino and Max E. Greenberg Research Fund at New York University School of Law provided generous financial assistance.

1. *See, e.g.,* Carol M. Rose, *Property and Emerging Environmental Issues – The Optimists vs. The Pessimists*, 1 BRIGHAM-KANNER PROPERTY RIGHTS CONF. J. 405, 406-07 (2012) (describing famous bet between the biologist Paul Ehrlich and the economist Julian Simon about whether resources would be exhausted).

2. Sarah Bittleman, *Toward More Cooperative Fisheries Management: Updating State and Federal Jurisdictional Issues*, 9 TULANE ENVTL. L.J. 349, 357 n.30 (1996) (citing Submerged Lands Act (codified as 43 U.S.C. § 1301-15 (1988))).

The news media are often reporting on overfished fisheries,[3] and many fisheries around the world are indeed overfished.[4] So it is not surprising that academics and others frequently discuss fisheries as a paradigmatic example of the tragedy of the commons.[5] This article emphasizes that it is a misnomer to apply that label to many federally managed fisheries in the U.S., and offers several hypotheses for why that is the case. I make two main points.

First, I emphasize that federally managed fisheries are not a commons and most importantly, for present purposes, that the state of U.S. fisheries has improved over roughly the past decade such that the vast majority of them are not tragic or trending toward tragedy.

Second, I elaborate three possible explanations for the impressive improvement in U.S. fisheries. The first is a legal hypothesis, which attributes the improvement to changes in the main federal statute governing the management of these fisheries: the Magnuson-Stevens Fishery Conservation and Management Act (the

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3. *See, e.g.*, W. Jeffrey Bolster, *Where Have All the Cod Gone?*, N.Y. TIMES, Jan. 1, 2015, http://www.nytimes.com/2015/01/02/opinion/where-have-all-the-cod-gone.html?_r=0 (chronicling the decline in the historic Gulf of Maine cod fishery and closing of the fishery); Paul Greenberg & Boris Worm, *When Humans Declared War on Fish*, N.Y. TIMES, May 8, 2015, http://www.nytimes.com/2015/05/10/opinion/sunday/when-humans-declared-war-on-fish.html (describing post-World War II increase in "fishing power" and the impacts on fish catches, and referring to recent "reprieve" for fisheries); Patrick Whittle, *Scientists: Rapidly Warming Ocean is a Key Factor in Collapse of New England's Cod Fishery*, ASSOCIATED PRESS, Oct. 29, 2015, http://www.usnews.com/news/business/articles/2015/10/29/scientists-warming-ocean-factor-in-collapse-of-cod-fishery (reporting on recent scientific article attributing the collapse of New England cod fishery partly to warming of ocean waters).

4. FOOD & AGRIC. ORG. OF THE U.N., THE STATE OF WORLD FISHERIES AND AQUACULTURE: OPPORTUNITIES AND CHALLENGES 7 (2014), http://www.fao.org/3/a-i3720e.pdf (globally "28.8 percent" of fish stocks were overfished in 2011). Other studies suggest that the conditions of global fisheries are much worse than the FAO data implies. A 2009 article, based on an analysis of 166 global fish stocks, concluded that "[f]or about two-thirds of the examined stocks (63%), biomass (B) has dropped below the traditional single-species management target of MSY, that is, $B < B_{MSY}$." Boris Worm et al., *Rebuilding Global Fisheries*, 325 SCI. 578, 579 (2009). As Sewell et al. explain, this finding indicates that about "63%" of the worldwide fish stocks "need . . . rebuilding." BRAD SEWELL ET AL., NAT. RES. DEF. COUNCIL, BRINGING BACK THE FISH: AN EVALUATION OF U.S. FISHERIES REBUILDING UNDER THE MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT 16 (2013), http://www.nrdc.org/oceans/files/rebuilding-fisheries-report.pdf (citing Worm et al., *supra*). A 2016 article, based on an analysis of 4,713 fisheries from around the world, suggests that only "32% of fisheries are in good biological . . . condition." Christopher Costello et al., *Global Fishery Prospects Under Contrasting Management Approaches*, 113(18) Proceedings of the National Academy of Sciences 5125, 5125 (2016); *see also* Boris Worm, *Commentary: Averting A Global Fisheries Disaster*, 113(18) Proceedings of the National Academy of Sciences 4895 (2016) (commenting on the significance of Costello et al., *supra*).

5. *See, e.g.*, Holly Doremus, *Why International Catch Shares Won't Save Ocean Biodiversity*, 2 MICH. J. ENVTL. & ADMIN. L. 385, 387 (2013); Jonathan Adler & Nathaniel Stewart, *Learning How to Fish*, 31 UCLA J. ENVTL. L. & POL'Y 150, 157 (2013); Shi-Ling Hsu, *What is a Tragedy of the Commons? Overfishing and the Campaign Spending Problem*, 69 ALA. L. REV. 75 (2005). The phrase the "tragedy of the commons" is credited to Garrett Hardin, *The Tragedy of the Commons*, 102 SCI. 1243 (1968).

Magnuson-Stevens Act or MSA).[6] The second is an economic hypothesis. It ascribes the improvement to the spread of property rights in fisheries now known as catch shares. This is a policy change that economists have been advocating for decades. The third is the community hypothesis. It credits the improvement to fishing communities becoming engaged in more sustainable management of fisheries.

The bulk of this article is concerned with outlining these three hypotheses, which should be the subject of empirical testing. People familiar with fisheries are well aware of the improvement in U.S. fisheries.[7] But, to my knowledge, no one has as yet attempted to systematically explain the improvement, taking into account the various factors that may have contributed.[8]

The article briefly concludes by emphasizing that the legal, economic and community hypotheses all raise an underlying question that itself is worthy of further inquiry: what was the political confluence of interests that facilitated the changes in fisheries

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6. 16 U.S.C. §§ 1801-1883 (2012). The federal fisheries statute bears the names of two U.S. senators who profoundly influenced U.S. fisheries policy, Senator Warren Magnuson and Senator Ted Stevens. James P. Walsh, *The Origins and Early Implementation of the Magnuson-Stevens Fishery Conservation and Management Act of 1976*, 42 COASTAL MGMT. 409, 410, 419, 422-23 (2014).

7. There are many references to the improvement in the status of U.S. fish stocks in the literature geared to fisheries specialists. *See, e.g.,* Allison K. Barner et al., *Solutions for Recovering and Sustaining the Bounty of the Ocean Combining Fishery Reforms, Rights-Based Fisheries Management, and Marine Reserves*, 28:2 OCEANOGRAPHY 252, 254-55 (2015); Robin A. Pelc et al., *Further Action on Bycatch Could Boost United States Fisheries Performance*, 56 MARINE POL'Y 56, 56 (2015); SEWELL ET AL., *supra* note 4; THE PEW CHARITABLE TR. & OCEAN CONSERVANCY, THE LAW THAT'S SAVING AMERICA'S FISHERIES: THE MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT (2013), http://www.oceanconservancy.org/our-work/fisheries/ff-msa-report-2013.pdf; Melissa S. Kearney et al., *What's the Catch? Challenges and Opportunities of the U.S. Fishing Industry*, THE HAMILTON PROJECT (2014), http://www.hamiltonproject.org/assets/legacy/files/downloads_and_links/Challenges_opportunities_fishing_industry_policybrief.pdf. There also has been some press coverage of the rebuilding of U.S. fish stocks. Wendy Koch, *U.S. Fish Stocks Rebound; Two-Third Back from Depletion*, USA TODAY (Mar. 13, 2013), http://www.usatoday.com/story/news/nation/2013/03/13/depleted-fisheries-rebound-nrdc/1983297/ (reporting on the report by SEWELL ET AL., *supra* note 4 on effectiveness of rebuilding provisions); Sylvia Rowley, *How Dwindling Fish Stocks Got a Reprieve*, N.Y. TIMES (Apr. 19, 2016), http://opinionator.blogs.nytimes.com/2016/04/19/how-dwindling-fish-stocks-got-a-reprieve/ (analyzing the reasons for the recovery of U.S. fisheries, including federal legislative amendments and greater use of catch shares).

8. There are recent empirical analyses of the effectiveness of the rebuilding requirements in the Magnuson-Stevens Act in rebuilding overfished fish stocks, which provide support for the idea that these requirements have contributed to the improvement in fish stocks. SEWELL ET AL., *supra* note 4; Kimberly Lai Oremus et al., *The Requirement to Rebuild US Fish Stocks: Is It Working?*, 47 MARINE POL'Y 71 (2014); COMM. ON EVALUATING THE EFFECTIVENESS OF STOCK REBUILDING PLANS OF THE 2006 FISHERY CONSERVATION AND MGMT. REAUTHORIZATION ACT, NATIONAL RESEARCH COUNCIL, EVALUATING THE EFFECTIVENESS OF FISH STOCK REBUILDING PLANS IN THE UNITED STATES (2014) [hereinafter "Fish Stock Rebuilding Plans"]. However, this pioneering research analyzing the impact of the rebuilding provisions likely explains only part of the improvement in fish stocks overall. This improvement is likely related to fewer stocks being added to the overfished list, as well to the rebuilding of overfished stocks. *See infra* note 46 and accompanying text.

management that appear to have benefited fish stocks? Today, many of the fisheries that are most in need of regulatory attention are likely in the developing world and on the high seas.[9] U.S.-based conservation groups and foundations are taking an interest in projects to improve fisheries management in these regions.[10] As environmentalists seek to improve fisheries abroad, we should better understand the political constellation of interests that has accompanied progress in the United States.

II. THE STATE OF U.S. FISHERIES

The ecologist Garrett Hardin is credited with coining the term the "tragedy of the commons" in a famous article in the 1960s to convey the idea that a resource that is open to everyone is prone to overuse, especially when the resource is in demand.[11] Hardin himself described the oceans – and ocean fisheries – as an instance of the tragedy of the commons in his famous 1968 article.[12] It is easy

9. Barner et al., *supra* note 7, at 253, 258-59 (Box 3: Fish Forever, A Collaborative TURF-Reserve Pilot Program); Tony J. Pitcher & William Cheung, *Fisheries: Hope or Despair?*, 74 MARINE POLLUTION BULL. 506 (2013); Crow White & Christopher Costello, *Close the High Seas to Fishing?*, 12 PLOS BIOLOGY 3 (2014). The U.S. is not alone among developed countries in witnessing an improvement in the biological health of its fish stocks. The status of fish stocks also appears to have improved in some developing countries. FOOD & AGRIC. ORG. OF THE U.N., *supra* note 4 (referring to improvements in the health of fish stocks in New Zealand, Australia, the European Union, Namibia and Mexico); Fish Stock Rebuilding Plans, *supra* note 8, at 5 (Australia, Canada and New Zealand have similar approaches to U.S. for rebuilding overfished fish stocks). *But see* SEWELL ET AL., *supra* note 4, at 16 (fisheries in "many developed nations, such as those in the European Union (EU), continue to lag in controlling overfishing and rebuilding fish populations"). According to the FAO, globally, the share of fisheries at "biologically unsustainable level[s]" "peaked at 32.5 percent in 2008 before declining slightly to 28.8 percent in 2011." FOOD & AGRIC. ORG. OF THE U.N., *supra* note 4, at 37.

10. *See, e.g.*, Barner et al., *supra* note 7, at 258; *Vibrant Oceans*, BLOOMBERG PHILANTHROPIES, http://www.bloomberg.org/program/environment/vibrant-oceans (last visited Mar. 13, 2016) (describing "the Vibrant Oceans Initiative, a $53 million, 5-year effort to boost fish populations in Brazil, the Philippines and Chile"); *Save the Oceans Feed the World*, OCEANA, http://oceana.org/our-campaigns/save_oceans_feed_world/campaign (last visited Mar. 13, 2016) ("Oceana focuses on countries that control the world's fish catch. . . . the United States, Europe, Belize, Brazil, Canada, Chile and Philippines."); *Oceans Policy and Resources*, ENVTL. DEF. FUND, https://www.edf.org/oceans/oceans-policy-and-resources (last visited Mar. 13, 2016) ("EDF is working . . . in places like the United States, European Union, Mexico and Belize, where reforms are taking hold, as well as in Indonesia, Philippines, Cuba and other countries."); *Marine Conservation*, WALTON FAMILY FOUND., http://www.waltonfamilyfoundation.org/our-impact/environment/marine-conservation (last visited Nov. 9, 2015) (describing work in "four priority ecosystems" around the world).

11. *See* John M. Grohl, *The Tragedy of the Commons*, WORLD OF PSYCHOLOGY (last visited Nov. 1, 2015), http://psychcentral.com/blog/archives/2009/07/29/the-tragedy-of-the-commons/ (discussing the origin of the term coined by Hardin and its significance). The phenomenon to which the tragedy refers was well known before Hardin. ELINOR OSTROM, GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION 2-3 (1990).

12. Hardin, *supra* note 5, at 1245 ("[T]he oceans of the world continue to suffer from the survival of the philosophy of the commons. Maritime nations still respond automatically to the shibboleth of the 'freedom of the seas.' Professing to believe in the 'inexhaustible re-

to understand why Hardin conceived of ocean fisheries in these terms. When he was writing in the late 1960s, it was a reasonable, although not entirely accurate, assumption that the oceans were open to anyone to fish, since the 1982 United Nations Convention on the Law of the Sea was yet to come.[13] When fisheries are indeed open to anyone each fisher likely will consider the costs and benefits only to him, or her, of taking fish from the sea in deciding how many fish to catch. [14] A fisher is not likely to give much, if any, weight to the costs that taking fish imposes on the fish population, the marine environment, or other fishers because these costs are largely external to the fisher. Even if the fisher did consider the social costs of the fisher's actions, it still might not make sense for the fisher to abstain from fishing, because the fisher has no right to exclude others from taking the fish that are left behind. Another fisher could come along at any point and take these fish because the oceans are open to everyone.[15]

A. Ocean Fisheries Are Not A Commons

It is no longer accurate to think of ocean fisheries as open to everyone. In the decades after World War II many ocean fisheries stopped being pure commons.[16] Many countries claimed control

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sources of the oceans,' they bring species after species of fish and whales closer to extinction."). Hardin is criticized for wrongly equating a commons with open access, and implying that common grazing lands were overused. Rose, *supra* note 1, at 410; Robert Ellickson, *Property in Land*, 102 YALE L. J. 1315, 1381 (1993). In this article I am following Hardin in equating a commons with open access, though I recognize that Hardin is better described as referring to the difficulties created by open access.

13. Historically, states controlled a three-mile area on their shores. After World War II countries began making claims to control coastal fisheries in areas that historically had been beyond national control. For historical perspectives, see Katrina M. Wyman, *From Fur to Fish: Reconsidering the Evolution of Private Property*, 80 N.Y.U. L. REV. 117, 152-53, 152-53 nn.85-89 (2005); R.P. Anand, *Changing Concepts of Freedom of the Seas: A Historical Perspective*, *in* FREEDOM FOR THE SEAS IN THE 21ST CENTURY: OCEAN GOVERNANCE AND ENVIRONMENTAL HARMONY 72 (John M. Van Dyke et al. eds., 1993); Christopher J. Carr & Harry N. Scheiber, *Dealing with a Resource Crisis: Regulatory Regimes for Managing the World's Marine Fisheries*, 21 STAN. ENVTL. L.J. 45, 51-53 (2002).

14. I follow Barner et al. in using the gender neutral term "fisher." Barner et al, *supra* note 7, at 253 n.1.

15. *See also* Adler & Stewart, *supra* note 5, at 158. As discussed further below, the work of Elinor Ostrom and others has demonstrated that the tragedy of the commons is not inevitable and there are situations where individuals will consider the implications of their actions for others and sustainably manage resources. Elinor Ostrom, *Prize Lecture: Beyond Markets and States: Polycentric Governance of Complex Economic Systems*, LES PRIX NOBEL 408, 435 (2009) ("humans have a more complex motivational structure and more capability to solve social dilemmas than posited in earlier rational-choice theory"), http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/2009/ostrom_lecture.pdf; *see also id.* at 426, 432.

16. This discussion of the enclosure of ocean fisheries under national jurisdiction draws on Wyman, *supra* note 13, at 152-57. For another recent discussion of the same phenomenon, *see* Doremus, *supra* note 5, at 387-93.

over fisheries far from their shores.[17] The United States extended its control over ocean fisheries to 200 miles from its shores in 1976 by legislating a Fishery Conservation Zone that later became the U.S. Exclusive Economic Zone (EEZ).[18] The 1982 United Nations Convention on the Law of the Sea, which came into force in 1994, codified the right of countries to enclose fisheries within EEZs.[19] Today, there are very few ocean fisheries that truly are commons because there are few fisheries that are entirely located in the high seas — the area of the oceans beyond the EEZs under national control.[20]

The enclosure of ocean fisheries under national control meant that nation-states could now exclude foreigners from fishing in areas 200 miles from the shore. Indeed, keeping out foreign fleets and "Americanizing" fisheries off U.S. shores was a key reason that the United States extended its control over ocean fisheries to 200 miles from its shores in 1976.[21] The federal statute that created the Fishery Conservation Zone was very successful in driving out foreign fishers — the share of commercial fish catches in the U.S. EEZ caught by foreign fishers declined from 60% in 1981 to roughly "1% in 1991."[22]

However, once countries gained the ability to reserve the fisheries off their shores for their own nationals, they often did not move quickly to strictly regulate their own fishers. As a recent

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17. Carr & Scheiber, *supra* note 13, at 52; Walsh, *supra* note 6, at 412-15, 420; Wyman, *supra* note 13, at 153 n.89.

18. Wyman, *supra* note 13, at 153-54 n.89; *see also* Fish Stock Rebuilding Plans, *supra* note 8, at 15-16.

19. U.N. Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397; Wyman, *supra* note 13, 153 & n.89; *Status of the United Nations Convention on the Law of the Sea*, UNITED NATIONS, http://www.un.org/depts/los/reference_files/status2010.pdf (last visited Feb. 14, 2016). The United States has not ratified the Convention, though the United States complies with the terms of the Convention.

20. Katrina M. Wyman, *The Property Rights Challenge in Marine Fisheries*, 50 ARIZ. L. REV. 511, 519, 519 n.48 (2008). *See also* CHARLES S. PEARSON, ECONOMICS AND THE GLOBAL ENVIRONMENT 431 (2000) (stating that "over 90 percent of ocean fisheries [are] under national control"); Harry N. Scheiber, *Ocean Governance and the Marine Fisheries Crisis: Two Decades of Innovation – and Frustration*, 20 VA. ENVTL. L.J. 119, 126 (2001) (at the time of the United Nations Convention on the Law of the Sea, "an estimated 85% or more of commercially exploitable fish stocks and all then-known exploitable seabed mineral resources were located in the EEZ ocean areas"). Scholarship recently has focused attention on the significant extent to which fisheries occur in both the high seas and EEZs. Cassandra M. Brooks et al., *Challenging the 'Right to Fish' in a Fast-Changing Ocean*, 33 STAN. ENVTL. L.J. 289, 294 (2014); U. Rashid Sumaila et al., *Winners and Losers in a World Where the High Seas Is Closed to Fishing*, 5 SCI. REP. 1, 2 (2015).

21. Fish Stock Rebuilding Plans, *supra* note 8, at 15-16; Walsh, *supra* note 6, at 417, 422; Wyman, *supra* note 13, at 153-54 & n.89.

22. Fish Stock Rebuilding Plans, *supra* note 8, at 24 ("The FCMA effectively reduced foreign fishing within the United States' EEZ from approximately 60% of the commercial catch in 1981 to approximately 1% in 1991. Meanwhile, domestic fisheries grew. Foreign fishing in the U.S. EEZ is insignificant today although there is some foreign ownership of U.S. fishery enterprises.").

report from the National Academy of Sciences explained, when the U.S. asserted control over fisheries out to 200 miles in the 1970s, "[m]any stakeholders and members of Congress did not believe that it was necessary to regulate U.S. fisheries to any significant degree."[23] The result was that a variation on the tragedy of the commons played out in fisheries, now under national control, in what we might call a "tragedy of the national commons."[24] While ocean fisheries off U.S. shores were now controlled by the federal government, the federal government initially imposed few limitations on fish catches.[25] The consequences were predictable; by the early 1990s, many U.S. fish stocks were overfished — 43% according to a 1992 report from the National Marine Fisheries Service (NMFS).[26] Like global fish catches, U.S. catches peaked in the mid-1990s.[27]

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23. Fish Stock Rebuilding Plans, *supra* note 8, at 22; *see also* Doremus., *supra* note 5, at 388-89.

24. *See* Bonnie J. McCay, *Enclosing the Fishery Commons: From Individuals to Communities*, *in* PROPERTY IN LAND AND OTHER RESOURCES 219, 220 (Daniel H. Cole & Elinor Ostrom eds., 2012) ("Tragedies of the fisheries commons continued, but within, rather than outside, national boundaries.").

25. MICHAEL L. WEBER, FROM ABUNDANCE TO SCARCITY: A HISTORY OF U.S. MARINE FISHERIES POLICY 174 (2002) ("The era of laissez-faire development of fisheries began closing in July 1989 when the NMFS issued revised guidelines for implementing the national standards of the Magnuson-Stevens Act."); *see also* Fish Stock Rebuilding Plans, *supra* note 8, at 24-25 (discussing "'602 guidelines'" issued in 1989). However, NMFS staff noted the need to contain pressure on fishery resources even before 1989. WEBER, *supra* at 178.

26. NAT'L OCEAN AND ATMOSPHERIC ADMIN., OUR LIVING OCEANS: REPORT ON THE STATUS OF U.S. LIVING MARINE RESOURCES 11 (1992) ("Across all regions combined, for those stocks where the status is known, . . . 43% are below the stock level necessary to support LTPY [long-term potential yield]."). A stock below LTPY is overfished. *Status of Fisheries of the United States 1997*, NAT'L MARINE FISHERIES SERV., http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/1997-2002/status_of_fisheries_1997_report.pdf (last visited Mar. 3, 2016). ("Species that are listed in OLO [Our Living Oceans] as 'below' and 'far below' stock levels necessary to produce LTPY are considered 'overfished,' and those listed as 'near' and 'above' stock levels necessary to produce LTPY are considered 'not overfished.'"). *See also* Wyman, *supra* note 13, at 204 n.226 (comparing utilization rates and stock relative to long-term potential yield). The 43% percent refers to the percentage of federally managed fisheries that were overfished, not the percentage of federally and state managed fisheries combined that were overfished. *Our Living Oceans: Report on the Status of U.S. Living Marine Resources*, NAT'L MARINE FISHERIES SERV., http://www.st.nmfs.noaa.gov/LivingOceans.html (last visited June 15, 2016) ("Since 1991, [Our Living Oceans] . . . reports have presented an overview of the principal fishery resources, marine mammals, and sea turtles that are under the management jurisdiction of NOAA Fisheries").

A note is in order about the name of the agency. The National Marine Fisheries Service (NMFS) is also called NOAA Fisheries, as the agency is housed in the National Oceanic and Atmospheric Administration (NOAA) in the U.S. Department of Commerce. *Our Mission*, NAT'L MARINE FISHERIES SERV., http://www.nmfs.noaa.gov/aboutus/our_mission.html (last visited June 15, 2016).

27. CHRISTOPHER COSTELLO, THE HAMILTON PROJECT, TOMORROW'S CATCH: A PROPOSAL TO STRENGTHEN THE ECONOMIC SUSTAINABILITY OF U.S. FISHERIES 5-6 (Sept. 2014) ("[O]verall [U.S.] fish landings peaked in the mid-1990s at about 5 million metric tons . . . and revenue peaked in the late 1970s at almost $8 billion."); FOOD & AGRIC. ORG. OF THE U.N., *supra* note 4 at 37 ("The world's marine fisheries expanded continuously to a production peak of 86.4 million tonnes in 1996 but have since exhibited a general declining

B. U.S. Coastal Fisheries Are No Longer Tragic

Now consider the biological status of U.S. fisheries today. I rely on two sources to make the point that the health of U.S. fisheries has improved.

The first is a series of reports that NMFS has been statutorily required to prepare annually for Congress since the late 1990s on the biological status of U.S. fish stocks under federal jurisdiction.[28] There have been changes over time in these reports such that the status determinations in the early reports are not entirely comparable to the status determinations in the reports from after 2005.[29] But the reports are useful because they are a historical series that goes back nearly to the time when fish catches peaked along U.S. shores.[30] The first of these reports on the status of U.S. fish stocks was published in 1997, and the most recent covers 2014.[31]

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trend."); *Id.* at 41 ("The declining trend in global marine catch has been seen since 1996, although with large fluctuations.").

28. Sustainable Fisheries Act of 1996, Pub. L. No. 104-297, § 109(e), 110 Stat. 3559, 3581 (amending 16 U.S.C. § 1854(e)); *see* 16 U.S.C. § 1854(e)(1) (2012).

29. *See* NAT'L MARINE FISHERIES SERV., ANNUAL REPORT TO CONGRESS ON THE STATUS OF U.S. FISHERIES – 2001 at 2 (2002), http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/1997-2002/status_of_fisheries_report_congress_2001.pdf [hereinafter "NAT'L MARINE FISHERIES SERV. 2001"]; Email from Galen Tromble, Chief, Domestic Fisheries Division, Office of Sustainable Fisheries, National Marine Fisheries Service, to author (Oct. 30, 2015, 17:05 EST) (on file with author). For example, the reports from the late 1990s classified fish stocks as overfished based on mortality rates and/or biomass levels. Beginning in its 2000 report, NMFS applied the label overfished to fish stocks solely based on their biomass levels. NAT'L MARINE FISHERIES SERV., REPORT TO CONGRESS: STATUS OF FISHERIES OF THE UNITED STATES, App. 1 at 83 (2001), http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/1997-2002/status_of_fisheries_report_congress_2000.pdf [hereinafter "NAT'L MARINE FISHERIES SERV. 2000"]. The changes between the 1999 and 2000 reports affected the number of overfished stocks, and resulted in NMFS offering a new number of overfished fish stocks (and new numbers of other categories of fish stocks) for 1999 in its 2000 report. *Id.* at 7-8, 83; NAT'L MARINE FISHERIES SERV., REPORT TO CONGRESS: STATUS OF FISHERIES OF THE UNITED STATES 1 (1999), http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/1997-2002/status_of_fisheries_report_congress_1999.pdf. NMFS made a second important methodological change concerning the unit of analysis in 2005. "Before 2005, determinations for some stock complexes (groups of stocks) were applied to individual stocks - so one assessment could lead to many reported determinations. Starting in 2005, [NMFS] began reporting a single determination for each defined complex . . . . [T]he total number of reported stocks/stock complexes went down then as well. Now, determinations are made at the complex level, or at an indicator stock level." Email from Galen Tromble, Chief, Domestic Fisheries Division, Office of Sustainable Fisheries, National Marine Fisheries Service, to author (Oct. 30, 2015, 17:05 EST).

30. *See* NAT'L MARINE FISHERIES SERV., 2002 REPORT TO CONGRESS: THE STATUS OF U.S. FISHERIES at iv (2003), http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/1997-2002/status_of_fisheries_report_congress_2002.pdf.

31. *Stock Status Archive*, NAT'L MARINE FISHERIES SERV., http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/stock_status_archive.html (last visited Mar. 5, 2016).

The reports on the status of U.S. stocks provide one indication that U.S. fisheries are considerably healthier today than they were in the 1990s. The 1997 report indicates that 31% of U.S. fish stocks whose overfished status was known were overfished.[32] The 2014 report indicates that 16% are overfished — a 15 percentage point drop in overfished stocks in seventeen years.[33] The data do not suggest that there has been a straightforward decline in the share of overfished stocks since 1997. But since 2002, the percentage of overfished stocks has either dropped or stayed constant from year to year, except for once between 2005 and 2006 when there was a small increase. Figure 1 graphically illustrates the trend line. For each year between 1997 and 2014, it shows the percentage of overfished stocks. The numerator for each data point is the number of fish stocks NMFS classifies as overfished; the denominator is the total number of fish stocks whose overfished status was known that year.

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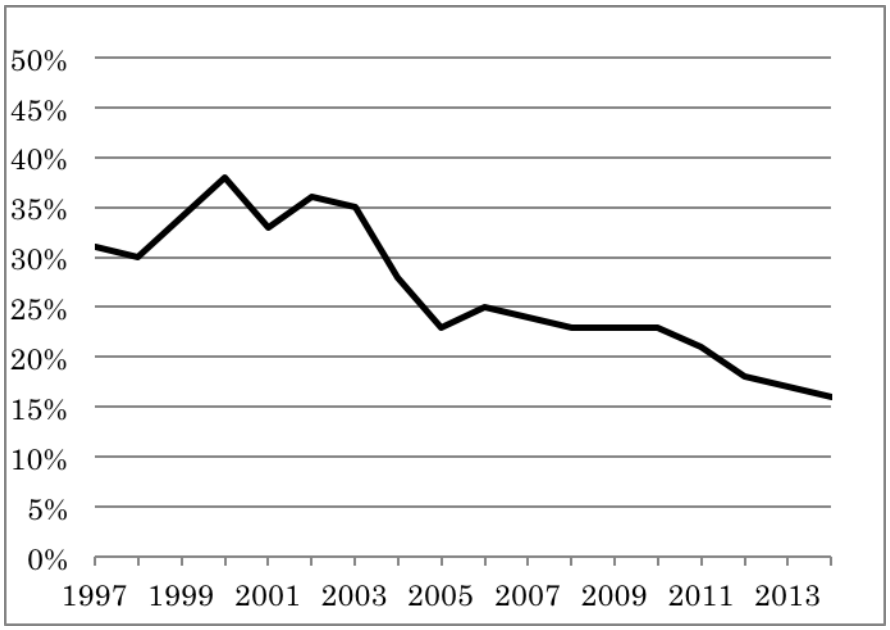
32. *See* NAT'L MARINE FISHERIES SERV., REPORT TO CONGRESS ON THE STATUS OF U.S. FISHERIES 3 (1997), http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/1997-2002/status_of_fisheries_1997_report.pdf [hereinafter "NAT'L MARINE FISHERIES SERV. 1997"].

33. NAT'L MARINE FISHERIES SERV., 2014 ANNUAL REPORT TO CONGRESS ON THE STATUS OF U.S. FISHERIES at 1 (2015), http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/2014/2014_status_of_stocks_final_web.pdf [hereinafter "NAT'L MARINE FISHERIES SERV. 2014"]. However, as noted above in the text, we should be cautious about directly comparing the numbers of overfished stocks in 1997 and 2014 because of changes in the reports over time. For example, before its 2000 report to Congress on the status of fish stocks, NMFS labeled fish stocks as overfished if their biomass levels were below a certain size or if the fishing mortality rate exceed a certain rate. After 2000, the overfished label was applied based only on biomass levels. NAT'L MARINE FISHERIES SERV. 2000, *supra* note 29, at App. 1 at 83; *see also* NAT'L MARINE FISHERIES SERV. 1997, *supra* note 32, at 3 (explaining how stock status was determined in the 1997 report); NAT'L MARINE FISHERIES SERV. 2014, *supra*, at 6 (explaining the terms "overfished" and "overfishing" in 2014 report).

Under NMFS's current approach, an overfished fish stock is essentially a stock whose biomass level is insufficient to achieve maximum sustainable yield. On the definition of overfished fish stocks, see 16 U.S.C. § 1802(34) (2012) ("The terms 'overfishing' and 'overfished' mean a rate or level of fishing mortality that jeopardizes the capacity of a fishery to produce the maximum sustainable yield [MSY] on a continuing basis."); 50 C.F.R. § 600.310(e)(2)(i)(E) (2016) ("A stock or stock complex is considered 'overfished' when its biomass has declined below MSST."). "Minimum stock size threshold (MSST) means the level of biomass below which the capacity of the stock or stock complex to produce MSY on a continuing basis has been jeopardized." 50 C.F.R. § 600.310(e)(2)(i)(F) (2016). Maximum Sustainable Yield "is the largest long-term average catch or yield that can be taken from a stock or stock complex under prevailing ecological, environmental conditions and fishery technological characteristics (e.g., gear selectivity), and the distribution of catch among fleets." 50 C.F.R. § 600.310(e)(1)(i)(A) (2016). On recent changes by NMFS to the guidelines for implementing the national standards in the Magnuson-Stevens Act, including changes to the definition of overfished, see U.S. Dept. of Commerce, Nat'l Oceanic and Atmospheric Admin., Magnuson-Stevens Act Provisions; National Standard Guidelines, Final Rule, 81 Fed. Reg. 71858 (Oct. 18, 2016).

Figure 1:
Percentage of U.S. Fish Stocks Classified as Overfished (1997-2014)[34]



The National Marine Fisheries Service's Fish Stock Sustainability Index (FSSI) is the second data source illustrating the improvement in the status of U.S. fish stocks. The FSSI, which was established by the NMFS in 2005, "currently" is based on data about "199 [federally managed] fish stocks . . . which represent 85 percent of total catch."[35] As a result of recent changes to the methodology for calculating the FSSI, the agency now calculates the FSSI "on a 1,000 point scale," in which 1,000 is the best score possible.[36] The agency awards fish stocks points based on whether their overfished and overfishing status are known, whether their stocks are subject to overfishing or above overfished levels, and close to maximum sustainable yield, as reflected in "stock assess-

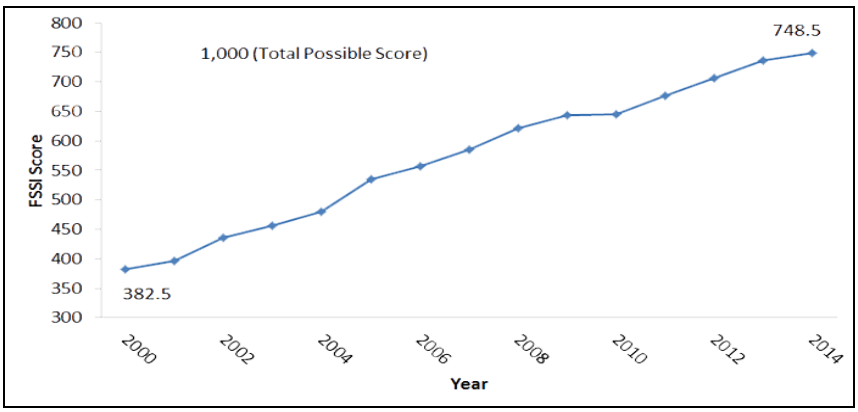
34. Figure 1 was prepared using data contained in NMFS's annual status of the stocks reports. Appendix 1 explains the data used, and choices made, in preparing Figure 1. For a similar graph, see THE PEW CHARITABLE TR. & OCEAN CONSERVANCY, *supra* note 7, at 13 (Status of U.S. fish stocks, 1997-2012).

35. *Fish Stock Sustainability Index*, NAT'L MARINE FISHERIES SERV., http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/fssi.html (last visited Feb. 16, 2016) [hereinafter "NOAA FISHERIES, *Fish Stock Sustainability Index*"].

36. *FSSI Scoring Methodology*, NAT'L MARINE FISHERIES SERV., http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/fssi_scoring.html (last visited Feb. 16, 2016) [hereinafter "NOAA FISHERIES, *FSSI Scoring Methodology*"]; *see also* NOAA FISHERIES, *Fish Stock Sustainability Index*, *supra* note 35.

ments and stock status determinations."[37] The status of the stocks reports used to prepare Figure 1, and the FSSI in Figure 2, are not completely independent sources of data about fisheries because NMFS relies on the same stock status assessments and determinations in preparing the status of the stocks reports and the FSSI.[38] As illustrated in Figure 2, NFMS calculates that the FSSI stood at 382.5 in 2000, and 748.5 in 2014.[39] In other words, the FSSI has increased by 366 points, or roughly 96%, in fourteen years.

Figure 2:
NOAA Fisheries' Fish Stock Sustainability Index[40]



The drop in the percentage of fish stocks classified as overfished and the increase in the FSSI provide strong evidence that the health of U.S. fish stocks has significantly improved in roughly the past decade. More refined analysis is necessary to pinpoint precisely the date that the recovery began. The data in Figure 1 about the percentage of overfished stocks suggest that fish stocks generally have been recovering since approximately 2002 because the percentage of stocks classified as overfished has fallen, or not increased, year-over-year since then — except for once in the mid-2000s. NMFS's FSSI in Figure 2 suggests that fish stocks have become steadily more sustainable since 2000, the first year of the index. Other sources, including environmental groups such as the

37. NOAA FISHERIES, *FSSI Scoring Methodology*, *supra* note 36.

38. *Status of U.S. Fisheries*, NAT'L MARINE FISHERIES SERV., http://www.fisheries.noaa.gov/sfa/fisheries_eco/status_of_fisheries/ [hereinafter "NOAA FISHERIES, *Status of U.S. Fisheries*"]; NOAA FISHERIES, *FSSI Scoring Methodology*, *supra* note 36.

39. NOAA FISHERIES, *Fish Stock Sustainability Index*, *supra* note 35.

40. *Id.* (*Fish Stock Sustainability Index* graph can be found at http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/fssi.html). NMFS has granted approval to republish the FSSI graph. Email from Laurel Bryant, Chief External Affairs, NOAA Fisheries Communications Office to author (Oct. 28, 2015, 1:31 EST).

Natural Resources Defense Council (NRDC), also acknowledge the improvement in the biological status of U.S. stocks.[41]

A few caveats are in order. Sixteen percent of fish stocks whose overfished status is known are overfished.[42] The NMFS data relate to fisheries under federal management only, as NMFS does not report on fisheries under state jurisdiction.[43] There are many fisheries under federal control whose overfished status is not known, although the overfished status of most of the most important fisheries is known.[44] The status of fisheries could deteriorate again, for example due to climate change, which is already affecting fisheries.[45]

Setting aside the caveats, the point is that there has been important progress in managing fisheries under federal jurisdiction since the early to mid-2000s. Before we turn to possible explanations for this progress, it is worth recognizing the complexity of what needs to be explained. What I am describing as the improvement in the status of federally managed fisheries likely is the product of two developments: overfished fish stocks are recovering and consequently being removed from the overfished fish list, and fish stocks are not being added to the overfished list in numbers that cancel out the recovery of fish stocks.[46] Explaining the improvement in U.S. fish stocks therefore requires explaining two phenomena: why overfished fish stocks are recovering, and why more fish stocks are not becoming overfished.

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41. *See, e.g.*, SEWELL ET AL., *supra* note 4, at 17 ("as this evaluation shows, significant – indeed historic – progress has been made in rebuilding our nation's fisheries"); THE PEW CHARITABLE TR. & OCEAN CONSERVANCY, *supra* note 7, at 17 (citing sources).

42. NAT'L MARINE FISHERIES SERV. 2014, *supra* note 33, at 1.

43. *See* NOAA FISHERIES, *Status of U.S. Fisheries*, *supra* note 38; NOAA FISHERIES, *Fish Stock Sustainability Index*, *supra* note 35.

44. NAT'L MARINE FISHERIES SERV., NOAA FISHERIES 2013 REPORT TO CONGRESS ON THE STATUS OF U.S. FISHERIES 2 (2014), http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/2013/status_of_stocks_2013_web.pdf (the overfished status of 248 stocks is unknown, while the overfished status of 230 stocks is known; the overfished status of "79 percent" of the "stocks that contribute approximately 90 percent of total fishery landings" "is known").

45. *Climate, Fisheries, and Protected Resources*, NAT'L MARINE FISHERIES SERV., http://www.fisheries.noaa.gov/stories/2014/03/climate_portal.html (last visited Mar. 22, 2016).

46. NMFS's 2014 status of the stocks report provides some basis for believing that this is what is occurring. It states that 37 stocks have been "rebuilt since 2000," and that the number of fish stocks on the overfished and overfishing lists "are at all-time lows." NAT'L MARINE FISHERIES SERV. 2014, *supra* note 33, at 1. It would be desirable to empirically examine the identity of the fish stocks categorized as overfished in the U.S., for example, to determine if the fish stocks categorized as overfished tend to remain categorized as such for long periods of time, or whether fish stocks are categorized as overfished for short periods of time, only to be replaced by other fish stocks on the overfished list.

III. THREE HYPOTHESES

When Hardin coined the term "the tragedy of the commons" to describe what can happen to resources when everyone has access to them, he emphasized that the tragedy "is not inevitable"[47] and that it can be overcome by restricting access to the resource.[48] Hardin essentially identified two ways of restricting access: the resource could remain publicly owned but governments could regulate access to it, for example by charging a fee to use it; or the resource could be sold off, and individuals could acquire private property rights that would allow them to exclude others from using the resource.[49] Political scientist Elinor Ostrom later identified a third option in addition to government regulation and private property: communities can avoid the tragedy of the commons by organizing themselves to manage resources.[50] In 2009 Ostrom won a Nobel Prize in economics for challenging the idea that the tragedy of the commons was inevitable without government regulation or private property.[51]

The three hypotheses that I offer for the improvement in U.S. fish stocks are inspired by these three options for avoiding the tragedy of the commons. They focus attention on the possibility that the improvement is due to government regulation, property rights in fisheries, or community management.[52]

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47. Adler & Stewart, *supra* note 5, at 159.

48. *Id.* at 159-60 ("By restraining consumption and controlling access to a common resource, the commons can be conserved. This can be accomplished, in Hardin's formulation, either by private property or government regulation to restrict access and use of the underlying resource.").

49. *See, e.g.*, Hardin, *supra* note 5, at 1245. Hardin provocatively stated that he favored "mutual coercion, mutually agreed upon by the majority of people affected." *Id.* at 1247. As Shi-Ling Hsu argues, "the implications of Hardin's [narrative and this phrase] . . . are not" entirely "clear" and, as Hsu does, we could interpret Hardin as arguing "that something needed to be done, but [not] . . . distinguish[ing] between a governmental solution and a privatization solution, or the range of options in between." Hsu, *supra* note 5, at 79. This is why I say that Hardin "essentially" identified two ways of restricting resource access.

50. *See generally,* OSTROM, *supra* note 11.

51. Elinor Ostrom & Oliver E. Williamson, *The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2009*, http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/2009/ostrom-facts.html (last visited Mar. 22, 2016).

52. My three hypotheses are not intended to be exhaustive, and there are other possible explanations for the improvement that also should be analyzed. For example, it is worth investigating if there has been a reduction in demand for wild fish caught off U.S. shores that has translated into less "fishing pressure." Even if demand for these fish has indeed fallen in recent years, however, this development might not be completely exogenous to the regulatory regime that is the focus of my first hypothesis, the legal hypothesis. By curtailing fish catches, the regulatory regime may have increased the price for U.S. wild caught fish, and contributed to the reduction in demand. Another variable that should be considered is whether the ecological conditions in which fisheries exist have changed in some ways that have enabled some fish populations to increase. The legal, economic and community hypotheses in this article all concern the human dimension of fisheries management, but the ecological dimension is also worth considering as an explanatory variable.

A. Legal Hypothesis

I begin with the legal hypothesis that changes in the main federal statute governing federal fisheries account for the recovery in fish stocks since the 2000s. I suspect that many of those familiar with the improvement in fish stocks would attribute it to legislative and regulatory changes to the federal fisheries management regime.[53]

1. Background

To understand the legal hypothesis, it is necessary to take a brief detour into the institutional structure for federal regulation of fisheries. The Magnuson-Stevens Act (MSA), the 1976 Congressional statute that extended U.S. jurisdiction over fisheries out to 200 miles, created an institutional apparatus for regulating the fisheries that came under federal control.[54] That structure, which largely persists to this day, is not the Washington D.C. agency-centric form of cooperative federalism in important pollution control statutes such as the Clean Air Act. Instead, it is a highly regionalized management structure in which a federal agency largely plays an oversight role. The MSA established eight regional fishery management councils and allocated to each council control over the fisheries in federal waters within a defined geographic area.[55] The councils are required to manage fisheries by preparing and amending fishery management plans. These plans and their amendments must comply with the requirements of the MSA, such as the Act's national standards.[56] The National Marine Fisheries Service, which is housed in the Department of Commerce, must approve the fishery management plans for them to take effect,[57] but the agency rarely disapproves management

53. There are many suggestions in the literature commenting on the improvement that attribute it to reforms to the Magnuson-Stevens Act. *See, e.g.*, Shaun M. Gehan & Michele Hallowell, *Battle to Determine the Meaning of the Magnuson-Stevens Fisheries Conservation and Management Reauthorization Act of 2006: A Survey of Judicial Decisions*, 18 OCEAN & COASTAL L.J. 1 (2012); Fish Stock Rebuilding Plans, *supra* note 8; NAT'L MARINE FISHERIES SERV. 2014, *supra* note 33; THE PEW CHARITABLE TR. & OCEAN CONSERVANCY, *supra* note 7, at 17.

54. Before 1976, the federal government played little role in managing fisheries. Eric Schwaab, *The Road to End Overfishing: 35 Years of the Magnuson Act* (Apr. 13, 2011), http://www.nmfs.noaa.gov/sfa/laws_policies/msa/documents/msa_35_years.pdf ("In 1976, federal management of marine fisheries was virtually non-existent.").

55. 16 U.S.C. § 1852(a)(1) (2012). Two councils are responsible for federal fisheries off the coast of Florida: the South Atlantic Council, and the Gulf Council. 16 U.S.C. § 1852(a)(1)(C) and (E) (2012).

56. 16 U.S.C. § 1851 (2012).

57. 16 U.S.C. § 1853(c) (2012); 16 U.S.C. §1854(a) (2012).

measures proposed by the councils.[58] NMFS has very limited authority to initiate management measures[59] except in the case of a relatively small number of highly migratory species for which it is directly responsible.[60]

The regional fishery management councils are the main drivers of policy under the MSA[61] — and these councils are dominated by fishing industry interests by statutory design.[62] Under the MSA, the majority of the voting members of each council are appointed by the Secretary of Commerce based on lists submitted by state governors.[63] Over half of Secretarial appointments are from the commercial and recreational fishing sectors, reflecting several statutorily prescribed features of the appointments process.[64] The

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58. JOSH EAGLE ET AL., TAKING STOCK OF THE REGIONAL FISHERY MANAGEMENT COUNCILS 32 (2003).

59. *Id.* at 33; *see, e.g.*, 16 U.S.C. § 1854(c) (2012) (Secretary may prepare fishery management plan if council fails to prepare a plan if "fishery requires conservation and management"); 16 U.S.C. § 1854 (e)(5) (2012) (Secretary must prepare rebuilding plan if council does not prepare such a plan within 2 years of being notified by the Secretary that a fishery is overfished); 16 U.S.C. § 1855(c) (2012) (Secretary "may promulgate emergency regulations or interim measures … to address the emergency or overfishing").

60. 16 U.S.C. § 1852(a)(3) (2012); 16 U.S.C. § 1854(e) (2012); 16 U.S.C. § 1854(g) (2012); Fish Stock Rebuilding Plans, *supra* note 8, at 23. Email from Galen Tromble, Chief Domestic Fisheries Division, Office of Sustainable Fisheries, National Marine Fisheries Service to author (Nov. 4, 2015, 11:11 EST) (on file with author). "NMFS manages Atlantic HMS [highly migratory species] under a Secretarial FMP [fishery management plan]. In 2015, that FMP includes 31 stocks and stock complexes . . . . HMS in the Pacific and Western Pacific are managed in Council FMPs."

61. Craig W. Thomas et al., *Special Interest Capture of Regulatory Agencies: A Ten-Year Analysis of Voting Behavior on Regional Fishery Management Councils*, 38 POL'Y STUD. J. 447, 449 (2010); Robert Holahan, *Investigating Interest Group Representation on the Pacific Fisheries Management Council*, 36 MARINE POL'Y 782, 783 (2012).

62. On the intentions behind the original design of the MSA, see Wyman *supra* note 13, at 178 n.164 (citing sources).

63. 16 U.S.C. § 1852(a) (2012) (specifying the total number of voting council members, including the number appointed by Secretary of Commerce).

64. In 2014, across all councils, 72% of council members appointed by the Secretary represented commercial and recreational fishing sector interests; the remaining 18% were in an "other" category that NMFS defines as "members with knowledge of and experience in biological, economic, or social sciences; environmental or ecological matters; consumer affairs; and associated fields." NAT'L MARINE FISHERIES SERV. ET AL., 2014 REPORT TO CONGRESS ON THE DISCLOSURE OF FINANCIAL INTEREST AND RECUSAL REQUIREMENTS FOR REGIONAL FISHERY MANAGEMENT COUNCILS AND SCIENTIFIC AND STATISTICAL COMMITTEES AND ON APPORTIONMENT OF MEMBERSHIP FOR REGIONAL FISHERY MANAGEMENT COUNCILS 11, 14 (2015). Looking at the data on a council-by-council basis, there was only one council out of eight where "other" appointments equaled the number of fishing interest representatives; on the other seven councils, at least two-thirds of the appointed members were fishing sector representatives. *Id.* at 14 (providing raw data). For evidence that the 2014 numbers are not anomalous, see EAGLE ET AL., *supra* note 58 at 5; Thomas A. Okey, *Membership of the Eight Regional Fishery Management Councils in the United States: Are Special Interests Over-represented?*, 27 MARINE POL'Y 193 (2003). Several features of the appointments process lead to industry representatives dominating the appointments made by the Secretary of Commerce. As mentioned above, the Secretary appoints council members from lists of nominees submitted by state governors. In compiling lists of nominees, state governors are required to consult "with representatives of the commercial and recreational fishing interests of the State." 16 U.S.C § 1852(b)(2)(C) (2012). The council members appointed by the Secre-

remaining voting members are state and federal fisheries regulators,[65] and the state regulators also often reflect commercial and recreational fishing perspectives.[66] Historically, there have been very few environmentalists sitting on the councils.[67] Environmentalists only began taking an interest in fisheries management in the late 1980s or early 1990s, prompted by the abrupt decline in the historic New England groundfish fishery in the late 1980s.[68]

The legal hypothesis credits the improvement in U.S. fisheries to major Congressional amendments to the MSA in the 1990s and 2000s that sought to contain the influence of the industry-dominated councils over fisheries management. I highlight two sets of legislative amendments: the rebuilding requirements that Congress initially added in 1996 and then strengthened in 2006,[69] and the annual catch limit requirements that Congress inserted in 2006.[70] These amendments seek to limit the discretion of the councils in two ways: by increasing the influence of science and scientists in fishery management and by instituting binding legal requirements that environmentalists and others can use to sue NMFS if it approves inconsistent council proposals.

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tary must be "knowledgeable regarding the conservation and management, or the commercial or recreational harvest, of the fishery resources of the geographical area concerned." 16 U.S.C. § 1852(b)(2)(A) (2012). The Secretary must, "to the extent practicable, . . . [ensure] a fair and balanced apportionment, on a rotating or other basis, of the active participants (or their representatives) in the commercial and recreational fisheries under the jurisdiction of [the] Council." 16 U.S.C. § 1852(b)(2)(B) (2012). Furthermore, the Secretary is required to report annually to House and Senate Committees on the implementation of the fair and balanced apportionment requirement. For these reports, see *Council Reports to Congress*, NAT'L MARINE FISHERIES SERV., http://www.nmfs.noaa.gov/sfa/management/councils/report_congress/reports.htm (last visited Mar. 22, 2016).

A recent article analyzing voting on the Pacific Fishery Management Council argues that the "coalitional structure on the [Council] . . . is best understood by the shared policy objectives of representatives from individual states, not by the broad interest groups these interests represent. While it may be the case that individuals view themselves as representatives of a particular interest group, this only appears to occur by state – a representative of the commercial fishing industry from California, for example, votes in tandem with other members of the California delegation more frequently than he votes with other commercial industry representatives from other states." Holahan, *supra* note 61, at 782.

65. 16 U.S.C. § 1852(b)(1) (2012) (remaining voting members).

66. EAGLE ET AL., *supra* note 58, at 26; Thomas et al., *supra* note 61, at 448, 461.

67. EAGLE ET AL., *supra* note 58, at 24, 26; *see also* Thomas et al., *supra* note 61, at 450 ("public interests are underrepresented on the councils").

68. Wyman, *supra* note 13, at 162 n.113 (citing WEBER, *supra* note 25, xxv, 173-95). Weber quotes Ken Hinman, a staff person at the National Coalition for Marine Conservation, as stating "[t]he collapse of the New England groundfish fishery brought environmental organizations in, raised public awareness, and was the impetus for most of the recent changes in policy we've seen." WEBER, *supra* note 25, at 182.

69. Sustainable Fisheries Act, Pub. L. No. 104-297 § 109(e), 110 Stat. 3559; Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, Pub. L. No. 109-479 §104(c), 120 Stat. 3575 (amending 18 U.S.C. § 1854(e) (1996)).

70. Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, Pub. L. No. 109-479 §104(a)(10), 120 Stat. 3575 (2007). I follow existing literature in highlighting these two sets of amendments, but recognize that the 1996 and 2007 reauthorizations of the Magnuson-Stevens Act introduced other amendments.

2. Two Sets of Legislative Amendments

a. 1996 Amendments

Let's start with the rebuilding requirements added in the Sustainable Fisheries Act of 1996, against the backdrop of "the collapse of groundfish populations in the New England region."[71] These amendments introduced the first legally binding requirements to rebuild overfished fish stocks.[72] Under the amendments, the Secretary of Commerce is required to "identify" overfished fisheries "within each Council's geographical area."[73] The amendments required the councils to prepare plans to rebuild overfished fisheries within a specified time frame from the designation of the fishery as overfished.[74] In addition, the amendments set a deadline

71. SEWELL ET AL., *supra* note 4, at 9; Sustainable Fisheries Act, Pub. L. No. 104-297, § 109(e), 110 Stat. 3559; the rebuilding provisions are now in 16 U.S.C. § 1854(e) (2012); *see also* 16 U.S.C. § 1853(a)(10) (2012) (plan for fishery approaching overfished status or overfished fishery must "contain conservation and management measures to prevent overfishing or end overfishing and rebuild the fishery"). For helpful overviews of the key provisions in the Sustainable Fisheries Act, *see, e.g.*, Andrew A. Rosenberg et al., *Rebuilding U.S Fisheries: Progress and Problems, Frontiers in Ecology and the Environment* 303, 304 (Aug. 2006) (identifying "four steps" that the Magnuson-Stevens Act required at that time for rebuilding fisheries); SEWELL ET AL., *supra* note 4, at 4; Fish Stock Rebuilding Plans, *supra* note 8, at 19-21; Gehan & Hallowell, *supra* note 53, at 2 (listing key provisions of SFA). The 2007 amendments made changes to the requirements originally introduced in 1996. *See* North Carolina Fisheries Ass'n v. Gutierrez, 518 F. Supp. 2d 62, 97-99 (2007) (describing 2007 changes to the rebuilding plan requirements).

72. H.R. REP. NO. 109-567 22 (2006) (describing "identifying overfished fisheries and requiring that they be rebuilt" as "something which had not been required previously"); SEWELL ET AL., *supra* note 4, at 4. Before the Sustainable Fisheries Act, the statute had "mandated that the councils prevent overfishing," though "neither the law nor agency guidelines" had effectively implemented this mandate. THE PEW CHARITABLE TR. & OCEAN CONSERVANCY, *supra* note 7, at 12. Nonetheless, litigation had established that the councils were under a legal obligation to end overfishing. Peter Shelley, *Have the Managers Finally Gotten It Right?: Federal Groundfish Management in New England*, 17 ROGER WILLIAMS U.L. REV. 21, 25 n.18 (2012) (citing Conservation Law Found. of New Eng. V. Franklin, 989 F.2d 54, 61 (1st Cir. 1993), which was the first case to directly enforce National Standard 1 under the Magnuson-Stevens Act). Also, there were rebuilding plans for fisheries even before the 1996 amendments. NAT'L MARINE FISHERIES SERV. 2000, *supra* note 29, at 5 (referring to 31 rebuilding plans from before 1996 Sustainable Fisheries Act), http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/19972002/status_of_fisheries_report_congress_2000.pdf.

73. Sustainable Fisheries Act, Pub. L. No. 104-297, § 109(e), 110 Stat. 3559 (amending 16 U.S.C. § 1854(e)); *see* 16 U.S.C. § 1854 (e)(1) (2012).

74. Under the Sustainable Fisheries Act, the councils were required to prepare rebuilding plans within one year. Sustainable Fisheries Act, Pub. L. No. 104-297, § 109(e), 110 Stat. 3559 (amending 16 U.S.C. § 1854(e)). North Carolina Fisheries Ass'n v. Gutierrez, 518 F. Supp. 2d 62, 97-98 (D.D.C. 2007); Nat'l Audubon Soc'y v. Evans, Case No. Civ.A. 99-1707, 2003 WL 23147552, at *1 (D.D.C. 2003). The 2007 amendments to the Magnuson-Stevens Act extended the deadline to two years from the identification of the stock as overfished. Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, Pub. L. No. 109-479, § 104(c)(1), 120 Stat. 3575 (2007) (codified as 16 U.S.C. § 1854(e)(3)). The Secretary of Commerce is now required to prepare a rebuilding plan if the council does

for actually rebuilding the overfished fisheries: "as short a time period as possible, not to exceed 10 years" except in a delimited range of circumstances.[75] In 2006, Congress further strengthened the rebuilding requirements by mandating "an immediate end to overfishing for stocks in rebuilding plans."[76] This amendment addressed the failure of the 1996 amendments to specifically require that overfishing end immediately in overfished fish stocks — a loophole which had permitted the continued overfishing of overfished fisheries.[77]

The rebuilding requirements, including the default legislated deadline of ten years, are controversial. The controversy reflects the fact that the requirements constrain the councils by mandating that they take measures to curtail harvest levels in overfished fisheries, and that such measures can significantly impact the livelihoods of fishers and fishing communities.[78] The stringency of the

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not do so within 2 years of being notified that a fishery is overfished. 16 U.S.C. § 1854(e)(5) (2012).

75. SEWELL ET AL., *supra* note 4, at 3. Sustainable Fisheries Act, Pub. L. No. 104-297, § 109(e), 110 Stat. 3559 (1996) (amending 16. U.S.C. § 1854(e)) (codified as 16 U.S.C. § 1854(e)(4)(A) (2012)). "[H]alf of the current rebuilding plans for overfished populations exceed the statutory target period of 10 years." THE PEW CHARITABLE TR. & OCEAN CONSERVANCY, *supra* note 7, at 22.

76. SEWELL ET AL., *supra* note 4, at 16. Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, Pub. L. No. 109-479, § 104(c)(3), 120 Stat. 3575 (2007) (amending 16 U.S.C. § 1854(e)) (adding "immediately" to the requirement that plans end overfishing) (codified as 16 U.S.C. § 1854(e)(3)(A)).

77. In the lead-up to the 2007 amendments, there was evidence that "[n]early half of the stocks for which there are rebuilding plans are still subjected to overfishing, so that fishing pressure is still too high to allow stock recovery." Rosenberg et al., *supra* note 71, at 303. Rosenberg et al. argued that "[e]nding overfishing immediately is fundamental to rebuilding these resources." *Id.* at 304. Also, environmentalists had lost a legal case, concerning the management of the New England groundfish fishery, in which they had argued that the council should be required to end overfishing immediately in an overfished stock. Shelley, *supra* note 72, at 27 (citing Oceana, Inc. v. Evans, Case No. Civ.A. 04-0811, 2005 W.L. 555416, at *12 (D.D.C. 2005)); *Id.* at 28, 31-32.

78. SEWELL ET AL., *supra* note 4, at 15; Fish Stock Rebuilding Plans, *supra* note 8 at 9; Shelley, *supra* note 72, at 29 n.42 (listing bills to increase the "'flexibility'" of the rebuilding provisions). For cases giving teeth to the rebuilding requirements, *see, e.g.*, Nat. Res. Def. Council v. Daley, 209 F.3d 747, 749, 756 (D.C. Cir. 2000) (1999 quota for overfished summer flounder fishery "is insufficient to meet Congress' mandate to the Service to prevent overfishing and to assure that specific conservation goals are met" because it has "only an 18% probability of achieving the principal conservation goal of the summer flounder fishery management plan"); A.M.L. Int'l, Inc. v. Daley, 107 F. Supp. 2d 90 (D. Mass. 2000) (rejecting fishing industry challenge to fishery management plan to rebuild the spiny dogfish fishery); Nat. Res. Def. Council, Inc. v. Nat'l Marine Fisheries Serv., 421 F.3d 872, 882, 876 (9th Cir. 2005) ("2002 darkblotched rockfish quota was based on an impermissible construction of the Act"; the fish was overfished, and NMFS "set a 'target' rebuilding time of 34 years [which was longer than the 14 years determined to be the biologically minimum period for rebuilding] and, in accordance with this target, *raised* the fishing harvest level for 2002" above the level for the previous year); Coastal Conservation Ass'n v. Gutierrez, 512 F. Supp. 2d 896, 900 (S.D. Texas 2007) (rebuilding plan for Gulf of Mexico red snapper fishery violates Magnuson-Stevens Act because it "is inconsistent with the scientific data and has a less than fifty percent chance of rebuilding red snapper stocks by 2032"); North Carolina Fisheries Ass'n v. Gutierrez, 518 F. Supp. 2d 62, 96-103 (D.D.C. 2007) (amendment to South Atlantic

requirements is an issue in the currently ongoing debate to reauthorize the MSA.[79] In 2015, NMFS proposed changes to its guidelines for implementing the rebuilding requirements to provide greater flexibility, presumably in part to forestall legislative changes.[80]

There is empirical evidence indicating that the rebuilding plan requirements added in 1996, and bolstered in the 2007 amendments, have helped to rebuild overfished stocks, and therefore have contributed to the overall improvements in U.S. fish stocks. In 2013, a Natural Resources Defense Council report "examined population trends" of "44 fish stocks" that have been subject to the rebuilding plan requirements.[81] The report found that "64%" of

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Snapper-Grouper fishery management plan is invalid because it did not include rebuilding plans for the overfished snowy grouper and black sea bass fisheries); Nat. Res. Def. Council, et al. v. Locke, 771 F.Supp.2d 1203, 1207 (N.D. Cal. 2011) (referring to April 23, 2010 decision holding that NMFS "continued to give undue weight to short-term economic concerns in establishing rebuilding periods and harvest levels for several critically depleted Pacific Coast groundfish species, in contravention of the Magnuson-Stevens Act and binding Ninth Circuit precedent"); Lovgren v. Locke, 701 F.3d 5, 32 (1st Cir. 2012) (upholding "'stock-by-stock' approach" to rebuilding" New England groundfish stocks); Massachusetts v. Pritzker, 10 F. Supp. 3d 208, 214 (D. Mass. 2014) (rejecting challenge from Massachusetts and New Hampshire to annual catch limits for groundfish stocks that "significantly" reduced allowable catches "to prevent overfishing and rebuild overfished stocks"). Thank you to Brad Sewell and Dana Rubin for pointing me to these decisions.

79. *See, e.g.*, Strengthening Fishing Communities and Increasing Flexibility in Fisheries Management Act, H.R. 1335, 114th Congress § 4 (2015) (amending the rebuilding requirements in 16 U.S.C. § 1854(e) (2015)); H.R. REP. NO. 114-116, at 14 (2015) (describing the purpose of amending the rebuilding requirements in 16 U.S.C. § 1854(e) (2015)); *Reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act: Oversight Hearing Before the H. Comm. on Nat. Res.*, 113th Cong. 53-63 (2013) (statements of Jeff Deem, Recreational Fishing Alliance and Vito Giacalone, Gloucester Fisherman & Policy Dir., Northeast. Seafood Coal).

80. U.S. Dept. of Commerce, Nat'l Oceanic and Atmospheric Admin., Magnuson-Stevens Act Provisions; National Standard Guidelines, Proposed Rules, 80 Fed. Reg. 2786 (Jan. 20, 2015); *see also* Executive Office of the President, Office of Management and Budget, Statement of Administration Policy on H.R. 1335 — Strengthening Fishing Communities and Increasing Flexibility in Fisheries Management Act (May 19, 2015), https://www.whitehouse.gov/sites/default/files/omb/legislative/sap/114/saphr1335r_20150519.pdf (indicating that senior advisers to the President oppose H.R. 1335 and that NMFS's proposal for "updating key guidelines for implementing the MSA [Magnuson-Stevens Fishery Conservation and Management Act] . . . would ameliorate many of the concerns that H.R. 1335 seeks to address without undermining the fundamental, science-based requirements of the MSA"); *National Standard 1 – Ongoing Revisions*, NAT'L MARINE FISHERIES SERV., http://www.nmfs.noaa.gov/sfa/laws_policies/national_standards/ns1_revisions.html (last visited Mar. 22, 2016) (comment period for the proposed revisions to the guidelines closed on June 30, 2015); Brad Sewell, *National Marine Fisheries Service Proposes Weakening Magnuson-Stevens Act Regulations*, NAT. RES. DEF. COUNCIL EXPERT BLOG (June 26, 2015), http://switchboard.nrdc.org/blogs/bsewell/national_marine_fisheries_serv.html (criticizing NMFS's proposed changes to NS1 guidelines).

Just before this article went to print, NMFS finalized its changes to the guidelines concerning rebuilding plans. *See* U.S. Dept. of Commerce, *supra* note 33. For criticism of the changes, see Brad Sewell, *U.S. Retreats on Fish Conservation for 1st Time in 40 Years*, NAT. RES. DEF. COUNCIL EXPERT BLOG (Oct. 14, 2016), https://www.nrdc.org/experts/brad-sewell/us-retreats-fish-conservation-1st-time-40-years.

81. SEWELL ET AL., *supra* note 4, at 3.

these stocks "can currently be considered a rebuilding success: 21 have been designated rebuilt . . . or have exceeded their rebuilding targets, and 7 have made significant rebuilding progress."[82] The NRDC report concluded that "[t]hese results show that the legal requirements have been a critical forcing mechanism for fisheries rebuilding in this country."[83] A report from the National Academy of Sciences, published later in 2013, examined the fate of a larger group of fish stocks – the universe of "85 stocks or stock complexes that were declared to be overfished or approaching an overfished state between 1997 and 2011," though the study "focused on a subset of 55 stocks that were assessed using quantitative methods." [84] Similar to the NRDC report, the National Academy of Sciences report found that rebuilding plans have had a positive effect in rebuilding stocks, but this report also had suggestions for change.[85]

b. 2007 Amendments

The second set of significant legal changes that I highlight are the catch limit requirements added in the 2007 amendments to the Magnuson-Stevens Act.[86] These amendments require legally binding limits on how many fish can be taken each year from a fishery,

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82. *Id.*

83. *Id.* at 16. A 2014 academic article co-authored by two of the authors of the NRDC report and a third author examines "whether the implementation of the rebuilding policy is correlated with statistically significant changes in population trends of overfished fish stocks." Oremus et al., *supra* note 8, at 71. It finds that "19 of 44 stocks showed statistically significant positive slope changes (trend breaks) in biomass after rebuilding provisions were implemented." *Id.* at 72.

84. Fish Stock Rebuilding Plans, *supra* note 8, at 4.

85. *See, e.g.*, *id.* at 7 ("The legal and prescriptive nature of rebuilding mandates forces difficult management decisions, ensures a relatively high level of accountability, and can help to prevent protracted debate over whether and how stocks should be rebuilt."); *see also* Brad Sewell, *National Academy of Sciences Recognizes Success of U.S. Fisheries Rebuilding Law*, NAT. RES. DEF. COUNCIL EXPERT BLOG (Sept. 9, 2013), http://switchboard.nrdc.org/blogs/bsewell/national_academy_of_sciences_r.html (the National Academy of Sciences report finds that the rebuilding plan requirements have been successful, but paradoxically recommends changes that "could very quickly undermine that success").

86. *See* Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, Pub. L. 109-479 § 104(a)(10), 120 Stat. 3575 (2007) (fishery management plans must "establish a mechanism for specifying annual catch limits in the plan (including a multiyear plan), implementing regulations, or annual specifications, at a level such that overfishing does not occur in the fishery, including measures to ensure accountability"); *see also* 16 U.S.C. § 1853(a)(15) (2012). For overviews of the 2007 amendments, see Gehan & Hallowell, *supra* note 53, at 4-9; Fish Stock Rebuilding Plans, *supra* note 8, at 21-22; *see also* Guindon v. Pritzker, 31 F. Supp. 3d 169, 197 (D.D.C. 2014) (noting that "[s]ection 303(a)(15) is phrased in terms of what an FMP [Fishery Management Plan] must contain, namely, 'measures to ensure accountability,' not in terms of what every regulation or proposed regulation must contain").

I refer to the amendments as the 2007 amendments because it was in 2007 that "President Bush signed into law the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, Pub. L. No. 109-479, 120 Stat. 3575 (Jan. 12, 2007)." North Carolina Fisheries Ass'n v. Gutierrez, 518 F. Supp. 2d 62, 70 n.1 (D.D.C. 2007).

called catch limits. It is hard to believe, but before these amendments came into force, there were no binding limits on allowable catches in "the majority" of U.S. fisheries, even though such limits would seem to be a foundational conservation measure.[87]

The 2007 amendments also speak to the level at which these annual catch limits must be established. Catch limits must be set "at a level such that overfishing does not occur in the fishery."[88] In addition, in establishing the catch limits, the councils "may not exceed the fishing level recommendations of [their] . . . scientific and statistical committee or the peer review process."[89]

This latter provision is an example of what Professor Eric Biber describes as science being used as "an ex ante constraint on the implementation of an environmental statute."[90] The effort to use science to promote more conservationist policies is by no means unique to fisheries. Think of the requirement in the Endangered Species Act that species be listed based on "the best scientific and commercial data available."[91] In the fisheries context, the goal of environmentalists and others in expanding the reliance on science has been to reduce the influence of "politics" in fisheries decision-making, and to expand the influence of a methodology, science, that is often thought to promote a more precautionary approach to fisheries management.[92] The report of the House Committee on

87. U.S. Dep't of Commerce, Nat'l Oceanic and Atmospheric Admin., Magnuson-Stevens Act Provisions, 80 Fed. Reg. 2786 (January 20, 2015) ("before the ACL [Annual Catch Limit] requirement some U.S. fisheries were managed under a total allowable catch system, but the majority were managed through effort controls (e.g., days at sea, closures) or without explicit accountability"). Shelley refers to the impact of the absence of legally binding limits on catches in the New England groundfish fisheries before the 2007 amendments. Shelley, *supra* note 72, at 32 ("the practice of consequence-free annual quota overruns, which were a chronic outcome in New England, was eliminated by the AM [accountability measure] requirements [in the 2007 reauthorization]").

88. *See* Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, Pub. L. No. 109-479 § 104(a)(10), 120 Stat. 3575 (2007); *see* now 16 U.S.C. § 1853(a)(15) (2012).

89. *See* Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, Pub. L. No. 109-479, § 103(c)(3), 120 Stat. 3575 (2007); *see* now 16 U.S.C. § 1852(h)(6) (2012). On the peer review process that the councils can establish, *see* Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 § 103(b)(1); *see now* 16 U.S.C. § 1852(g)(1)(E) (2012).

90. Eric Biber, *Which Science? Whose Science? How Scientific Disciplines Can Shape Environmental Law*, 79 U. CHI. L. REV. 471, 514 (2012).

91. Endangered Species Act §4(b)(1)(A), 16 U.S.C. § 1533(b)(1)(A) (2012). The Magnuson-Stevens Act similarly requires that "[c]onservation and management measures shall be based upon the best scientific information available." *See* 16 U.S.C. § 1851(a)(2) (2012).

92. Shelley, *supra* note 72, at 29 (referring to the goals of the "conservation community in New England" in the 2007 amendments to the Magnuson-Stevens Act, including requiring the councils to have Scientific and Statistical Committees, and "decreasing the latitude of [the] councils to ignore or modify the advice of these expert committees"); *Id.* at 32-34 (describing the reasons for legislative provisions concerning the Scientific and Statistical Committees). Shelley indicates that "the New England Council did not even have a functional SCC [Scientific and Statistical Committee] prior to the passage of the Magnuson Reauthorization Act." *Id.* at 33. Shelley acknowledges the limitations and evolving character

Natural Resources on the 2007 amendments described "the mandate that fishery managers base harvest levels on science" as "[t]he most important of the 'new tools for fishery managers'" in the amendments.[93]

In addition to requiring catch limits and setting standards for establishing them, the 2007 amendments also require that councils establish "accountability measures" to ensure that the annual catch limits are respected. [94] Accountability measures can include requirements that fishing be stopped inseason if the limit is exceeded.[95]

Annual catch limits were phased into fisheries management, and 2012 was "the first full year that all federal fisheries operated under annual catch limits."[96] There is a widespread sense that the requirements for catch limits and accountability measures to enforce them have been "game changers" in federal fisheries regulation.[97] NMFS touts the annual catch limit requirements as important to reducing overfishing and preventing fishery collapse.[98]

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of fisheries science, even while endorsing a greater role for fisheries science in fisheries management and for cabining the discretion of the councils to ignore the advice of fisheries scientists. *Id*. at 66-69.

There is widespread recognition in legal scholarship that there are policy judgments embedded within the science used in environmental regulation. *See, e.g.*, Wendy E. Wagner, *The Science Charade in Toxic Risk Regulation*, 95 COLUM. L. REV. 1613 (1995); Holly Doremus, *Listing Decisions Under the Endangered Species Act: Why Better Science Isn't Always Better Policy*, 75 WASH. U. L. Q. 1029 (1997); Katrina M. Wyman, *Politics and Science in Endangered Species Act Listing Decisions*, *in* INSTITUTIONS AND INCENTIVES IN REGULATORY SCIENCE 99 (Jason Scott Johnson ed., 2012).

93. H.R. REP. NO. 109-567, at 23 (2006), *quoted in* Lovgren v. Locke, 701 F.3d 5, 17 n.10 (1st Cir. 2012); *see also* S. REP. NO. 109-229, at 6-7 (2006) ("Establishing a scientifically-based total allowable catch (TAC) for each managed fishery was a unanimous recommendation from all of the Council chairs, a recommendation of the Managing Our Nation's Fisheries Conference II final report, and a recommendation of the U.S. Ocean Commission . . . . The bill's catch limit provision works in concert with a number of provisions in the bill that respond to calls for strengthening the role of science in Council decision-making."); David Newman et al., *Current Methods for Setting Catch Limits for Data-Limited Fish Stocks in the United States*, 164 FISHERIES RESEARCH 86, 87 (2015) (describing broad support for "[t]he ACL [annual catch limit] mandate").

94. *See* Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, Pub. L. No. 109-479 § 104(a)(10), 120 Stat. 3575 (2007); *see* now 16 U.S.C. § 1853(a)(15) (2012). Conservationists sought accountability measures. Shelley, *supra* note 72, at 29 (describing the objectives of "the conservation community in New England" in the reauthorization).

95. 50 C.F.R. § 600.310(g) (2016) (defining accountability measures); Gehan & Hallowell, *supra* note 53, at 8.

96. NAT. OCEANIC & ATMOSPHERIC ADMIN., NAT'L MARINE FISHERIES SERV., STATUS OF STOCKS 2012 ANNUAL REPORT TO CONGRESS ON THE STATUS OF U.S. FISHERIES 1 (2013) http://www.nmfs.noaa.gov/sfa/statusoffisheries/2012/2012_SOS_RTC.pdf.

97. NAT. OCEANIC & ATMOSPHERIC ADMIN., NAT'L MARINE FISHERIES SERV., THE ROAD TO END OVERFISHING: 35 YEARS OF THE MAGNUSON ACT, APRIL 13, 2011 2 (2011) http://www.nmfs.noaa.gov/sfa/laws_policies/msa/documents/msa_35_years.pdf.

98. NAT'L MARINE FISHERIES SERV., *supra* note 96, at 1 ("2012 is the first full year that all federal fisheries operated under annual catch limits to end and prevent overfishing. As additional stock assessments are completed, we expect the number of stocks on the overfishing list—now at an all-time low—to decrease further as a result of management under

A 2012 law review article analyzing the litigation since the 2007 amendments describes the legal requirements for annual catch limits, accountability measures, and the prohibitions on the councils setting limits above the recommendations of their Scientific and Statistical Committees as having "done more to put stocks on a sustainable footing than any other reform over the MSA's thirty-six year history."[99] It argues that "[a]nnual catch limits ("ACLs") and accountability measures ("AMs") have come to dominate the battlefield over fisheries management, both at the council level and in litigation."[100]

However, to my knowledge, there has been little systematic empirical analysis to date of the impact of the binding annual catch limits on U.S. fisheries, perhaps because it is only since 2012 that catch limits have been universally implemented.[101] It would be useful to attempt to link improvements in fisheries to the implementation of catch limits through event studies. One might also have the contrary hypothesis that improvements in fisheries facilitate the implementation of binding catch limits, because fishers may be less likely to object to catch limits if the fisheries are healthy, and the catch limits therefore will not significantly reduce the amounts that can be harvested. Empirical analysis also might shed light on the mechanism by which annual catch limits (and the rebuilding provisions) are improving fish stocks, assuming, as seems likely, that they are improving the status of the stocks. The

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annual catch limits."); *Id.* at 2 ("Current management approaches, including annual catch limits and accountability measures to prevent overfishing, greatly reduce the likelihood that damaging levels of overfishing will occur."); *Id.* at 6 ("By 2012, all federal fisheries, including those for stocks on both the overfishing and overfished lists, were operating under ACLs [annual catch limits]. As of December 31, 2012, assessments demonstrated that overfishing ended for 58 percent of the domestic stocks that were subject to overfishing in 2007, when the requirement to implement ACLs was added to the MSA [Magnuson-Stevens Fishery Conservation and Management Act]."); *see also* NAT'L MARINE FISHERIES SERV., *supra* note 44, at 2 ("NOAA Fisheries and the Councils are actively monitoring how well ACLs [annual catch limits] control catch and are working to prevent further overfishing.").

99. Gehan & Hallowell, *supra* note 53, at 7.

100. *Id.* For early cases about the implementation of the accountability measures and catch limit requirements, see Oceana, Inc. v. Locke, 831 F. Supp. 2d 95 (D.D.C. 2011), appeal voluntarily dismissed in Oceana, Inc. v. Bryson, 2012 WL 2579364 (D.C. Cir. 2012); Flaherty v. Bryson, 850 F. Supp. 2d 38 (D.D.C. 2012). These two cases are helpfully discussed in Gehan & Hallowell, *supra* note 53, at 22-32. For more recent cases, see Guindon v. Pritzker, 31 F. Supp. 3d 169, 197-200 (D.D.C. 2014) (holding that NMFS's management of the recreational red snapper fishery violated the MSA because it did not include adequate accountability measures, among other reasons); Conservation Law Found. v. Pritzker, 37 F. Supp. 3d 254, 258 (D.D.C. 2014) (vacating part of rule "allowing bonus or 'carryover' catch in an amount that exceeds the SSC's [Scientific and Statistical Committee's] proposed ceiling").

101. Newman et al. state that "[i]t is well [established] that ACLs [annual catch limits] have been effective at preventing overfishing and rebuilding assessed and relatively data-rich stocks, which has resulted in significant economic and social benefits." Newman et al., *supra* note 93, at 86. But they cite NMFS reports for these propositions, not academic analysis.

rebuilding provisions may be functioning as an ex post remedy, to prompt the rebuilding of overfished fish stocks. The catch limit provisions might be acting prophylactically, to avoid the depletion of fisheries. But mandatory catch limits also seem to be functioning remedially in combination with the rebuilding provisions to spur improvements in overfished stocks.[102]

B. Economic Hypothesis

The second hypothesis that I elaborate for the improvement in U.S. fisheries focuses on the spread of property rights in these fisheries.

As I mentioned earlier, private property is another means of avoiding the tragedy of the commons, distinct from government regulation. This makes sense because the tragedy can be understood as arising from fishers not having property rights in fish while the fish are in the sea. Fishers usually acquire property rights in fish only once they catch the fish, but this incentivizes capturing fish, rather than leaving them in the ocean. Assigning a property right earlier in the lifecycle of the fish – while they are in the sea – might prompt fishers to leave the fish in the sea for longer, depending on the fisher's time horizon. Economists have been advocating for the creation of property rights in ocean fisheries since the 1970s, which is why I label the idea that property rights help explain the improvement in fish stocks the "economic hypothesis."[103]

1. Background

Today, property rights approaches to managing fisheries are generally described as "catch shares." As defined by NMFS, catch shares "is a general term for several fishery management strategies that allocate a specific portion of the total allowable fishery catch to individuals, cooperatives, communities or other entities, . . . [including] 'limited access privilege' (LAP) and 'individual fishing

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102. *See, e.g.*, Massachusetts v. Pritzker, 10 F. Supp. 3d 208, 2014 (D. Mass. 2014) (rejecting challenges to annual catch limits that reduced allowable catches "to prevent overfishing and rebuild overfished stocks").

103. Wyman, *supra* note 13, at 155 n.94 (noting that the idea of establishing individual transferable quotas in fisheries is often credited to a 1973 paper by economist Francis Christy, although some sources suggest that there may have been proposals for something like individual transferable quotas before Christy's paper).

As my colleague Richard Stewart reminded me, implementing property rights in ocean fisheries requires legal changes and so this property rights hypothesis also could be labelled a legal hypothesis. As explained above, I label the property rights hypothesis the economic hypothesis because property rights have been championed by economists seeking to change the economic incentives of fishers.

quota' (IFQ) programs, and other exclusive allocative measures such as Territorial Use Rights Fisheries (TURFs) that grant an exclusive privilege to fish in a geographically designated fishing ground."[104] What unites these tools is that they grant "individual fishers or small groups of fishers . . . an exclusive privilege – either to harvest a given amount or to harvest within a given area – that persists over time."[105] As this last sentence underscores, though catch shares are commonly described as "property rights" approaches for managing fisheries, catch shares are technically offering fishers privileges, not property rights.[106]

The first major catch share program was implemented in a U.S. fishery in 1990, when the Mid-Atlantic surf clam and ocean quahog fisheries adopted individual transferable quotas (ITQs).[107] There are now 19 catch share programs in federal fisheries.[108] Over two-thirds of these programs (13 out of 19) have been implemented since 2000, in other words, roughly during the period in which the status of US fish stocks has improved.[109] The six remaining programs were implemented between 1990 and 1999.[110] Catch share programs are now a significant part of the toolkit in fisheries management, though there are different measures of their importance. On the high side, the Environmental Defense Fund, which advocates the introduction of catch shares, estimates that "65% of [the] fish caught in U.S. federal waters [are] under catch shares."[111] Kearney et al. indicate that "[t]oday, roughly half of the fish caught in the United States are harvested from a fishery un-

104. NAT'L MARINE FISHERIES SERV., NOAA CATCH SHARE POLICY 1, http://www.nmfs.noaa.gov/sfa/management/catch_shares/about/documents/noaa_cs_policy.pdf (last visited Mar. 17, 2016).

105. COSTELLO, *supra* note 27, at 8.

106. Indeed, these privileges "are not" property rights under the Magnuson-Stevens Act. Shannon Carroll, *Sector Allocation: A Misguided Solution*, 17 OCEAN & COASTAL L.J. 163, 185 (2011), at 177 (citing 16 U.S.C. § 1853a(b) (2006) and 16 U.S.C. § 1853a(b)(2) (2006)). My previous work may have gone too far in suggesting that individual fishing quotas are property rights. Wyman, *supra* note 13.

107. AYEISHA A. BRINSON & ERIC M. THUNBERG, NAT'L MARINE FISHERIES SERV., THE ECONOMIC PERFORMANCE OF U.S. CATCH SHARE PROGRAMS 11 (2013) https://www.st.nmfs.noaa.gov/Assets/economics/catch-shares/documents/Catch_Shares_Report_FINAL.pdf. For an interesting analysis of litigation involving catch share programs that distinguishes between early and later cases, see Suzanne Iudicello & Sherry Bosse Lueders, *A Survey of Litigation Over Catch Shares and Groundfish Management in the Pacific Coast and Northeast Multispecies Fisheries*, 46 ENVTL. L. 157 (2016).

108. Barner et al., *supra* note 7, fig. 1 at 254.

109. *Id.*

110. *Id.*

111. ENVTL. DEF. FUND, OCEANS REPORT 83, http://www.edf.org/sites/default/files/AR2013/ar2013_oceans_web.pdf (last visited Mar. 22, 2016). This statistic may be measuring the weight of federal fisheries caught under catch shares as compared with the weight of fish landings generally. If this is the case, the share of fisheries under catch shares may be affected by the heavy weight of Bering Sea pollock, which are caught under catch shares. Fish Stock Rebuilding Plans, *supra* note 8, at 14 ("The [Alaska] pollock fishery was and remains the largest volume fishery in the United States.").

der catch share management."[112] More modestly, economist Christopher Costello indicates in a recent paper that "about a third of total U.S. fish landings" are caught under catch shares, based on the weight of these fish landings.[113] Costello also has estimated "about 25 percent of species caught in U.S. fisheries are managed under catch shares."[114]

2. Two Possible Contributions of Catch Shares

I am not aware of empirical evidence establishing a correlation between the recent improvement in U.S. fisheries and the introduction of catch shares, let alone that catch shares have contributed to the improvement. But there are two reasons why we might think that their implementation has been a contributing factor.

First, catch shares may act prophylactically to prevent the deterioration of fisheries in which they are introduced by incentivizing fishers to favor policies to maintain and improve the health of fish stocks. One of the standard arguments for using catch shares to manage fisheries is that catch shares make fishers better stewards of the resource.[115] The idea is that fishers with shares now have a stake in preserving and enhancing the fish stock, because the fishers now have an asset that they can trade in addition to the fish that they catch, and the value of this asset depends on the status of the underlying fish stocks.

There is some empirical evidence that catch shares promote better stewardship of fisheries.[116] In a well-known article pub-

112. Kearney et al., *supra* note 7. The statistic is likely based on catch volumes, since other statistics referred to in the same paper are in terms of volume. *Id.* (Figure 2A. U.S. Catch Volume by Management System and Region, 2009).

113. COSTELLO, *supra* note 27, at 14, 17; *see also id.* fig. 2 at 14.

114. *Id.* at 17.

115. Wyman, *supra* note 13, at 159 (outlining the argument and citing sources for it); Barner et al., *supra* note 7, at 253, 255 (same). The stewardship argument for catch shares echoes an argument often made on behalf of private property that it encourages owners to take better care of resources and to avoid the tragedy of the commons. Harold Demsetz, *Toward a Theory of Property Rights*, 57 AM. ECON. REV. 347, 355 (1967). For a brief summary of the arguments for creating property rights in fisheries, see, e.g., Kearney et al., *supra* note 7.

116. For helpful overviews of the research suggesting that catch shares promote stewardship, see Adler & Stewart, *supra* note 5, at 176-88; Christopher Costello et al., *Economic Incentives and Global Fisheries Sustainability*, 2 ANN. REV. RESOURCE ECON. 299, 311-16 (2010). This paragraph draws on Adler & Stewart's discussion. For cautionary perspectives on the argument that catch shares promote stewardship, see Oliver Thébaud et al., *From Anecdotes to Scientific Evidence? A Review of Recent Literature on Catch Share Systems in Marine Fisheries*, 10 FRONTIERS ECOLOGICAL &. ENV'T 433, 433, 435 (2012) ("our review [of "peer-reviewed studies published in the past decade that looked at the impacts of adopting ITQs [individual transferable quotas] on individual marine fisheries"] shows that, over the period considered, peer-reviewed empirical research on the observed impacts of these management instruments remained limited"); McCay, *supra* note 24, at 224-25 (describing the idea that catch shares promote stewardship as "controversial" and reviewing scholarship

lished in 2008, Costello et al., found that "[i]mplement[ing] . . . catch shares . . . halts, and even reverses, the global trend toward widespread collapse."[117] The conclusion was based on analysis of "a global database of . . . 11,135 fisheries from 1950 to 2003," including "121 fisheries managed using catch shares – defined as variations on individual transferable quotas (ITQs) – by 2003."[118] In a subsequent article from 2010 responding to critiques of their earlier piece, Costello et al. also concluded that "ITQ fisheries are less likely to collapse than non-ITQ fisheries, and the magnitude of this effect increases the longer a fishery is managed by an ITQ."[119] A recent report from the National Academy of Sciences indicates that "no [U.S.] fish stocks were classified as overfished that were under an individual fishing quota management system at the time of classification."[120] This fact does not by itself prove that catch shares avoid overfishing, but it is suggestive.[121]

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supportive and critical of this notion); Kearney et al., *supra* note 7 (referring to research suggesting "limited gains to ecological health owing to catch share adoption") (citing Jennifer F. Brewer, *Paper Fish and Policy Conflict: Catch Shares and Ecosystem-Based Management in Maine's Groundfishery*, 16(1) ECOLOGY & SOC'Y 15 (2011); Timothy Essington, *Ecological Indicators Display Reduced Variation in North American Catch Shares Fisheries*, 107(2) Proceedings of the National Academy of Sciences 754 (2010)); Timothy E. Essington et al., *Catch Shares, Fisheries, and Ecological Stewardship: A Comparative Analysis of Resource Responses to a Rights-Based Policy Instrument*, 5 CONSERVATION LETTERS 186 (2012) (based on analysis of over 150 global fisheries, catch shares "primarily act to dampen variability, but . . . variance dampening is only present when the access right is durable and secure").

117. Christopher Costello et al., *Can Catch Shares Prevent Fisheries Collapse?*, 321 SCI. 1678, 1678 (2008). The passage is quoted in Adler & Stewart, *supra* note 5, at 176. Costello et al. admit that it is easier to establish a correlation between catch shares and fishery sustainability, than that catch shares cause sustainable fisheries. Costello et al., *supra*, at 1680; Costello et al., *supra* note 116, at 305; Adler & Stewart, *supra* note 5, at 177.

118. Costello et al., *supra* note 117, at 1678, 1679. Similar passages are quoted in Adler & Stewart, *supra* note 5, at 176.

119. Costello et al., *supra* note 116, at 305. This passage is also excerpted in Adler & Stewart, *supra* note 5, at 178.

120. Fish Stock Rebuilding Plans, *supra* note 8, at 171 n.29.

121. However, it is important to note that it is difficult to be certain that the relative health of fish stocks under catch shares is attributable to catch shares. Catch shares may have been introduced in fisheries that already were relatively healthier than other fish stocks to start, because it might be easier to move to a new management regime when fish stocks are healthier. Costello et al., *supra* note 117, at 1680; Costello et al., *supra* note 116, at 301, 307-09 (describing "strategies" they used "to account for potential selection bias"); Adler & Stewart, *supra* note 5, at 177. In this regard, it is notable that six of the nineteen U.S. catch share programs are in Alaska fisheries, which historically have tended to be biologically healthy. BRINSON & THUNBERG, *supra* note 107, at 103; Kearney et al., *supra* note 7; Fish Stock Rebuilding Plans, *supra* note 8, at 18; SEWELL ET AL., *supra* note 4, at 11. Furthermore, it may not be catch shares per se, but predicates for introducing them, such as binding limits on allowable catches, which improve the health of fisheries. Adler & Stewart, *supra* note 5, at 50 (summarizing criticisms of Daniel W. Bromley, *Abdicating Responsibility: The Deceits of Fishery Policy*, 34 FISHERIES 280, 284 (2009)); Doremus, *supra* note 5, at 400; Costello et al., *supra* note 116, at 313-14 (presenting "simple analyses" that show that "some of the benefits" of ITQs are due to the cap, but arguing that "[t]here is a clear benefit to implementing an ITQ, whether or not the fishery has a TAC [total allowable catch]"). In a fishery with a binding catch limit, catch shares may promote "compliance with" the catch

A second way in which catch shares may be contributing to the overall improvement in U.S. fish stocks is they may be helping to ease the way toward rebuilding overfished fisheries. While the first reason focused on the potential benefits of catch shares in biologically healthy fisheries, this reason highlights the potential benefits in overfished fisheries. There is a theoretical basis for thinking that catch shares may help fishers deal with the reductions in fish catches often required to improve the status of fish stocks. A standard argument for catch shares is that they will increase the efficiency, and hence the profitability, of fishing.[122] Catch shares stand to do this by reducing the need for fishers to invest in boats, gear and labor to catch the fish. With a secure entitlement in a share of the catch, fishers no longer need to invest in lots of equipment and hire as many crewmembers because the fishers are no longer racing with each other to catch the fish before the regulator closes down fishing for the season. Fishers harvesting under catch shares also may spread out the harvest over a longer period of time; elongating the fishing season may allow them to command higher prices, by avoiding having to sell gluts of fish. The efficiency of fishing under catch shares may be especially helpful in overfished fisheries that are struggling to rebuild, and facing reductions in catch levels. Introducing catch shares when allowable catches are declining can help fishers harvest the lower catches more efficiently and profitably, with fewer boats and less gear.[123]

There is some empirical basis for thinking that catch shares may help overfished fisheries rebuild.[124] Recall that Costello et al.'s empirical work on global fisheries finds that the implementation of catch shares helps to "reverse[]" collapsed fisheries, not just to stop the decline of fisheries.[125]

Consider the use of sectors — which are a form of catch shares — in the New England groundfish fishery as an example of how

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limits. Adler & Stewart, *supra* note 5, at 179 (citing Ragnar Arnason, *Property Rights in Fisheries: How Much Can Individual Transferable Quotas Accomplish?*, 6 REV. ENVTL. ECON. & POL'Y 217, 225 (2012)).

122. Wyman, *supra* note 13, at 157-158 (outlining the arguments that property rights in fisheries may help to reduce over-investment in fishing, and increase the value of output by spreading out the fishing season); Costello et al., *supra* note 116, at 300 (catch shares enable fishers to focus "on harvest efficiency" and to "increase profit by matching the time of catch with higher prices").

123. Fish Stock Rebuilding Plans, *supra* note 8, at 115 (referring to ways that individual transferable quota programs have been adapted to enable fishers to adjust to rebuilding programs). *But see id.* at 171 n.29 (noting that catch shares could promote the "specialization" that complicates adapting to the stringent limits imposed by rebuilding plans).

124. *But see* Thébaud et al., *supra* note 116 (citing source emphasizing the limited empirical evidence about the impacts of catch shares).

125. Costello et al., *supra* note 117, at 1678; *see also* Costello et al., *supra* note 116, at 310 ("fishery fixed effects results suggest that ITQs not only halt the trend in global collapse but may actually reverse it").

catch shares may be helping some U.S. fisheries adjust to the lower allowable catches necessary to rebuild depleted stocks. Under sectoral management, fishers are "encouraged" to group themselves into sectors,[126] which are "harvesting cooperatives,"[127] or as one observer pithily describes them, "a form of group fishing quota."[128] Regulators give each sector they approve a share of the total allowable catch for the entire fishery, based on the catch histories of the sector's members.[129] Each sector manages its share of the allowable catch, allocating it among its members, and ensuring that its members do not exceed the sector's allowable catch.[130] Many sectors grant their members individual shares of the sector's collective allowable catch, and members are allowed to trade or lease their shares with each other.[131] Sectors also are allowed to trade or lease catch shares with other sectors.[132] The ability to trade shares within and across sectors means that responsibility for catching the allowable catch can be consolidated onto a smaller number of vessels, as fishers can sell or lease their shares to others, and that the catch can be caught more efficiently. Allocating shares of the allowable catch to sectors ends the race for the fish among sectors because each sector has its own secure share. There also is no need for fishers within sectors to race with each other when sectors allocate their members individual shares.

The first two sectors were established in the New England groundfish fishery in the early 2000s, after the New England Fishery Management Council amended the management plan regulat-

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126. Julia Olson & Patricia da Silva, *Changing Boundaries and Institutions in Environmental Governance: Perspectives on Sector Management of the Northeast US Groundfish Fishery*, 13 MARITIME STUD. 1, 5 (2014).

127. JONATHAN M. LABAREE, GULF OF MAINE RESEARCH INST., SECTOR MANAGEMENT IN NEW ENGLAND'S GROUNDFISH FISHERY: DRAMATIC CHANGE SPURS INNOVATION 1 (2012), https://www.gmri.org/sites/default/files/resource/sector_management_in_new_england.pdf.

128. Carroll, *supra* note 106, at 185. A sector is defined by regulation as follows: "Sector, with respect to the NE [Northeast] multispecies fishery, means a group of persons holding limited access NE multispecies permits who have voluntarily entered into a contract and agree to certain fishing restrictions for a specified period of time, and that have been allocated a portion of the TACs [Total Allowable Catch] of species managed under the NE Multispecies FMP [Fishery Management Plan] to achieve objectives consistent with the applicable goals and objectives of the FMP." 50 C.F.R. § 648.2 (2016); *see also* Carroll, *supra* note 106, at 185-86 n.176 (citing same definition).

129. Carroll, *supra* note 106, at 185-86.

130. *Greater Atlantic Region, Sector*, NAT'L MARINE FISHERIES SERV., http://www.greateratlantic.fisheries.noaa.gov/sustainable/species/multispecies/ (last visited Feb. 23, 2016) ("Several violations by sector members are specifically subject to joint and several liability, including: Sector quota overages, illegally discarding of legal-sized fish, and the misreporting of landings and discards.").

131. LABAREE, *supra* note 127, at 4; Carroll, *supra* note 106, at 188; Olson & da Silva, *supra* note 126, at 4.

132. LABAREE, *supra* note 127, at 1, 3-4, 6.

ing the catch of groundfish to allow for sectors.[133] Regulators introduced the option of establishing sectors to give "fishermen a degree of flexibility in adjusting to 'increasing restrictions imposed to rebuild groundfish stocks.'"[134] Sectors became an integral part of the New England groundfish fishery starting in 2010, after the Council was required by the 2007 amendments to the Magnuson-Stevens Act to establish stringent, legally binding catch limits to rebuild overfished groundfish stocks that significantly reduced catch levels for a number of stocks.[135] With the management changes introduced in 2010, regulators offered fishers a refurbished sectoral program,[136] in part because they believed that sectors could provide fishers with flexibility to adapt to more stringent catch limits.[137]

Many fishers have joined sectors. In the first year of the new program, 2010-2011, there were seventeen sectors[138] and vessels in the sectors "were responsible for 98% of the previous decade's catch."[139] In 2012, there were sixteen sectors in the New England groundfish fishery,[140] and the vessels in sectors had "approximately 99% of the sub-ACL [annual catch limit] . . . allocated to the commercial fishery."[141] Consistent with the idea that the sectors

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133. Lovgren v. Locke, 701 F.3d 5, 15-16 (1st Cir. 2012). Amendment 13, which was partially approved by NMFS in 2004, "approved one sector, the Georges Bank Cod Hook Gear Sector, and a second, the Georges Bank Cod Fixed Gear Sector, was approved in 2006." *Id.* at 16 (internal citation committed); *see also id.* at 15 (timing of NMFS partial approval).

134. *Id.* at 16 (quoting 69 Fed. Reg. 22,906, 22,944 (Apr. 27, 2004)); *see also* Daniel S. Holland & Joshua Wiersma, *Free Form Property Rights For Fisheries: The Decentralized Design of Rights-Based Management Through Groundfish "Sectors" in New England*, 34 MARINE POL'Y 1076, 1077 (2010) (describing benefits of sectors).

135. For a concise description of the background to the implementation of sectors starting in 2010 in New England through Amendment 16, *see, e.g.*, Lovgren v. Locke, 701 F.3d 5, 17-19 (1st Cir. 2012); *see also* LAURA TAYLOR SINGER, GULF OF MAINE RESEARCH INST., THE DEVELOPMENT OF CATCH SHARES: LESSONS LEARNED FROM NEW ENGLAND (2011), https://www.gmri.org/sites/default/files/resource/the_development_of_catch_shares.pdf (comprehensive history). On the significance of the reduction in catch limits in several stocks, *see, e.g.*, *Lovgren*, 701 F.3d at 18 ("For certain stocks, A16's ACLs represented significant reductions from previous fishing levels."); *see also* LABAREE, *supra* note 127, at 10; Carroll, *supra* note 106, at 182-85, 189.

136. BRINSON & THUNBERG, *supra* note 107, at 50; *Lovgren*, 701 F.3d at 19.

137. *Lovgren*, 701 F.3d at 34; Carroll, *supra* note 106, at 183, 189.

138. BRINSON & THUNBERG, *supra* note 107, at 52.

139. *Lovgren*, 701 F.3d at 19 ("When the sector rosters were finalized, some 812 of the Fishery's 1477 eligible permit holders had chosen to join a sector. Although this sector choice represented only 55% of the Fishery's individual permits, these vessels were responsible for 98% of the previous decade's catch.") (citing 75 Fed. Reg. at 18,144, 18,115 tbl. 1).

140. LABAREE, *supra* note 127, at 3. Three of these sectors are comprised of fishers who do not fish and merely lease out their share of the allowable catch. *Id.*

141. BRINSON & THUNBERG, *supra* note 107, at 52. The sub-annual catch limit is the "percentage of an annual catch limit (ACL) allocated to a defined group of fishermen, such as a group of fishermen participating in the Northeast Multispecies Sector Program . . . . The sum of the sub-ACLs must not exceed the overall stock ACL." Measuring the Effects of Catch Shares, *Glossary*, http://www.catchshareindicators.org/glossary/#subacl (last visited Feb. 26, 2016).

may be helping the fishers to adjust to lower catch levels, sectors appear to be providing New England groundfish fishers with considerable flexibility to consolidate harvesting onto fewer vessels, and to thereby improve the efficiency of the fishery.[142] The consolidation is controversial though, in part, because it is causing a reduction in the number of "crew positions and crew share of the profits" from the fishery.[143] Fishers within sectors are also benefitting differentially from sectoral management.[144]

Although I have elaborated the economic hypothesis as if it is distinct from the legal hypothesis, it is important to recognize the role of the Magnuson-Stevens Act in promoting the introduction of catch shares. The evolution of property rights in ocean fisheries is endogenous to changes in the statute in a number of respects. First, the timing of the introduction of property rights has been affected by changes in the Act. After a number of catch share programs were introduced in 1990-1995, the implementation of catch shares stalled, although it did not end completely, between 1996 and 2002, because there was a Congressional moratorium on individual transferable quotas.[145] The moratorium initially lasted from 1996 to 2000, and Congress then extended it to 2002.[146] Second, the type of property rights introduced in ocean fisheries likely is affected by the provisions of the statute. When the Magnuson-Stevens Act was reauthorized in 2007, Congress legislated a series of "procedural and substantive" provisions[147] governing the introduction of catch shares (referred to as limited access privileges in

142. BRINSON & THUNBERG, *supra* note 107, at 55 ("On average 612 limited access vessels participated in the groundfish fishery . . . during the 2007-2009 Baseline Period . . . . The total number of participating vessels (i.e., sector plus common pool) declined to 445 vessels in 2010 and declined again in 2011 to 420 vessels. The number of active sector vessels was 303 in 2010, while the number of active sector vessels went down slightly to 301 in 2011."); *id.* at 59.

143. Shelley, *supra* note 72, at 57. *See also* Carroll, *supra* note 106; *Lovgren*, 701 F.3d at 5. For more thorough analysis of the social impacts of the sectors, see Measuring the Effects of Catch Shares, *Northeast Multispecies Sector Program, Economic Indicators*, http://www.catchshareindicators.org/results/northeast/social/ (last visited Mar. 22, 2016). This site points out that "[t]he total numbers of groundfish vessel crew positions and crew trips, by fishing year, for all home port states . . . decreased" before the widespread introduction of sectoral management in 2010 and "into the initial years of the catch share program." *Id*. It also reports that "[a]verage crew compensation in the groundfish fishery increased from 2009 to 2011 because of higher revenues in 2011 compared to other years, and then it declined in 2012 and 2013 as the number of active vessels decreased." *Id.*

144. Olson & da Silva, *supra* note 126, at 13 ("those with relatively larger and more diverse allocations, and who had a stronger capitalized base, could more easily buy fish from those with fewer options, driving consolidation").

145. Wyman, *supra* note 13, at 187-88; *see also* Michael De Alessi et al., *The Legal, Regulatory and Institutional Evolution of Fishing Cooperatives in Alaska and the West Coast of the United States*, 43 MARINE POL'Y 217, 218 (2014) (discussing the introduction of cooperatives during the period of the moratorium).

146. Carroll, *supra* note 106; Wyman, *supra* note 13, at 185-87; COSTELLO, *supra* note 27.

147. Carroll, *supra* note 106, at 180.

the Act).[148] These provisions affect the characteristics of the property rights regimes created under the Act, and may incentivize certain councils to favor certain types of rights over others. For example, the New England Fishery Management Council likely opted to promote the use of sectors in 2010 partly because the Council is precluded from recommending the introduction of individual fishing quotas without a referendum in which two-thirds of permit holders vote in support of the program.[149] Third, the statute, especially the gradual ratcheting up of standards in the 1996 and 2007 amendments, likely has increased the incentives to introduce property rights. As I explained above, property rights may have become more attractive tools for managing fisheries as the statute has been amended to require rebuilding and catch limits, because of the flexibility that property rights offer fishers to improve the efficiency of the harvest.

Overall, my point in setting out the economic hypothesis is that in thinking about why the state of U.S. fisheries has improved, we need to consider not only the changes to the Magnuson-Stevens Act, but also the proliferation of various forms of property rights in fisheries in recent decades under the auspices of the Act. Almost certainly, the economists who have advocated catch shares for decades would want to underscore the spread of catch shares as a potential contributor.

C. Community Hypothesis

The third hypothesis that I elaborate for the improvement in the status of U.S. fish stocks concerns community involvement in managing fisheries. The idea is that the status of the stocks has improved because fishing communities now are incentivized to sustainably manage fisheries in ways that communities were not before the early 2000s. I think of this hypothesis as the "Ostrom" hypothesis, because it is inspired by Ostrom's emphasis on the potential for communities to sustainably manage resources, at least under certain conditions.[150]

148. Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, Pub. L. No. 109-479, § 106, 120 Stat. 3575 (codified as 16 U.S.C. § 1853a (2012)).

149. 16 U.S.C. § 1853a(c)(6)(D)(i) (2012); *see* Carroll, *supra* note 106, at 187 (describing sectors as "a cleverly crafted program designed to evade the referendum requirement and still comply with legal requirements"); Holland & Wiersma, *supra* note 134, at 1077 (referring to concerns at council level that an individual transferable quota program "might not pass a referendum").

150. OSTROM, *supra* note 11, at 15-21.

1. Background

To elaborate the community hypothesis, it is first necessary to define the term "community management," so that we can know what institutions we should look to for evidence that there is now more sustainable community management of U.S. fisheries.[151] I distinguish two understandings of community management. One, which I label the "user" understanding of community management, associates the term with management by actual resource users, as opposed to government. The other, which might be called the spectrum understanding, is more expansive and suggests that community management may exist when users and government are jointly managing a resource.

Ostrom presents communal "self-organization and self-governance"[152] of "common pool resources" such as fisheries as an alternative to centralized state regulation (and private property).[153] Ostrom associates self-governance with "institutional arrangements" in which resource users themselves "devise[], modif[y], monitor[], and sustain[] . . . [rules] to constrain individual behavior that would, if unconstrained, reduce joint returns to the community of users."[154] However, she suggests that government might be present even where "individuals . . . organize themselves." [155] Government might be in the background, establishing the framework in which self-governance occurs.[156] Governments might be lending "legitimacy" to the rules established by resource users, recognizing the rules in some way.[157] Under this under-

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151. The text focuses on what counts as community management as opposed to state regulation. Another threshold question is what counts as a "community" for the purposes of community management. McCay has defined "community" for the purposes of community based fisheries management as "place-based fishery-dependent communities and . . . more or less discrete and localized groups of people with similar fishing technologies or interests." McCay, *supra* note 24, at 230.

152. OSTROM, *supra* note 11, at 29.

153. *Id.* at 15. Ostrom defines a "common-pool resource'" as a resource that "share[s] the attribute of subtractability with private goods and difficulty of exclusion with public goods." Ostrom, *supra* note 15, at 412.

154. OSTROM, *supra* note 11, at 20.

155. *Id.* at 25.

156. Ostrom emphasizes that "[a]ll legal rules are nested in another set of rules that define how the first set of rules can be changed." *Id.* at 51. *See also id.* at 146 ("In a political regime that does not provide arenas in which low-cost, enforceable agreements can be reached, it is very difficult to meet the potentially high costs of self-organization."); Robert S. Pomeroy & Fikret Berkes, *Two to Tango: The Role of Government in Fisheries Co-Management,* 21 MARINE POL'Y 465, 467 (1997) ("Strictly speaking, pure communal property systems and CBCRM [community-based coastal resource management] are always embedded in state property systems and derive their strength from them").

157. OSTROM, *supra* note 11, at 20. In one of Ostrom's examples of user self-governance, the inshore fishery in Alanya, Turkey, "[t]he list of fishing locations is endorsed by each fisher and deposited with the mayor and local gendarme once a year at the time of

standing of community management, users are the main managers but there is a residual role for government.

Instead of thinking of community management in oppositional terms as management by resource users rather than by government, the term can be understood as referring to a "spectrum" of approaches in which users and government interact to manage resources.[158] At one end of the spectrum are approaches in which government remains the decision-maker, while consulting with users; the other end is approaches where the users are the decision-maker, but government is in the background. In conceiving of community management as a spectrum of approaches in which users and government interact, we can take inspiration from Robert Pomeroy and Fikret Berkes's conceptualization of co-management.[159]

2. Two Versions of the Community Hypothesis

The user and the spectrum understandings of community management suggest two versions of a community hypothesis for the improvement in U.S. fish stocks. The first adopts the spectrum understanding and uses the term "community management" to refer to arrangements in which users and government are collaborating, although government might retain final decision-

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the lottery." *Id.* at 19. Ostrom states that "[t]hat local officials accept the signed agreement each year also enhances legitimacy . . . ." *Id.* at 20.

158. COOP. RESEARCH & COOP. MGMT. WORKING GRP., NAT'L MARINE FISHERIES SERV., COOPERATIVE RESEARCH AND COOPERATIVE MANAGEMENT: A REVIEW WITH RECOMMENDATIONS 7 (2015) http://www.nmfs.noaa.gov/op/docs/cooperative_research_and_mgmt.pdf (referring to "cooperative management spectrums" in existing literature).

159. Pomeroy and Berkes explain that "co-management can . . . be viewed as a continuum, . . . based on the role(s) played by government and resource users," "where more power and authority is delegated to local-level institutions as one moves along the continuum." Pomeroy & Berkes, *supra* note 156, at 477; *see also* COOP. RESEARCH & COOP. MGMT. WORKING GRP., *supra* note 158, at 7 (referring to other scholarship discussing "cooperative management spectrums"). Pomeroy & Berkes also describe comanagement approaches in terms of a "hierarchy," not just a spectrum. Berkes & Pomeroy, *supra* note 156, at 466; *see also* COOP. RESEARCH & COOP. MGMT. WORKING GRP., *supra* note 158, at 7 (referring to spectrum and hierarchy conceptualizations of comanagement). Co-management is not "pure" community management, in which users control the resource, or "pure" state regulation, in which it is regulated by government. Pomeroy & Berkes, *supra* note 156, at 467. As Pomeroy and Berkes argue, co-management "is a middle course" in which the state is present, and there is "[a] certain degree of community-based resource management." *Id.*

Community management and co-management are likely best regarded as part of the same broad family of management approaches, which can be labeled community management. Indeed, Ostrom discusses "comanagement institutions" as a form of "community-based system." Thomas Dietz, Elinor Ostrom & Paul C. Stern, *The Struggle to Govern the Commons*, 302 SCI. 1907, 1909 (2003). For other suggestions that community-based management and co-management are part of the same category of approaches, see McCay, *supra* note 24, at 243; Evelyn Pinkerton et al., *Local and Regional Strategies for Rebuilding Fisheries Management Institutions in Coastal British Columbia: What Components of Comanagement Are Most Critical?*, 19 ECOLOGY AND SOC'Y 72, 72-73 (2014).

making authority. Under this understanding, the regional fishery management councils are instances of community management because many council members are from the commercial and recreational fisheries that the councils are overseeing, and the councils craft many of the important rules under which these fisheries occur, though the councils' rules must be approved by NMFS to take effect.[160] Focusing on the councils, we might hypothesize that the status of U.S. fish stocks has improved because the councils have been better incentivized in recent decades to sustainably manage fish stocks than the councils were in the 1980s and 1990s.

Why might the councils be managing fish stocks more sustainably in recent decades? One possibility is that the councils now have less discretion to manage fisheries unsustainably, partly because of the legislative amendments from 1996 and 2007 — that I described earlier — that require the rebuilding of overfished stocks and science-based catch limits. But focusing on the impact of these legislative changes on the councils makes the community hypothesis devolve into the legal hypothesis. A second possibility is that the councils are now managing fish stocks more sustainably because increasing numbers of council members are incentivized to be better ecological stewards because they have catch shares whose value grows with the increasing abundance of fisheries. But pointing to catch shares as the instigation for changing behavior at the council level suggests that it is the catch shares that are the focus of the economic hypothesis that have driven changes in fisheries management, not ultimately changes at the council level.

Evolutions in fishery science are a third possible explanation for changing behavior at the council level in recent times. The literature on community governance emphasizes that user knowledge of resources tends to promote community management, because it is easier for resource users to manage resources that

160. Pomeroy & Berkes suggest that the councils are a form of co-management. Pomeroy & Berkes, *supra* note 156, at 471-72. NMFS describes the councils as "on the spectrum of cooperative management" in a recent review of "the agency's co-management and cooperative research activities." COOP. RESEARCH & COOP. MGMT. WORKING GRP., *supra* note 158, at 1, 46. In conducting the review, agency staff interviewed NMFS staff and "external stakeholders," who had different views on whether the councils are a form of co-management. *Id.* at 18, 21, 26, 28.

It is difficult to treat the councils as communal management under Ostrom's presentation of communal self-governance as an arrangement where users, not governments, make the rules for governing resources. The councils are creatures of Congressional legislation, and the councils are bound by the legislated rules for fishery management. While many council members are from fishing communities, they are appointed by the Secretary of Commerce and not chosen by the communities themselves, and there are other council members who are state and federal government officials. In addition, the requirement for NMFS approval of council proposals means that NMFS is the formal decision-maker, not the councils. *See supra* notes 54 through 66, and accompanying text.

they understand.[161] There are indications that scientific understanding of U.S. fisheries has increased in recent years,[162] stimulated by legislative changes such as the requirement for science-based catch limits.[163] Anecdotal evidence suggests that council members, including at least some working in fishing, have absorbed the new information about fisheries, although NMFS science is still distrusted by the fishing industry.[164] An improved understanding of the fisheries at the council level could be one change in recent times that is promoting more sustainable management of fisheries by the councils. This hypothesis is not entirely distinct from the legal hypothesis focusing on changes in the MSA, because the improved scientific understanding of U.S. fish is linked with statutory amendments requiring science-based catch limits. But neither is the hypothesis totally reducible to the legal hypothesis, because the "information is affecting council behavior" hypothesis focuses on the possibility that the improved scientific understanding of fisheries by itself is contributing to improved community management of fisheries at the council level, regardless of why the improved scientific understanding arose.

The second version of the community hypothesis adopts the narrower "resource user"-focused understanding of community management, under which the term covers only initiatives by users to manage resources, not institutions such as the councils that involve active participation by users and government. There are long established examples of users organizing themselves to man-

161. Ostrom's work famously identifies a set of ten "variables . . . affecting the likelihood of users' self-organizing to manage a resource." Elinor Ostrom, *A General Framework for Analyzing Sustainability of Social-Ecological Systems*, 325 SCI. 419, 420 (2009). "Knowledge of the SES" [social-ecological system, which includes "resource units"] is among the ten variables. *Id*. at 421. Ostrom explains: "When users share common knowledge of relevant SES attributes, how their actions affect each other, and rules used in other SESs, they will perceive lower costs of organizing. If the resource system regenerates slowly while the population grows rapidly, such as on Easter Island, users may not understand the carrying capacity of the resource, fail to organize, and destroy the resource." *Id*. at 421.

162. *NOAA's Fishery Science: Is the Lack of Basic Science Costing Jobs?: Hearing Before the Subcomm. on Fisheries, Wildlife, Oceans and Insular Affairs of the H. Comm. on Nat. Res.*, 112th Cong. (2011) ("Today, we know more about our fish stocks than ever before, and it is vital that our science not regress, as this would inevitably lead to declines in our stocks and a loss in the economic and social values they provide.")(written testimony of Eric Schwaab, Assistant Administrator, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce) (2011); *see also* THE PEW CHARITABLE TR. & OCEAN CONSERVANCY, *supra* note 7, at 29-31.

163. *Strengthening Fishing Communities and Increasing Flexibility in Fisheries Management Act: Hearing Before the H. Comm. on Nat. Res.*, 113th Cong. 72-73 (2014) (statement of George J. Geiger, former Chairman, South Atlantic Fishery Management Council) ("The annual catch limit mandate has spurred a flurry of scientific advances in assessing and setting catch limits for stocks for which we have more limited data than we may have for stocks that have undergone more conventional assessment.").

164. *See, e.g., id*. (Geiger, a former chairman of the South Atlantic Fishery Management Council, is "also a recreational fisherman and fishing guide"); *see also* THE PEW CHARITABLE TR. & OCEAN CONSERVANCY, *supra* note 7, at 15-16, 31.

age U.S. fisheries, most prominently the lobster gangs of Maine made famous by James Acheson.[165] But more relevant for present purposes, several industry self-governance arrangements have developed in U.S. fisheries during the past two decades.[166] The emergence of these self-governance arrangements just before, and during, the period that the overall status of U.S. fish stocks has improved provides the basis for hypothesizing that the improvement might be attributable, in part, to more community management of fisheries by fishers themselves. Through these arrangements, commercial fishing interests may be helping to sustainably manage fisheries, or helping themselves to adjust to lower catch limits required to rebuild overfished fisheries.

Consider three examples. The Pacific Whiting Conservation Cooperative (PWCC) was established in 1997.[167] The four companies "licensed" by the Pacific Fishery Management Council to fish in the "catcher-processor sector" of the whiting fishery apportioned among themselves the sector's share of the total allowable catch established by the council.[168] They enforce the apportionment through "a contract signed by . . . each of the cooperative members."[169] PWCC members also "fund scientific research, including . . . stock assessment and bycatch avoidance programs."[170] The Alaska pollock cooperatives were established after Congress

165. For a recent discussion of the Maine lobster fishery by Acheson, see James Acheson & Roy Gardner, *Fishing Failure and Success in the Gulf of Maine: Lobster and Groundfish Management*, 13 MARITIME STUD. 1, 9-11 (2014). For references to other longstanding examples of fisheries self-governance, see McCay, *supra* note 24, at 231.

166. For discussion of recently established forms of user self-governance, *see, e.g.*, De Alessi et al., *supra* note 145; Gil Sylvia et al., *Fishery Cooperatives and the Pacific Whiting Conservation Cooperative: Lessons and Application to Non-Industrial Fisheries in the Western Pacific*, 44 MARINE POL'Y 65 (2014); COOP. RESEARCH & COOP. MGMT. WORKING GRP., *supra* note 158, at 11-12, 46. De Alessi et al. offer some striking statistics on the significance of recently established cooperatives in west coast fisheries. They state that "[s]ince 1997, the proportion of the total allowable catch (TAC) in the fisheries of the West Coast of the United States harvested by cooperatives and other catch share arrangements has risen from 0% to almost 60%." De Alessi et al., *supra* note 145, at 218. Moreover, "[f]ishery-wide revenues . . . show that cooperatives accounted for 28% of West Coast and Alaska commercial fisheries revenues in 2011. Adding the IFQ [individual fishing quota]-managed halibut and sablefish fisheries brings that number up to 43%." *Id.* at 222. User self-governance arrangements are a form of community management under the spectrum understanding of communal management, because it is a broader understanding that encompasses arrangements involving users and government. As I discuss below, government regulation has facilitated the establishment of these arrangements.

167. PACIFIC WHITING CONSERVATION COOP., http://www.pacificwhiting.org/ (last visited Mar. 22, 2016).

168. *Id.*; De Alessi et al., *supra* note 145, at 219 (referring to "four companies"). There are now three companies in the cooperative. *Id.* at 220.

169. PACIFIC WHITING CONSERVATION COOP., *supra* note 167.

170. *Id.*

passed the American Fisheries Act in 1998.[171] "The cooperatives use private contracts to establish rules and procedures for conducting their pollock fishery."[172] As mentioned above, sectors were established in the New England groundfish fishery beginning in the 2000s.[173] They are cooperatives that are formed through private contracts among their members.[174] Their operations plans include "harvesting rules, infraction measures, [and] a monitoring plan."[175]

Ostrom acknowledged that government might play a role in facilitating user self-organization, and government actions allocating shares of the whiting, pollock, and groundfish fisheries to delimited groups of resource users eased the creation of cooperatives in these fisheries.[176] For the whiting cooperative, "[t]he Pacific Fishery Management Council . . . provided the needed regulatory framework . . . when it formally divided the annual total allowable catch of Pacific whiting . . . among three fishery sectors" and "imposed a license limitation program for the West Coast groundfishery, which limited participation in the fishery to qualified vessels."[177] As for the pollock fishery, the North Pacific Fishery Management Council established "a moratorium on new entrants"

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171. Wyman, *supra* note 13, at 170 n.139 & 217-18; *American Fisheries Act (AFA) Pollock Cooperatives*, N. PACIFIC FISHERY MGMT. COUNCIL, http://www.npfmc.org/american-fisheries-act-afa-pollock-cooperatives/ (last visited Mar. 22, 2016).

172. COOP. RESEARCH & COOP. MGMT. WORKING GRP., *supra* note 158, at 11.

173. *Supra* note 133. Shelley implicitly compares the sector management that Amendment 16 promotes to the community-based management of resources that Ostrom found could occur under certain circumstances. He argues that it is unclear whether the New England fishing industry is well-suited to sector-based management, though he is more optimistic about the potential for sectors "for the smaller scale day boats" than "[t]he larger offshore-capable trip boats [that] are already talking about continuing on to an IFQ system." Shelley, *supra* note 72, at 70 n.214. *See also* McCay, *supra* note 24, at 239-41 (arguing that "[c]ommunity-oriented sector management in New England has emerged mainly within . . . three very small sectors").

174. Carroll, *supra* note 106, at 188 (describing sectors as "voluntary contractual arrangement between fishers"); LABAREE, *supra* note 127.

175. LABAREE, *supra* note 127, at 3.

176. *See generally* Holland & Wiersma, *supra* note 134, at 1076 (indicating that the "formation of [various U.S. fishery] . . . cooperatives was enabled by regulatory actions that created an exclusive allocation of the TAC [total allowable catch] for a relatively small and cohesive group of permit holders who were able to agree on a system to ration the TAC among the members"); De Alessi et al., *supra* note 145, at 223 ("laws and regulations [can] reduce the transaction costs of cooperation by, for example, grouping similar operations within sector allocations or by only allowing quota transfers within cooperative structures"). Nicolás L. Gutiérrez et al. offer empirical evidence that it is helpful for the success of communal management for governments to allocate shares of the total allowable catch. Nicolás L. Gutiérrez et al., *Leadership, Social Capital and Incentives Promote Successful Fisheries*, 470 NATURE 386, 386 (2011) (after examining 130 co-managed fisheries, "[w]e identified strong leadership as the most important attribute contributing to success, followed by individual or community quotas, social cohesion and protected areas").

177. PACIFIC WHITING CONSERVATION COOP., *supra* note 167. *But see* Sylvia et al., *supra* note 166, at 66 (stating that "the industry negotiated" the allocation of the fishery among different sectors in 1996); *id.* at 67 (suggesting that limited entry was introduced after the cooperative was established).

in 1996.[178] The American Fisheries Act then "allocated" shares of the pollock catch among different sectors of the pollock fishery, and "identified ["by name"] all eligible vessels participating in" two sectors that formed cooperatives in 1999.[179] The New England Fishery Management Council established the regulatory framework that promoted the creation of sectors in the groundfishery; the council's framework assigns shares of the allowable catch levels to sectors based on the catch histories of their members.[180]

The role of legislative and regulatory actions in facilitating the creation of community management suggests that the spread of user self-governance is not entirely independent of legal changes in recent decades. As already mentioned, the requirements in the 2007 legislative amendments for legally binding catch limits provided a major impetus for the spread of sectors in New England, as the New England Fishery Management Council sought ways to ease the groundfish industry's adjustment to lower catch levels.[181] The three examples of community management also are examples of the spread of catch shares that is the focus of the economic hypothesis, because the examples involve regulators allocating privileges to harvest shares of allowable catches, in this instance to groups of users, rather than to individual users. So yet again, the community hypothesis, even when focused on the emergence of examples of user self-governance rather than the councils, is not completely separable from the legal and economic hypotheses.

Nonetheless, the community hypothesis is valuable, whether it is focused on changing behavior at the council level or the emergence of new forms of decentralized management in fisheries contemporaneous with the period of the recovery of U.S. fish stocks. The hypothesis suggests that changes within society attributable in some measure to resource users, not just changes from above in the statutory framework or property rights, may be partly responsible for the improvement in the status of the stocks.[182] As with the other hypotheses, empirical analysis is

178. Sylvia et al., *supra* note 166, at 69.

179. De Alessi et al., *supra* note 145, at 220. De Alessi et al. underscore the benefits of Congress defining the participants by noting that "cooperative formation" was "delay[ed]" by a year in other sectors where the Congressional legislation "only defined the qualifying criteria for" the sectors. *Id. But see* Sylvia et al., *supra* note 166, at 69 (the pollock industry "petitioned" for "conditions" that enabled it to develop cooperatives, while "the Pacific whiting fishery" benefitted from "conditions" that "support[ed] the *voluntary* agreement of the" cooperative).

180. *Supra* note 129 and accompanying text.

181. *Supra* note 135.

182. Admittedly, the role of legislation and regulation in facilitating and stimulating the spread of communal management regimes complicates characterizing self-governance efforts as entirely from within society. For example, while sectors were "first proposed and used by a local, community-based user group" in New England, "the general strategy soon became part of a wider government promotion to consider 'catch shares' as a management

needed to assess whether communal management is positively impacting the biological status of fisheries.[183]

IV. CONCLUSION

The improvement in the biological status of U.S. fisheries in roughly the past decade is a remarkable achievement that deserves broader attention. To be sure, there are still overfished fisheries in U.S. waters, and climate change and other phenomena create significant risks for the continued health of fish stocks and marine ecosystems. But it is nonetheless worth underscoring the good news story in U.S. fisheries, and analyzing the factors that have contributed to the progress in the status of the stocks. This article has sought to set the stage for further work by sketching three hypotheses for the improvement. These hypotheses should be subject to empirical inquiry, along with others.[184]

As I have emphasized throughout, the legal, economic and community hypotheses are not completely separable. Changes in the Magnuson-Stevens Act have affected the process and the impetus for establishing property rights and community management in fisheries. But there is another, more fundamental way in which the three hypotheses are linked: all of them point to political developments to explain the improvement in the fish stocks. Changing the Magnuson-Stevens Act by definition required Congressional action. Introducing catch shares generally requires action at the council level and by NMFS. The development of self-governance arrangements requires organizing components of the fishing industry and interacting with regulators and/or legislators.[185] Thus, even if one could establish empirically that there is a

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tool more generally." Olson & da Silva, *supra* note 126, at 2; *see also id*. at 7 (sectors "became more top down . . . as sectors were soon perceived not as a choice but as the only viable option").

183. For some indications of the ecological effects of various forms of communal management, see *Northeast Multispecies Sector Program, Ecological Indicators*, MEASURING THE EFFECTS OF CATCH SHARES, http://www.catchshareindicators.org/results/northeast/ecological/ (last visited Mar. 22, 2016) (measuring the ecological and other effects of the New England groundfish sectors and the West Coast shore-based individual fishing quota program); Jennifer F. Brewer, *Hog Daddy and the Walls of Steel: Catch Shares and Ecosystem Change in the New England Groundfishery*, 27 SOC'Y & NAT. RES. 724, 725, 729 (2014) (suggesting, based on "[q]ualitative evidence," that the New England groundfish sectors are contributing to "ecosystem decline," as sector management shifts "from more direct and spatiotemporally specific regulatory controls on fishing effort to annual quotas on harvest outputs"); De Alessi et al., *supra* note 145, at 223 ("to date fishing cooperative have harvested the full amount of available catch limits").

184. *See supra* note 52 (identifying other hypotheses).

185. *See, e.g.*, Holland & Wiersma, *supra* note 134, at 1078 (referring to the role of "existing industrial organizations" and "nonprofit organizations" in organizing New England groundfish sectors); Olson & da Silva, *supra* note 126, at 5, 7 (referring to the role of the

relationship between the improvement in the status of the stocks and changes to the Magnuson-Stevens Act, the spread of catch shares or more sustainable communal management, one still would want to know what was the political constellation of interests that facilitated the changes in legislation, property rights and communal management themselves? The politics of U.S. fisheries regulation at the national, the regional and the local levels during the period of the recovery of the fish stocks is itself a topic worthy of further research, separate and apart from the reasons for the improvement in the fish stocks.[186] Understanding the political dimension of fisheries management is especially critical now, given the ongoing debate about reauthorizing the Magnuson-Stevens Act.[187]

V. APPENDIX

Explanation of the Data Used in Preparing Figure 1, Percentage of U.S. Fish Stocks Classified as Overfished 1997-2014

This Appendix provides information about the sources used, and choices made, in preparing Figure 1, which shows the percentage of U.S. fish stocks classified as overfished between 1997 and 2014.

I calculated the percentages that are graphed in Figure 1, using a series of reports that the National Marine Fisheries Service (NMFS) has prepared for Congress since 1997 on the status of U.S. fish stocks.[188] For each year's data point, the numerator is the number of overfished stocks, and the denominator is the total number of stocks whose overfished status NMFS identified.

The following table provides the raw data underlying the graph in Figure 1. Proceeding from left to right, it shows:

- The year.
- The number of fish stocks NMFS classified as overfished that year. This is the numerator for the year's data

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Northeast Seafood Coalition, "key NGOs, philanthropic groups, and industry groups" in organizing sectors).

186. *See* Rowley, *supra* note 7 (quoting Margaret Spring, "who worked for Senator Daniel K. Inouye, a Democrat from Hawaii" at the time of the 2007 amendments as suggesting that bipartisanship was key to the reforms).

187. *Magnuson-Stevens Act, Ongoing Reauthorization Activities*, NAT'L MARINE FISHERIES SERV., http://www.nmfs.noaa.gov/sfa/laws_policies/msa/reauthorization_activities.html (last visited Mar. 22, 2016).

188. *Stock Status Archive*, NAT'L MARINE FISHERIES SERV., http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/stock_status_archive.html (last visited June 20, 2016).

point. Before 2000, NMFS classified a fish stock as overfished based on biomass level, and/or fishing mortality levels. Beginning in its 2000 report, NMFS applied the label overfished to fish stocks solely based on their biomass levels.[189]

- The number of fish stocks NMFS classified as approaching overfished status that year. A fish stock is approaching an overfished condition "if, based on trends in fishing effort, fishery resource size, and other appropriate factors, the Secretary estimates that the fishery will become overfished within two years." 16 U.S.C § 1854(e)(1).
    - For 1997-2011, NMFS separately reported the number of fish stocks approaching overfished status, distinct from the number of not overfished stocks. For 2012, 2013 and 2014, NMFS did not separately report the number of stocks approaching overfished status and it was necessary to consult the supplemental tables accompanying NMFS reports to determine the number of fish stocks approaching overfished status, separate and apart from the number classified as not overfished. I consistently include the number of fish stocks approaching overfished in the total number of fish stocks whose status is known, which is the sum of overfished, approaching overfished and not overfished. NMFS is statutorily required to report the number of stocks approaching an overfished condition under 16 U.S.C. § 1854(e)(1).
- The number of fish stocks classified as not overfished that year.
- The total number of fish stocks that NMFS classified as overfished, approaching overfished and not overfished. This sum is the denominator for the year's data point in Figure 1.
- The number of overfished stocks, divided by the total number of stocks that NMFS classified as overfished, approaching overfished and not overfished, expressed as a percentage. The percentages are graphed in Figure 1.
- The number of fish stocks whose overfished status is unknown, not defined or N/A in the NMFS reports. This

189. On the current definition of overfished, see *supra* note 33. On methodological changes that NMFS made to the reports over time, see *supra* note 29.

data is not included in the graph in Figure 1. It is included in the table to illustrate the large number of stocks with unknown overfished status.

- The total number of stocks with known and unknown overfished status. This data is not included in the graph. It is included in the table to provide a perspective on the quantity of fish stocks under NMFS jurisdiction.

Trends in Overfished Fish Stocks in the United States: 1997-2014

Year	Known Overfished	Known Approaching Overfished	Known Not Overfished	Total Number of Fish Stocks With Overfished Status Known	Percentage of Known Overfished as Percentage of Total Known	Number of Fish Stocks With Unknown and Other Overfished Status	Total Number of Stocks (known and unknown)
1997	86	10	183	279	31%	448	727
1998	90	10	200	300	30%	544	844
1999	64	5	122	191	34%	716	907
2000	92	5	148	245	38%	660	905
2001	81	3	163	247	33%	712	959
2002	86	1	150	237	36%	695	932
2003	76	1	138	215	35%	694	909
2004	56	1	144	201	28%	487	688
2005	43	4	136	183	23%	347	530
2006	47	4	136	187	25%	343	530
2007	45	5	140	190	24%	338	528
2008	46	5	148	199	23%	332	531
2009	46	6	152	204	23%	319	523
2010	48	5	154	207	23%	321	528
2011	45	5	169	219	21%	318	537
2012	41	5	178	224	18%	230	454
2013	40	4	186	230	17%	248	478
2014	37	2	189	228	16%	241	469

Below I identify the sources of the data in the table, by year:

1997: NAT'L MARINE FISHERIES SERV., STATUS OF FISHERIES OF THE UNITED STATES, REPORT TO CONGRESS 3 (1997), http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/1997-2002/status_of_fisheries_1997_report.pdf (279 is author's calculation based on total of known overfished, approaching overfished, and not overfished; 727 is author's calculation based on 279+448 unknown in table).

1998: NAT'L MARINE FISHERIES SERV., REPORT TO CONGRESS, STATUS OF FISHERIES OF THE UNITED STATES 1 (1998), http://

www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/1997-2002/status_of_fisheries_report_congress_1998.pdf (300 is author's calculation based on total known overfished, approaching overfished, and not overfished; 844 is author's calculation based on 300+544 unknown in table).

1999 & 2000: NAT'L MARINE FISHERIES SERV., REPORT TO CONGRESS, STATUS OF FISHERIES OF THE UNITED STATES tbl. 1 at 14 (2001), http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/1997-2002/status_of_fisheries_report_congress_2000.pdf (191 and 245 are author's calculations based on known overfished, approaching overfished and not overfished; 716 is author's calculation based on 390 unknown and 326 undefined in Table 1; 660 is author's calculation based on 619 unknown and 41 undefined in Table 1).

For 1999, the graph reflects the number of overfished stocks reported in NMFS's report to Congress for 2000, which is lower than the number for 1999 reported in the report for 1999, as changes were made to the reporting criteria between 1999 and 2000.[190]

2001: NAT'L MARINE FISHERIES SERV., ANNUAL REPORT TO CONGRESS ON THE STATUS OF U.S. FISHERIES – 2001 tbl. 1 at 12 (2002), http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/1997-2002/status_of_fisheries_report_congress_2001.pdf (247 is author's calculation based on adding 81+3+163; 712 is author's calculation from adding 589 unknown, and 66 undefined and 57 N/A in Table 1); *id.* at iii (959 is author's calculation from 247+712).

2002: NAT'L MARINE FISHERIES SERV., ANNUAL REPORT TO CONGRESS ON THE STATUS OF U.S. FISHERIES—2002 tbl. 1 at 18 (2003), http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/1997-2002/status_of_fisheries_report_congress_2002.pdf (237 is author's calculation based on 86+1+150; 695 is author's calculation based on 572 unknown, 70 not defined and 53 N/A in Table 1; 932 is author's calculation based on 237+695).

NMFS's report for 2002 indicates that there were 722 stocks in 2001 whose overfished status was unknown or whose fishing mortality rate threshold was undefined, but I calculated only 712 stocks in 2001 whose overfished status is unknown, undefined or N/A. I cannot reconcile the difference. NAT'L MARINE FISHERIES SERV., STATUS OF THE FISHERIES OF THE UNITED STATES 2002 9,

190. *See supra* note 29.

http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/1997-2002/status_of_fisheries_report_congress_2002.pdf.

2003: NAT'L MARINE FISHERIES SERV., ANNUAL REPORT TO CONGRESS ON THE STATUS OF U.S. FISHERIES — 2003 tbl. 1 at 8 (2004), http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/2003/status_of_fisheries_2003.pdf (215 is author's calculation based on total known overfished, not overfished and approaching overfished; 694 is author's calculation based on total not known, not defined and N/A); *id.* at 4 (909 stocks).

2004: NAT'L MARINE FISHERIES SERV., ANNUAL REPORT TO CONGRESS ON THE STATUS OF U.S. FISHERIES—2004 tbl. 2 at 10 (2005), http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/2004/status_report_2004.pdf (201 is author's calculation based on total number of known overfished, not overfished and approaching overfished; 487 is author's calculation based on total not known, not defined and N/A/ in Table 2).

For 2004, the body of the report states that there are 200 stocks whose overfished status is known, but I calculate 201. The difference may be due to the fact that I include the stock known to be approaching overfished status. NAT'L MARINE FISHERIES SERV., ANNUAL REPORT TO CONGRESS ON THE STATUS OF U.S. FISHERIES—2004 7 (2005). I count this stock separately because Appendix 1 states that "the categories not overfished and approaching an overfished condition are mutually exclusive. Any stock listed as approaching an overfished condition (estimated to become overfished within 2 years) is not included in the not overfished category, even though it is currently not overfished, to eliminate double counting." *Id.* at app. 1, http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/2004/2004_appendices.pdf.

2005: NAT'L MARINE FISHERIES SERV., REPORT ON THE STATUS OF U.S. FISHERIES FOR 2005 tbl. 2 at 10 (2005), http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/2005/report_text_final_2005.pdf (the following data for 2005 are from this report: number of stocks approaching overfished status (4), and total number of stocks (530)); NAT'L MARINE FISHERIES SERV., REPORT ON THE STATUS OF U.S. FISHERIES FOR 2006 app. 1, tbl. 1 & 2, http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/2006/2006_statusof_fisheries_appendix_1-2.pdf (this report is the source of the number of fish stocks reclassified as stocks with unknown status). The following numbers are the author's own calculations, based on using the numbers in the 2005 report as a

baseline and adjusting them to reflect the restatements in the 2006 report: number of stocks known to be overfished, number of stocks known to be not overfished, total number of stocks with known overfished status, percentage of stocks classified as overfished, number of stocks with unknown status, total number of stocks with known and unknown overfished status.

For 2005, I rely on the data in the 2005 report, as updated by the 2006 report. In the 2006 report, NMFS stated that 11 stocks classified as overfished in 2005, and 12 stocks classified as not overfished in 2005, should have been treated as stocks whose overfished status was unknown in 2005. The reason for reclassifying most of these 23 stocks was that the earlier stock status determination had been improperly based on the spawning potential ratio, which is not an appropriate basis for determining overfished status. REPORT ON THE STATUS U.S. FISHERIES 2006, *supra*, at 5 & 5 n.1 (number of overfished fish stocks for 2005 is 43, not 54 as reported in 2006 report); *id.* at app. 1, A-4 – A-5.

2006: NAT'L MARINE FISHERIES SERV., REPORT ON THE STATUS OF U.S. FISHERIES FOR 2006 tbl. 2 at 15 (2006), http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/2006/2006_status_of_fisheries_report.pdf (187 is author's calculation based on total number of known overfished, not overfished and approaching overfished; 343 is author's calculation based on total not known, not defined, N/A in Table 2).

2007: NAT'L MARINE FISHERIES SERV., 2007 STATUS OF U.S. FISHERIES tbl. 1 at 6 (2008), http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/2007/2007_status_of_fisheries.pdf (190 is author's calculation based on total number of known overfished, not overfished and approaching overfished; 338 is author's calculation based on total not known, not defined, N/A in Table 1).

2008: NAT'L MARINE FISHERIES SERV., 2008 STATUS OF U.S. FISHERIES tbl. 1 at 8 (2009), http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/2008/status_of_fisheries_2008.pdf (199 is author's calculation based on total number of known overfished, not overfished and approaching overfished; 332 is author's calculation based on total not known, not defined and N/A in Table 1).

2009: NAT'L MARINE FISHERIES SERV., 2009 STATUS OF U.S. FISHERIES tbl. 1 at 7 (2010), http://www.nmfs.noaa.gov/sfa/fish

eries_eco/status_of_fisheries/archive/2009/2009_status_of_fisheries .pdf (204 is author's calculation based on total known overfished, not overfished and approaching overfished; 319 is author's calculation based on total not known, not defined and N/A in Table 1; 523 is author's own calculation based on total known overfished, known not overfished, overfished status not known, not defined, N/A and known approaching overfished in Table 1).

For 2009, I calculated that 523 stocks had known or unknown overfished status, not 522 as reported in the 2009 reports, Table 1. Description of FSSI and non-FSSI Stocks by Council, 2009. http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/2009/2009_status_of_fisheries.pdf.

2010: NAT'L MARINE FISHERIES SERV., STATUS OF STOCKS: 2010 REPORT ON THE STATUS OF U.S. FISHERIES tbl. 1 at 5 (2011), http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/2010/2010_status_of_fisheries.pdf (207 is author's calculation based on total known overfished, not overfished and approaching overfished; 321 is author's calculation based on total not known, not defined and N/A in Table 1).

2011: NAT'L MARINE FISHERIES SERV., STATUS OF STOCKS: REPORT ON THE STATUS OF U.S. FISHERIES FOR 2011 tbl. 1 at 6 (2012), http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/2011/2011_sos_report.pdf (219 is author's calculation based on total known overfished, not overfished and approaching overfished; 318 is author's calculation based on total not known, not defined and N/A in Table 1).

2012: NAT'L MARINE FISHERIES SERV., STATUS OF STOCKS 2012: ANNUAL REPORT TO CONGRESS ON THE STATUS OF U.S. FISHERIES tbl. at 2 (2012), http://www.nmfs.noaa.gov/stories/2013/05/docs/2012_sos_rtc.pdf (2012 data, except for the number of approaching overfished and known not overfished; 454 is author's calculation based on total known and unknown); NAT'L MARINE FISHERIES SERV., STATUS OF STOCKS 2012: ANNUAL REPORT TO CONGRESS ON THE STATUS OF U.S. FISHERIES, Table A. Summary of Stock Status for FSSI Stocks & Table C. Summary of Stock Status for non-FSSI Stocks, http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/2012/2012_tables_a_d.pdf (number of fish stocks approaching overfished status (5) and number of fish stocks known to be not overfished (178)).

2013: NAT'L MARINE FISHERIES SERV., STATUS OF STOCKS 2013: ANNUAL REPORT TO CONGRESS ON THE STATUS OF U.S. FISHERIES tbl. at 2 (2013), http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/2013/status_of_stocks_2013_web.pdf (478 is author's calculation based on total known and unknown); NAT'L MARINE FISHERIES SERV., STATUS OF STOCKS 2013: ANNUAL REPORT TO CONGRESS ON THE STATUS OF U.S. FISHERIES (Table A. Summary of Stock Status for FSSI Stocks & Table C. Summary of Stock Status for non-FSSI Stocks), http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/2013/2013_stock_status_tables.pdf (number of fish stocks approaching overfished status (4)).

2014: NAT'L MARINE FISHERIES SERV., STATUS OF STOCKS 2014: ANNUAL REPORT TO CONGRESS ON THE STATUS OF U.S. FISHERIES 1 & 2, http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/2014/2014_status_of_stocks_final_web.pdf (241 is author's own calculation based on 469 (the number of stocks that NMFS "tracks") minus 228 (the number of stocks whose overfished status is known); NAT'L MARINE FISHERIES SERV., STATUS OF STOCKS 2014: ANNUAL REPORT TO CONGRESS ON THE STATUS OF U.S. FISHERIES, Table A. Summary of Stock Status for FSSI Stocks & Table C. Non-FSSI Stocks, http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/2014/2014_stock_status_tables.pdf (number of fish stock approaching overfished status (2)).

THE HEART OF THE MATTER: ALTERNATIVES, MITIGATION MEASURES, AND THE CLOUDED HEART OF NEPA

CATHERINE E. KANATAS*
MAXWELL C. SMITH**

I. Introduction

The linchpin.[1] The heart.[2] These are just a few of the names courts use to emphasize the centrality of an agency's discussion of alternatives to a proposed federal project in an environmental impact statement (EIS), prepared pursuant to the National Environmental Policy Act of 1969 (NEPA).[3] NEPA's procedural framework places alternatives front and center. Two explicit provisions within the statute relate to alternatives.[4] These requirements go far to serve NEPA's twin purposes by providing decision makers and the public with essential context for the agency's assessment of the impacts that may occur from its proposed or, ultimately, its selected course of action.[5]

The meaning of alternatives appears straightforward on its face: an agency must consider different ways of achieving its desired ends. But the case law and implementing regulations are not as simple. Courts and agencies often conflate the alternatives re-

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* Catherine E. Kanatas is a Senior Attorney at the United States Nuclear Regulatory Commission (NRC) and primarily represents the NRC Staff in contested nuclear reactor proceedings. Mrs. Kanatas also clerked for the Attorney General of Georgia and served as a research assistant at the University of Georgia, where she graduated *cum laude* in 2009. Before law school, Mrs. Kanatas worked in the education research field. She would like to thank her husband and daughter for making her dreams a reality. The views expressed in this article are solely those of the author and do not necessarily represent the positions of the NRC.

** Maxwell C. Smith is an attorney at the NRC, where he currently serves as the Legal Counsel and Deputy Chief of Staff to NRC Commissioner Kristine L. Svinicki. Prior to working with Commissioner Svinicki, the primary focus of his practice was representing the staff of the NRC in contested adjudicatory proceedings on applications to renew nuclear reactor operating licenses. Mr. Smith has also clerked for the Hon. Jackson L. Kiser in the Western District of Virginia and the Hon. Charles E. Poston and Hon. Lydia C. Taylor in the Norfolk Circuit Court. He graduated from Washington and Lee University, *magna cum laude* in 2005 where he contributed to the *Capital Defense Journal*. As always, he would like to thank his brilliant wife Angela, daughter Jasmine, and son Raj for the fun, wisdom, joy, and love they bring to his life everyday. The views expressed in this article are solely those of the author and do not necessarily represent the positions of the NRC. The authors would also like to thank Sean Croston, Anita Ghosh, and Andrew Stuyvenberg for their invaluable input.

1. Nat. Res. Def. Council, Inc. v. Callaway, 524 F.2d 79, 92 (2d Cir. 1975) (quoting Monroe Cnty. Conservation Council, Inc. v. Volpe, 472 F.2d 693, 697-98 (2d Cir. 1972)).

2. Ctr. for Biological Diversity v. U.S. Dep't of Interior, 623 F.3d 633 (9th Cir. 2010). *See also* 40 C.F.R. § 1502.14 (stating that the alternatives section is the heart of the EIS).

3. Nat'l Envtl. Policy Act of 1969, Pub. L. No. 91-190, 83 Stat. 852 (1970) (codified as amended at 42 U.S.C. §§ 4321-4370c (1988 & Supp. III 1991)) (stating an EIS must be prepared when a federal agency is proposing a major federal action significantly affecting the quality of the human environment); 42 U.S.C. § 4232(2)(C) (2012); *see also* 40 C.F.R. § 1501.7 (2016).

4. 42 U.S.C. § 4322(2)(C), (E) (2012).

5. *See* 42 U.S.C. § 4321 (2012) (describing purposes); *see also* Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 349–50 (1989); Hughes River Watershed Conservancy v. Glickman, 81 F.3d 437, 443 (4th Cir. 1996) (describing the principal goals of an EIS as twofold: to compel agencies to take a "hard look" at the environmental consequences of a proposed project and to permit the public a role in the agency's decision-making process).

quirements.[6] Even more significantly, courts frequently mistake alternatives for another key requirement of an EIS: mitigation measures. The Supreme Court has stated an EIS must discuss mitigation measures in order to provide a complete picture of the impacts of the project.[7] While the Supreme Court's requirement is clear, the line between alternatives to a proposed action and mitigation measures is hazy, as both requirements compel agencies to explore different methods of meeting a project's purpose. As a result, courts, commenters, and even the Council on Environmental Quality (CEQ)—which issues regulations governing compliance with NEPA[8]—routinely conflate the two, due in part to the CEQ's regulations that treat mitigation measures as merely one type of alternative.[9] This confusion has apparently led some courts to demand that agencies discuss mitigation measures in far more detail than required by the Supreme Court to fairly reveal a project's impacts. These courts require that mitigation analyses contain a depth of consideration typically reserved for alternatives.[10]

Because NEPA case law on mitigation and alternatives can be muddled, it is often difficult to determine the true heart of a NEPA analysis. Is it a procedural discussion of alternatives—some of which are likely beyond the purview of the action agency—or is it the potentially more substantive discussion of mitigation measures that an agency may realistically implement to avoid harm to the environment?[11] Finally, how can a NEPA practitioner prepare an

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6. *See infra* Sections III.A and III.C. As discussed below, some of this conflation may be explained because the CEQ regulations regarding alternatives include a provision which states that the alternatives discussion should "[i]nclude appropriate mitigation measures *not already included* in the proposed action or alternatives." 40 C.F.R. § 1502.14 (2016) (emphasis added).

7. *Methow Valley,* 490 U.S. at 349–50. Interestingly, NEPA itself does not explicitly mention mitigation. 42 U.S.C. § 4321 (2012).

8. *See* 42 U.S.C. § 4342 (2012); Exec. Order No. 11,991, 42 Fed. Reg. 26,927 (1978). *See also* Exec. Order 11,514, 35 Fed. Reg. 4,247 (1970) (mandating issuance of guidelines to assist the agencies in preparing EISs).

9. *See* 40 C.F.R. § 1508.25(b) (2016).

10. *See* Ocean Mammal Inst. v. Gates, 546 F. Supp. 2d 960, 983 (D. Haw. 2008) (requiring mitigation measures in narrowly crafted injunction to avoid harm to marine mammals caused by the Navy's use of sonar in training exercises, instead of shutting down those exercises). *See* N.W. Indian Cemetery Protective Ass'n v. Peterson, 795 F.2d 688, 697 (9th Cir. 1986) (holding EIS inadequate for failure to discuss mitigation measures in sufficient detail*), rev'd on other grounds, sub nom.* Lyng v. N.W. Indian Cemetery Protective Ass'n, 485 U.S. 439 (1988).

11. *See* David C. Richards, Robertson v. Methow Valley Citizens Council: *The Gray Area of Environmental Impact Statement Mitigation*, 10 J. ENERGY L. & POL'Y 217, 233 (1990) (noting that NEPA is procedural but that adequate mitigation is a procedural requirement which inevitably results in substantive action). *See also* Bradley C. Karkkainen, *Toward a Smarter NEPA: Monitoring and Managing Government's Environmental Performance*, 102 COLUM. L. REV. 903, 932 (2002) (discussing the benefits of mitigated finding of no significant impacts or FONSIs).

EIS that meets NEPA's requirements with respect to alternatives and mitigation measures, and withstands judicial scrutiny?

In answering these questions, this article first introduces the requirements for both alternatives and mitigation measures and discusses how courts have treated these requirements. Next, this article considers cases where courts, scholars, and the CEQ seemingly conflate the two requirements and the confusion that can consequently arise. Third, this article examines how this confusion has potentially led lower courts to demand more of mitigation analyses than required by the Supreme Court. Next, this article argues that mitigation measures are the more significant part of an EIS, in that they instruct decision makers and the public on practical, and frequently easily achievable, ways to lessen environmental impacts. As a result, the additional discussion of mitigation measures required by many lower courts has an unintended, but beneficial, side effect: providing a relatively complete discussion of more modest alternatives to the project as initially proposed. Finally, this article concludes with recommendations for how practitioners should consider both alternatives and mitigation measures in their environmental analyses to avoid challenges and remands by the courts.

II. BACKGROUND: NEPA REQUIREMENTS RELATED TO ALTERNATIVES & MITIGATION

A. Alternatives

NEPA contains two separate requirements related to alternatives. First, section 102(2)(C)(iii) requires that an environmental impact statement (EIS) contain a discussion of "alternatives to the proposed action."[12] Second, section 102(2)(E) requires federal agencies to "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources."[13] In the first landmark NEPA case, *Calvert Cliffs' Coordinating Committee, Inc. v. Atomic Energy Commission*,[14] the U.S. Court of Appeals for the D.C. Circuit highlighted the importance of these requirements and noted that they seek:

> [T]o ensure that each agency decision maker has before him and takes into proper account all possible approaches to a

12. 42 U.S.C. § 4232(2)(C)(iii) (2012).
13. *Id.* § 4232(2)(E) (2012).
14. 449 F.2d 1109 (D.C. Cir. 1971).

> particular project (including total abandonment of the project) which would alter the environmental impact and the cost benefit analysis. Only in that fashion is it likely that the most intelligent, optimally beneficial decision will ultimately be made.[15]

As discussed below, while these requirements are separate and distinct, courts often (1) discuss only the 102(2)(C)(iii) requirement, or (2) treat the two provisions as a single requirement.

1. Section 102(2)(C) Requirement

NEPA section 102(2)(C) requires an EIS[16] to discuss "alternatives to the proposed action."[17] The CEQ, in its implementing regulations, emphasizes alternatives as the "heart" of the EIS.[18] Despite the apparently critical role alternatives play in accomplishing NEPA's goals, the statute itself does not define alternatives. The legislative history offers little guidance and only defines "alternatives" broadly as "[t]he alternative ways of accomplishing the objectives of the proposed action."[19] One court found that "the term 'alternatives' is not self-defining,"[20] while another court explained section 102(2)(C)(iii) as a terse notation for both "[t]he alternative ways of accomplishing the objectives of the proposed action and the results of not accomplishing the proposed action."[21]

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15. *Id*. at 1114.

16. The EIS is described as the primary procedural mechanism embodied in NEPA. Grazing Fields Farm v. Goldschmidt, 626 F.2d 1068, 1072 (1st Cir. 1980). An EIS "aids a reviewing court to ascertain whether the agency has given the good faith consideration to environmental concerns . . . , provides environmental information to the public and to interested departments of government, and prevents stubborn problems or significant criticism from being shielded from internal and external scrutiny." *Id*; *see also* Silva v. Lynn, 482 F.2d 1282, 1283-84 (1st Cir. 1973).

17. 42 U.S.C. § 4332(2)(c)(iii) (2012). An EIS must describe the impact of federal actions which have a major effect on the environment. In terms of timing, an EIS "ought not to be modeled upon the works of Jules Verne or H. G. Wells, or written at such late date that 'the purposes of NEPA will already have been thwarted.'" Scientists' Inst. for Public Information v. Atomic Energy Comm'n, 481 F.2d 1079, 1093 (D.C. Cir. 1973) (citing CEQ guidance).

18. CEQ distinguishes between the "environmental consequences section" of an EIS, which should be devoted largely to a scientific analysis of the impacts of the analyzed alternatives, and the "alternatives section," which should present a concise comparison of alternatives (based on and summarizing information developed in the "environmental consequences section"). Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, 46 Fed. Reg. 18,026, 18,028 (1981) ("Forty Questions").

19. 115 CONG. REC. 40,420 (1969).

20. Vermont Yankee Nuclear Power Corp. v. Nat. Res. Def. Council, Inc., 435 U.S. 519, 551 (1978).

21. Nat. Res. Def. Council, Inc. v. Morton, 458 F.2d 827, 833 (D.C. Cir. 1972) (citing 115 CONG. REC. 40420 (Dec. 20, 1969)) (discussing language of the Section-by-Section Analysis presented by Senator Jackson, in charge of the legislation and chairman of the Senate

Despite their zeal for alternatives, the CEQ's regulations only generally refer to an alternative as a means to accomplish the agency's goal.[22] This stands in contrast to the CEQ's relatively detailed definition of mitigation measures.[23] Weakness of its definition notwithstanding, CEQ's regulations provide detailed directions on the contents of the alternatives discussion in an EIS. Specifically, agencies shall:

> (a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.
> (b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.
> (c) Include reasonable alternatives not within the jurisdiction of the lead agency.
> (d) Include the alternative of no action.
> (e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.
> (f) Include appropriate mitigation measures not already included in the proposed action or alternatives.[24]

While each of the regulatory requirements for EIS alternatives discussions could be the subject of its own law review article, this section will briefly highlight a few principles related to these provisions. First, the alternatives discussion is procedural. Agencies must discuss alternatives in an EIS, including alternatives not within their jurisdictions,[25] but NEPA does not require an agency

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Interior Committee, in explaining and recommending approval of the bill as agreed in conference).

22. 40 C.F.R. § 1508.23 (2016).

23. *See id.* § 1508.20 (2016) (defining mitigation).

24. *Id.* § 1502.14 (2016); *see* 43 Fed. Reg. 55994; *see also* 40 C.F.R. § 1502.16 (2016) ("This section [environmental consequences] forms the scientific and analytic basis for the comparisons under § 1502.14."). The CEQ regulations also provide that an EIS must contain the alternatives discussion required by section 102(2)(E). *See* 40 C.F.R. § 1502.10 (2016) (providing recommended format for EISs and noting that one section should be "[a]lternatives, including proposed action (sections 102(2)(C)(iii) and 102(2)(E) of the Act)"); *see also* 40 C.F.R. § 1502.12 (2016) (providing that the EIS summary should stress "the issues to be resolved including the choice among alternatives").

25. *See* 40 C.F.R. § 1502.16 (2016); Sierra Club v. Lynn, 502 F.2d 43, 62 (5th Cir. 1974), *cert. denied* 421 U.S. 994 (1975); Envtl. Defense Fund, Inc. v. U.S. Army Corps of Eng'rs, 492 F.2d 1123, 1135 (5th Cir. 1974); Nat. Res. Def. Council, Inc. v. Morton, 458 F.2d 827, 834 (1972); *see also* Dubois v. U.S. Dept. of Agric., 102 F.3d 1273 (1st Cir. 1996) (stating

to choose any particular alternative.[26] Agencies, however, are directed to consider modifying the alternatives — including the proposed action — as well as to develop and evaluate alternatives not previously given serious consideration by the agency when responding to comments on the EIS.[27] The court's role is to ensure that the agency took a hard look at the environmental impacts of the proposed action and adequately disclosed those impacts.[28] The court's review is aimed at ensuring compliance with NEPA's procedures, not at "trying to coax agency decision makers to reach certain results."[29]

Another important principle outlined in the CEQ regulations is that all reasonable alternatives must be discussed.[30] This comports with NEPA's central purpose of fostering informed decision-making. Thus, it is not surprising that many NEPA challenges revolve around whether the agency considered a reasonable range of alternatives, with courts holding that the existence of reasonable but unexamined alternatives renders an EIS inadequate.[31]

During rulemaking, many commenters opposed the "all reasonable alternatives" language in 40 C.F.R. § 1502.14 as being "unduly broad."[32] However, the CEQ did not change the language because it reasoned that the phrase "is firmly established in the case law interpreting NEPA."[33] In an attempt, however, to provide boundaries on the regulation's broad language, the CEQ gives guidance on what constitutes "reasonable" alternatives. For example, the CEQ regulations state that reasonable alternatives "would avoid or minimize adverse impacts or enhance the quality of the

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that part of the duty of analyzing reasonable alternatives is to consider significant alternatives suggested by other agencies or public during comment period).

26. *See* Corridor H. Alternatives, Inc. v. Slater, 982 F. Supp. 24, 29 (D.D.C. 1997), *aff'd in part, rev'd in part* 166 F.3d 368 (D.C. Cir. 1999). Agencies must also briefly discuss the reason for eliminating an alternative from detailed study. *See* 40 C.F.R. § 1502.14(a); Utahns for Better Transp. v. Dep't of Transp., 305 F.3d 1152, 1166 (10th Cir. 2002).

27. 40 C.F.R. § 1503(a)(1) and (2) (2016).

28. *See* James E. Brookshire, *Engaging the Future: A Survey of Federal Environmental and Land Management Developments*, 26 URB. LAW. 293, 299 (1994).

29. Northern Crawfish Frog (Rana Areolata Circulosa) v. Federal Highway Admin., 858 F. Supp. 1503, 1506 (D. Kansas 1994). For this reason, NEPA is described as prohibiting "uninformed-rather than unwise-agency action." Custer County Action Ass'n v. Garvey, 256 F.3d 1024, 1034 (10th Cir. 2001); *see also* Habitat Educ. Center, Inc. v. U.S. Forest Service, 603 F. Supp. 2d 1176, 1182 (E.D. Wis. 2009) (citing Highway J Citizens Group v. Mineta, 349 F.3d 938, 952 (7th Cir. 2003)) (noting that a "court is not empowered to examine whether the agency made the 'right' decision, but only to determine whether, in making its decision, the agency followed the procedures prescribed by NEPA").

30. 40 C.F.R. § 1502.14(a) and (c) (2016).

31. 'Ilio'ulaokalani Coal. v. Rumsfeld, 464 F.3d 1083, 1095 (9th Cir. 2005); Westlands Water Dist. v. U.S. Dep't of Interior, 376 F.3d 853, 868 (9th Cir. 2004) (citation omitted).

32. National Environmental Policy Act – Regulations, 43 Fed. Reg. 55978, 55983 (Nov. 29, 1978).

33. *Id.*

human environment."[34] The regulations also require that as part of reasonable decision-making, "[a]gencies [will] not commit resources prejudicing selection of alternatives before making a final decision."[35]

In considering challenges to alternatives analyses, courts apply a rule of reason.[36] In applying this rule of reason, courts consider the feasibility of the alternatives.[37] For example, in *Vermont Yankee*,[38] the Court explained that the Nuclear Regulatory Commission (NRC) was not responsible for considering every conceivable alternative device and consideration when licensing nuclear power facilities. Instead, the Court explained that the NRC's evaluation of alternatives would be "judged by the information then available to it."[39] This focus on feasibility means that agencies are not expected to discuss remote and highly speculative consequences of proposed actions and their alternatives.[40]

Courts also look to the goals, needs, and purposes defined for the project in determining whether the alternatives discussion is reasonable.[41] While giving deference to the agencies,[42] courts are

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34. 40 C.F.R. § 1502.1 (2016).

35. 40 C.F.R. § 1502.2(f) (2016) (citing 40 C.F.R. § 1506.1). *See also* 40 C.F.R. § 1502.2(e) (2016) ("The range of alternatives discussed in environmental impact statements shall encompass those to be considered by the ultimate agency decisionmaker.").

36. *See* California v. Block, 690 F.2d 753, 767 (9th Cir. 1982); Headwaters, Inc. v. Bureau of Land Mgmt., 914 F.2d 1174, 1180 (9th Cir. 1990) (stating that agencies must "set forth only those alternatives necessary to permit a reasoned choice."); *see also* Nat'l Helium Corp. v. Morton, 486 F. 2d 995, 1002 (10th Cir. 1973). While this is generally the standard, some courts have applied the arbitrary and capricious standard when considering an EIS's sufficiency. *See* Sierra Club v. Morton, 510 F.2d 813 (5th Cir. 1975), *rev'd on other grounds*, 96 S. Ct. 2718 (1976); Envtl. Def. Fund, Inc. v. Armstrong, 487 F.2d 814 (9th Cir. 1973); Silva v. Lynn, 482 F.2d 1282 (1st Cir. 1973).

37. High Country Conservation Advocates v. U.S. Forest Serv., 52 F. Supp. 3d 1174 (D. Colo. 2014) (stating that reasonable alternatives are "bounded by some notion of feasibility, and, thus, need not include alternatives which are remote, speculative, impractical, or ineffective."). Many courts have cited to *Vermont Yankee* for the proposition *that* the burden is on the party challenging an agency action to offer feasible alternatives. *See, e.g.,* City of Sausalito v. O'Neill, 386 F.3d 1186 (9th Cir. 2004); Morongo Band of Mission Indians v. FAA., 161 F.3d 569 (9th Cir. 1998); Olmstead Citizens for a Better Cmty. v. U.S., 793 F.2d 201 (8th Cir. 1986); River Rd. Alliance, Inc. v. U.S. Army Corps of Eng'rs, 764 F.2d 445 (7th Cir. 1985).

38. Vermont Yankee Nuclear Power Corp. v. Natural Res. Def. Council, Inc., 435 U.S. 519 (1978).

39. Brookshire, *supra* note 28, at 297-98 (noting that NEPA was not intended to impose an impossible standard on an agency). *See* Miller v. United States, 654 F.2d 513, 514 (8th Cir. 1981) (per curiam); *cf.* 435 U.S. 519 at 551 ("To make an impact statement something more than an exercise in frivolous boilerplate the concept of alternatives must be bounded by some notion of feasibility.").

40. *See, e.g.*, Nw. Coal. for Alts. to Pesticides v. Lyng, 673 F. Supp. 1019, 1025 (D. Or. 1987), *aff'd,* 844 F.2d 588 (finding that alternatives discussion was adequate).

41. *See e.g.*, Michael C. Blumm & Keith Mosman, *The Overlooked Role of the National Environmental Policy Act in Protecting the Western Environment: NEPA in the Ninth Circuit*, 2 WASH. J. ENVTL. L. & POL'Y 193 (2012) (claiming that the Ninth Circuit cases reflect NEPA's conservation purpose by "accept[ing] a relaxed scope of alternatives in EIS's on agency proposals that have a conservation purpose.").

wary when agencies narrowly define the purpose or scope of an action. For example, when considering the scope of reasonable alternatives in an EIS, the Seventh Circuit stated that "[o]ne obvious way for an agency to slip past the strictures of NEPA is to contrive a purpose so slender as to define competing 'reasonable alternatives' out of consideration (and even out of existence)."[43]

Courts also look to the complexity of the action in considering whether the amount of detail in the alternatives section is sufficient.[44] Agencies are directed to "present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public."[45] "The touchstone for [a court's] inquiry is whether an EIS's selection and discussion of alternatives fosters informed decision-making and informed public participation."[46]

2. Section 102(2)(E)

The second NEPA alternatives requirement is in section 102(2)(E).[47] Section 102(2)(E) requires agencies to "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." By its terms, the section 102(2)(E) alternatives requirement applies more broadly than the section 102(2)(C) requirement. Namely, this alternatives discussion is required for actions that do not trigger an EIS, such as those that would instead require an Environmental Assessment.[48] Thus, even when an EIS is not required, NEPA and the

42. Citizens for Alts. to Radioactive Dumping v. U.S. Dep't of Energy, 485 F.3d 1091, 1098 (10th Cir. 2007) (judicial deference is "especially strong" where decision involves technical or scientific matters within agency's area of expertise).

43. Simmons v. U.S. Army Corps of Eng'rs, 120 F.3d 664, 666, 670 (7th Cir. 1997) (noting that if "NEPA mandates anything, it mandates this: a federal agency cannot *ram through* a project before first weighing the pros and cons of the alternatives") (emphasis added).

44. Nw. Coal. for Alts. to Pesticides v. Lyng, 844 F.2d 588, 591 (9th Cir. 1988); *see* Wyoming v. U.S. Dept. of Agric., 277 F. Supp. 2d 1197, 1224-25 (D. Wyo. 2003) (finding that the EA was insufficient because the Forest Service only considered two action alternatives in implementing the "most significant land conservation initiative in nearly a century").

45. 40 C.F.R. § 1502.14 (2016). Agencies must also briefly explain why other alternatives, not discussed, have been eliminated. 42 U.S.C. § 4332 (2012); 40 C.F.R. § 1502.14 (2016). Middle Rio Grande Conservancy Dist. v. Babbitt, 206 F. Supp. 2d 1156 (D. N.M. 2000).

46. Westlands Water Dist. v. U.S. Dep't of Interior, 376 F.3d 853, 868 (9th Cir. 2004) (quoting California v. Block, 690 F.2d 753, 767 (9th Cir. 1982)).

47. 42 U.S.C. § 4332 (1970) (this paragraph was numbered 102(2)(D) prior to 1975).

48. *See* Nat. Res. Def. Council v. Callaway, 524 F.2d 79, 93 (2d Cir. 1975) (stating that the section 102(2)(E) requirement is "independent of and of wider scope than the duty to file

CEQ regulations provide that federal agencies must discuss alternatives in NEPA documents.[49]

Environmental Assessments (EAs), which are documents prepared to, among other purposes, explain an agency's decision not to prepare an EIS, "[s]hall include brief discussions of the need for the proposal, of alternatives as required by section 102(2)(E), of the environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted."[50]

The section 102(2)(E) alternatives requirement in the CEQ guidelines state that:

> A rigorous exploration and objective evaluation of alternative actions that might avoid some or all of the adverse environmental effects is essential. Sufficient analysis of such alternatives and their costs and impact on the environment should accompany the proposed action through the agency review process in order not to foreclose prematurely options which might have less detrimental effects.[51]

Thus, section 102(2)(E):

> [W]as intended to emphasize an important part of NEPA's theme that all change was not progress and to insist that no major federal project should be undertaken without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means.[52]

As with section 102(2)(C), courts apply a rule of reason when applying the section 102(2)(E) requirement. For example, in *Natural Resources Defense Council v. Morton*,[53] the court noted that "[t]he statute must be construed in the light of reason if it is not to demand what is, fairly speaking, not meaningfully possible, given the obvious, that the resources of energy and research – and time – available to meet the Nation's needs are not infinite."[54]

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the EIS"); *see also* Envtl. Def. Fund, Inc. v. Callaway, 497 F.2d 1340, 1341 (8th Cir. 1974); Envtl. Def. Fund, Inc. v. U.S. Army Corps of Eng'rs, 470 F.2d 289, 296 (8th Cir. 1972).

49. 40 C.F.R. § 1507.2(d) (2016); *see* Nat'l Wildlife Fed'n v. Appalachian Reg'l Comm'n, 677 F.2d 883, 889 (D.C. Cir. 1981); Envtl. Def. Fund, Inc. v. Costle, 657 F.2d 275, 297 (D.C. Cir. 1981).

50. 40 C.F.R. § 1508.9(b) (2016).

51. Statements on Proposed Actions Affecting the Environment, 36 Fed. Reg. 7724, 7725 (Apr. 23, 1971); *see Envtl. Def. Fund, Inc.*, 470 F.2d at 296-97.

52. Envtl. Def. Fund, Inc. v. U.S. Army Corps of Eng'rs, 492 F.2d 1123, 1135 (5th Cir. 1974).

53. 458 F.2d 827 (D.C. Cir. 1971).

54. *Id.* at 837.

3. Sections 102(2)(C) & 102(2)(E): The Same or Different?

By their explicit terms, sections 102(2)(C) and 102(2)(E) provide separate and distinct alternatives requirements.[55] However, courts often treat them interchangeably.[56] *Calvert Cliffs* described the two requirements together as achieving NEPA's goals, with no discussion of how the requirements differ.[57] In other cases, the 102(2)(E) requirement is ignored altogether. For example, in *Habitat Educational Center, Inc. v. U.S. Forest Service*,[58] the court emphasized the importance of the alternatives discussion, but only discussed the section 102(2)(C) requirement.[59] This has also happened in administrative decisions. For example, in *Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site),[60] the Nuclear Regulatory Commission cited both 102(2)(C) and 102(2)(E) for the proposition that NEPA requires an agency to consider alternatives before deciding whether to take a major federal action significantly affecting the human environment.[61] But as noted, NEPA requires a consideration of alternatives under section 102(2)(E) even if there is no major federal action significantly affecting the human environment.

Other courts recognize distinctions between the two alternatives' requirements. In particular, many early Eighth Circuit decisions found that the section 102(2)(E) requirement is more stringent than the section 102(2)(C) requirement. For example, in *Environmental Defense Fund v. Froehlke*,[62] the court noted that "section 102(2)(E), unlike section 102(2)(C), required an agency to 'explicate fully its course of inquiry, its analysis and its reasoning.'"[63] More recently, the Eighth Circuit reasoned that:

> The "supplemental" and "more extensive" command of section [102(2)(E)] which [the petitioner] draws from *Environmental Defense Fund, Inc. v. Corps of Engineers of the U.S. Army,* 492 F.2d 1123, 1135 (5th Cir. 1974), imposes not a duty to publish an even more thorough explanation than in

55. *See also Envtl. Def. Fund, Inc.*, 492 F.2d at 1135 (describing section 102(2)(E) as supplemental to section 102(2)(C)).

56. DANIEL R. MANDELKER, NEPA LAW AND LITIGATION, SCOPE OF THE ENVIRONMENTAL IMPACT STATEMENT 9:18 (2d ed. 2014).

57. Calvert Cliffs' Coordinating Comm. v. U.S. Atomic Energy Comm'n, 449 F.2d 1109, 1114-16 (D.C. Cir. 1971).

58. 603 F. Supp. 2d 1176 (E.D. Wis. 2009).

59. *Id.* at 1182.

60. 62 N.R.C. 134 (2005).

61. *Id.* at 154 (citing 42 U.S.C § 4332(2)(C)).

62. 473 F.2d 346 (8th Cir. 1972).

63. *Id.* at 351 (quoting Ely v. Velde, 451 F.2d 1130, 1139 (4th Cir. 1971)).

> an impact statement but instead a duty to actively seek out and develop alternatives as opposed to merely writing out options that reasonable speculation suggests might exist. The case proposes, for example, that an agency should consider "shelving the entire project" or "accomplishing the same result by entirely different means."[64]

Similarly, in finding that 102(2)(E) imposed more stringent requirements, another Eighth Circuit court cited CEQ guidance on the provision, which states that "[a] rigorous exploration and objective evaluation of alternative actions that might avoid some or all of the adverse environmental effects is essential."[65] The court stated that the "economic benefits and environmental impact of each alternative [including total abandonment of the project] are developed in great detail"[66] over thirty-seven pages of a 200-page EIS and upheld the alternatives discussion. Even so, the court noted that while 102(2)(E) required detail, an agency is not required to come up with a perfect EIS.[67]

Other circuits have also recognized the stringency distinction between sections 102(2)(C) and 102(2)(E). For example, in *Environmental Defense Fund, Inc. v. Corps of Engineers of the U.S. Army*,[68] the Fifth Circuit agreed with petitioners that section 102(2)(E) requires something different and more stringent than 102(2)(C), before upholding the adequacy of the 102(2)(E) discussion in the Corps' EIS. Petitioners' claimed that the "Corps has violated Section 102(2)([E]) because it has not developed and described alternatives to the waterway system, particularly the alternative of increased reliance on railroads for the movement of goods."[69] The petitioners argued that the section 102(2)(E) requirement contained "a more affirmative duty" than the section 102(2)(C) requirement to describe "such alternatives as might be thought to exist."[70] The court agreed, noting that the section 102(2)(E) requirement was:

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64. Olmsted Citizens for a Better Cmty. v. United States, 793 F.2d 201, 208 (8th Cir. 1986).

65. Envtl. Def. Fund, Inc. v. U.S. Army Corps of Eng'rs, 470 F.2d 289, 297 (8th Cir. 1972).

66. *Id.*

67. *Id.* (citing Envtl. Def. Fund, Inc. v. U.S. Army Corps of Eng'rs, 342 F. Supp. 1211, 1217 (E.D. Ark. 1971) ("Further studies, evaluations and analyses by experts are almost certain to reveal inadequacies or deficiencies. But even such deficiencies and inadequacies, discovered after the fact, can be brought to the attention of the decision makers, including, ultimately, the President and the Congress itself."); *see also* Envtl. Def. Fund, Inc. v. U.S. Army Corps of Eng'rs, 492 F.2d 1123, 1123 (5th Cir. 1974) (upholding the adequacy of the section 102(2)(E) discussion in the Corps' EIS).

68. 492 F.2d 1123 (1974).

69. *Id.* at 1132.

70. *Id.* at 1134.

> [I]ntended to emphasize an important part of NEPA's theme that all change was not progress and to insist that no major federal project should be undertaken without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means."[71]

In addition, at least one court has recognized the differing scope of the alternatives discussion required by the two sections. Specifically, in *City of New York v. U.S. Department of Transportation*,[72] the court noted that the range of alternatives to consider under section 102(2)(E) was narrower because the federal action did not have a significant impact.[73]

Thus, several courts consider the section 102(2)(E) requirement as more affirmative and stringent than the 102(2)(C) requirement. But it is the section 102(2)(C) alternatives requirement – not section 102(2)(E)'s – that is called the heart of an EIS. Given that a section 102(2)(E) discussion is frequently mixed in with an EIS's section 102(2)(C) discussion, it is difficult to tell how much, if at all, the section 102(2)(E) discussion is really the heart of the EIS. Further, NEPA practitioners face challenges in determining what must be included in an alternatives discussion and what will be deemed sufficient if the discussion is challenged.

B. Mitigation Measures

1. Mitigation in Environmental Impact Statements

Unlike alternatives, NEPA itself is silent with respect to mitigation measures.[74] However, shortly after NEPA's enactment, the CEQ promulgated regulations that required an EIS to discuss mitigation.[75] In addition, the CEQ provided guidance that expanded this requirement to include mitigation measures that were outside

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71. *Id.* at 1135.

72. 715 F.2d 732 (1983).

73. *Id.* at 736.

74. 42 U.S.C. § 4332 (2012) (listing the requisite elements for an EIS and omitting "mitigation").

75. *See* 40 C.F.R. § 1508.25(b)(3) (2016) (requiring the scope of an EIS to encompass alternatives, including "mitigation measures"); 40 C.F.R. § 1502.14(f) (2016) (requiring an EIS to include "mitigation measures not already included in the proposed action or alternatives"); 40 C.F.R. § 1502.16(h) (2016) (stating that an EIS must discuss "[m]eans to mitigate adverse environmental impacts"); 40 C.F.R. § 1505.2(c) (2016) (providing that the record of decision must also discuss "whether all practicable means to avoid or minimize environmental harm . . . have been adopted").

the scope of the action agency's authority, in much the same way that agencies must consider alternatives outside the scope of the action agency's authority.[76]

Federal courts followed suit and required an EIS to include extensive discussions of mitigation measures: "An EIS must include a discussion of measures to mitigate adverse environmental impacts of the proposed action."[77] Courts cautioned that a "mere listing" of mitigation measures would be insufficient.[78] Rather, an adequate EIS must discuss the mitigation measures in sufficient detail to reveal their efficacy.[79] Thus, these courts found that a fully developed mitigation plan was a necessary component of an EIS because mitigation measures could not be "properly analyzed and their effectiveness explained when they have yet to be developed."[80] And, the same courts frequently suggested that mitigation measures were a critical element of a substantive component to NEPA and frequently held "so long as significant measures are undertaken to 'mitigate the project's effects,' they need not completely compensate for adverse environmental impacts."[81] Unsurprisingly, these courts frequently found EIS mitigation discussions inadequate.[82]

In *Robertson v. Methow Valley Citizens Council*,[83] the Supreme Court provided the defining statement on mitigation measures in an EIS. Notably, this statement departed significantly from the earlier case law. The Court first affirmed that mitigation measures are "one important ingredient of an EIS."[84] While NEPA does not explicitly mention mitigation measures, the Court found that the requirement flowed from NEPA's requirement that an adequate EIS discuss "any adverse environmental effects which cannot be avoided should the proposal be implemented."[85] More fundamentally, the Court found that a discussion of mitigation measures is necessary to accurately describe the impacts of the proposed action. "An adverse effect that can be fully remedied by, for example, an inconsequential public expenditure is certainly not as serious as a similar effect that can only be modestly ameliorated through the

76. Forty Questions, *supra* note 18, at 18,031.
77. Oregon Nat. Res. Council v. Marsh, 832 F.2d 1489, 1493 (9th Cir. 1987) (citing 40 C.F.R. § 1502.16(h)), *rev'd on other grounds*, 490 U.S. 360 (1989).
78. Nw. Indian Cemetery Protective Ass'n v. Peterson, 795 F.2d 688, 697 (9th Cir. 1986).
79. *Marsh*, 832 F.2d at 1493.
80 *Id.*
81. Friends of Endangered Species, Inc. v. Jantzen, 760 F.2d 976, 987 (9th Cir. 1985).
82. *E.g., Peterson*, 795 F.2d at 697; *Marsh*, 832 F.2d at 1494.
83. 490 U.S. 332 (1989).
84. *Id.* at 351.
85. *Id.* at 352.

commitment of vast public and private resources."[86] Thus, discussing mitigation measures preserves the "action-forcing function of NEPA" because it allows the public and decision makers to meaningfully comprehend the likely impacts of the proposed action.[87]

As a result, the Court determined that mitigation must "be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated."[88] However, the Court cautioned that this does not mean that agencies must provide a fully-developed mitigation plan within the EIS, a result that "would be inconsistent with NEPA's reliance on procedural mechanisms – as opposed to substantive, result-based standards."[89] Consequently, the Supreme Court overturned the Ninth Circuit's opinion that NEPA required the EIS to include a "detailed explanation of specific measures which *will* be employed to mitigate adverse impacts of the proposed action."[90]

A few aspects of the Court's decision in *Methow Valley* deserve further unpacking. First, while the Court understood NEPA to contain a requirement to discuss mitigation, it tethered that requirement to the larger obligation to disclose the environmental impacts in sufficient detail to inform agency decision makers and the public of the impacts of the proposed action. In doing so, the Court appears to have consciously rejected much of the old mitigation case law, which required elaborate discussions of mitigation measures as a stand-alone element of an EIS. By linking mitigation to the environmental impacts of the proposed activity, the Court presumably intended for the discussion of mitigation measures to be evaluated as part of the normal test for evaluating analyses of environmental impacts – the "hard look" review.[91] Rather than study mitigation measures for their own sake, a hard look review must simply account for "all foreseeable direct and indirect impacts," discuss adverse impacts without "improperly minimiz[ing] negative side effects," and not rely on "[g]eneral statements about possible effects and some risk . . . absent a justification regarding why more definitive information could not be provided."[92]

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86. *Id.*

87. *Id.*; *see also* 40 C.F.R. § 1508.20 (2016) (defining mitigation in terms of reducing environmental impacts).

88. *Methow Valley*, 490 U.S. at 352.

89. *Id.* at 353.

90. *Id.*

91. Kleppe v. Sierra Club, 427 U.S. 390, 410 n.21 (1976). This also suggests that CEQ erroneously linked mitigation to alternatives in earlier, as well as later, guidance.

92. League of Wilderness Defenders-Blue Mountains Biodiversity Project v. U.S. Forest Serv., 689 F.3d 1060, 1075 (9th Cir. 2012).

Second, *Methow Valley* rests on the assumption that a complete mitigation plan is not necessary for an informed understanding of the impacts of a proposed project. This conclusion undermines the reasoning of earlier opinions, which found that a "complete mitigation plan" was necessary to arriving at an "informed judgment" of the project's environmental impact.[93] Despite the clarity of *Methow Valley*'s holdings, some courts continue to impose a heightened, and arguably more substantive, requirement for mitigation measures – a requirement that is far closer to the standard for alternatives than the one envisioned for mitigation measures in *Methow Valley*. As discussed below, this error may stem from the long-standing confusion over the difference between mitigation and alternatives in NEPA.

2. Mitigation Measures in Environmental Assessments

As an additional matter, when an agency relies on mitigation measures to avoid preparing an EIS, courts may impose heightened requirements. NEPA only requires agencies to prepare an EIS for "major Federal actions significantly effecting the human environment."[94] As noted above, for those actions that the agency finds will not have a significant impact on the environment, the agency may prepare a shorter document, called an Environmental Assessment (EA) that explains the basis for the agency's determination of no significant impact.[95] Although NEPA does not provide any further details on this significance determination,[96] the CEQ's early NEPA guidance recognized the possibility that agencies could rely on mitigation measures to lower the impacts of the action beneath the threshold for preparing an EIS.[97] Later cases have firmly established this principle.[98]

However, these courts have cautioned that agencies should only rely on such mitigation measures to make a finding of no significant impact (a so-called mitigated finding of no significant impact or FONSI) when the mitigation measures are required by statute, regulation, or part of the original proposal. Agencies may not use speculative mitigation measures as an excuse to avoid preparing

93. Oregon Nat. Res. Council v. Marsh, 832 F.2d 1489, 1494 (9th Cir. 1987) *rev'd on other grounds* 490 U.S. 360 (1989).

94. 42 U.S.C. § 4332 (2012).

95. 40 C.F.R. § 1508.9 (2016).

96. Peter J. Eglick & Henryk J. Hiller, *The Myth of Mitigation Under NEPA and SEPA*, 20 ENVTL. L. REV. 773, 777 (1990).

97. Forty Questions, *supra* note 18, at 18,037-38.

98. Davis v. Mineta, 302 F.3d 1104, 1125 (10th Cir. 2002).

an EIS.[99] Moreover, courts frequently require an EA to include a discussion of mitigation measures that is similar in detail to the mitigation discussion in an EIS.[100] Commenters have generally noted that while application of this rule varies from circuit to circuit, overall the standards for mitigation discussion in an EA are quite high.[101]

The heightened standard in this context is logical. By invoking mitigation measures to forego preparing an EIS, the agency assures the public that an EIS will not serve a valuable function because the impacts of the project will be minimal. But, if the mitigation measures never materialize, then the project may have significant impacts, but contrary to NEPA, those impacts will never be discussed in an EIS. Therefore, when an EA relies on mitigation measures to support a finding of no significant impact, the discussion of mitigation should be at least as detailed as the discussion of mitigation measures in an EIS.

III. CONFUSION OF THE HEART: THE TREATMENT OF ALTERNATIVES & MITIGATION

Alternatives and mitigation measures are both important aspects of an EIS, and mitigation measures can even be used to avoid preparing an EIS. However, both courts and CEQ describe the alternatives discussion as the linchpin or heart of a NEPA analysis.[102] The linchpin idea has taken hold in the Ninth Circuit, where courts have held that the "existence of a viable but unexamined alternative renders an environmental impact statement inadequate."[103] In some cases, alternatives-based challenges have even resulted in the agency action being set aside.[104] This gives credence

99. *Id.* (*quoting* Forty Questions, *supra* note 18, at 18,039). Indeed, recent CEQ guidance encourages agencies to track the effectiveness of such mitigation measures. COUNCIL ON ENVIRONMENTAL QUALITY, APPROPRIATE USE OF MITIGATION AND MONITORING AND CLARIFYING THE APPROPRIATE USE OF MITIGATED FINDINGS OF NO SIGNIFICANT IMPACT (Jan. 14, 2011).

100. Nat'l Parks & Conservation Ass'n v. Babbitt, 241 F.3d 722, 734 (9th Cir. 2001).

101. *See* Eglick & Hiller, *supra* note 96, at 782-83.

102. *See* Natural Res. Def. Council, Inc. v. Callaway, 524 F.2d 79, 92 (2d Cir. 1975).

103. Res. Ltd. v. Robertson, 35 F.3d 1300, 1307 (9th Cir. 1993), *as amended on denial of reh'g* (quoting Idaho Conservation League v. Mumma, 956 F.2d 1508, 1519 (9th Cir. 1992)).

104. Soda Mountain Wilderness Council v. Norton, 424 F. Supp. 2d 1241, 1263-65 (E.D. Cal. 2006) (agency action should be set aside when agency failed to adequately select and analyze a reasonable range of alternatives in its EA, as required by NEPA); *see* California v. Block, 690 F.2d 753, 767-79 (9th Cir. 1982) (holding that EIS considering eleven alternatives to the proposed action did not embrace an "adequate range" because some "obvious" alternatives were omitted and those considered were not sufficiently diverse); *see also* Nat. Res. Def. Council, Inc. v. Morton, 458 F.2d 827, 834-35 (D.C. Cir. 1972) (holding EIS inadequate for failure to consider reasonably foreseeable alternatives requiring interagency cooperation); Karkkainen, *supra* note 11, at 903.

to the idea that alternatives are truly the crux of an EIS. However, a review of the case law shows that this heart is treated rather carelessly, with courts often conflating the alternatives requirements or merging alternatives with mitigation measures. Likewise, there is confusion in academia, with noted environmental law scholars parsing between types of alternatives and potentially blending alternatives with mitigation. As discussed below, this confusion is understandable.[105]

A. Confusion in Case Law: When Alternatives & Mitigation Are Confused

The courts appear to confuse alternatives and mitigation measures. For example, in *Dubois v. Department of Agriculture*,[106] the First Circuit reviewed a proposal that appeared to be a mitigation measure (another source of water for snow making at a ski resort) as an alternative and found it inadequate. In *Dubois*, a petitioner challenged the Forest Service's approval of an expansion plan for a ski resort.[107] The Forest Service adopted an alternative that appeared for the first time in the final EIS. Therefore, the selected alternative had never before been considered or disseminated for public comment.[108] The court framed the issue as:

> whether the Forest Service in the instant case should have considered an alternative *means* of implementing the expansion of the Loon Mountain Ski Area — a particular means of operation that would do less environmental damage — without changing the site to another state or another mountain.[109]

The court stated that based on comments provided, the agency was on notice of a different alternative and the "environmental concern that alternative might address."[110] Specifically, the court pointed out "that commenters thought the agency should consider some

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105. *See infra* Section III.C (noting that it is understandable that alternatives and mitigation measures are conflated, as CEQ's regulations describe mitigation as a type of alternative).

106. Dubois v. U.S. Dep't of Agric., 102 F.3d 1273, 1289 (1st Cir. 1996).

107. An environmental group and the owner of the facility intervened. *Id*. at 1277.

108. *Id.* at 1292. *Dubois* also ruled on a supplementation issue under *Marsh*. In particular, the First Circuit held that under these circumstances the agency was required to submit a SEIS. For a discussion of the need to supplement EIS's under *Marsh* based on new and significant information, see Maxwell C. Smith & Catherine E. Kanatas, *Acting with No Regret: A Twenty-Five Year Retrospective of* Marsh v. Oregon Nat. Res. Defense Council, 32 UCLA J. ENVTL. L. & POL'Y 329 (2014).

109. *Dubois*, 102 F.3d at 1290.

110. *Id.* at 1291.

alternative source of water other than Loon Pond and some alternative place to discharge the water after it had gone through the snowmaking pipes."[111] The court stated that the commenters "argued that such an alternative would reduce the negative environmental impact on Loon Pond from depleting the pond's water and from refilling the pond with polluted water either from the East Branch or from acidic snowmelt."[112] In fact, one commenter explicitly suggested "the possibility of new man-made storage units to accomplish these goals."[113] Therefore, the court reasoned that the comments provided sufficient notice to alert the agency to the alternative being proposed and the environmental concern the alternative might address."[114] The court emphasized that it was then the agency's duty to examine reasonable alternatives and to "try on its own to develop alternatives that will 'mitigate the adverse environmental consequences' of a proposed project."[115]

Thus, the *Dubois* court's analysis of alternatives, which focused on ways to minimize the harm of the proposed project as opposed to other projects that would have met the project's purpose, appears to have equated alternatives with proposals to mitigate the adverse environmental consequences of a proposed action. As an additional complication, the court cited *Methow Valley's* discussion of mitigation measures in support of its holding. Further, the confusion in *Dubois* has spread to other cases. Other courts cite to *Dubois* as an alternatives case, when it appears it is actually a case about mitigation.[116]

Likewise, the court confused alternatives and mitigation in *Froehlke*, an early NEPA case wherein petitioners challenged an alternatives discussion as insufficient. In particular, the Corps of Engineers filed an EIS associated with the Cache River-Bayou DeView Channelization Project.[117] This project involved "clearing, realigning, enlarging, and rechanneling approximately one hundred forty miles of the Cache River upstream from its junction with the White River, fifteen miles of its upper tributaries, and seventy-seven miles of its principal tributary-the Bayou DeView,

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111. *Id.*; *see also id*. at 1290 ("Here, the Forest Service was alerted by commenters to the alternative of using artificial storage ponds instead of Loon Pond for snowmaking; but even without such comments, it should have been 'reasonably apparent' to the Forest Service, not 'unknown,' that such an alternative existed.") (internal citations omitted).

112. *Id.* at 1291.

113. *Id.*

114. *Id.*

115. *Id.* (*citing Methow Valley*, 490 U.S. at 351).

116. Oceana, Inc. v. Evans, 384 F. Supp. 2d 203, 240-41 (D.D.C. 2005) (calling *Dubois* an alternatives case but discussing how the agency "ignored a discrete and obvious proposal for *mitigating* environmental harm").

117. Envtl. Defense Fund v. Froehlke, 473 F.2d 346, 348 (8th Cir. 1972).

for flood control and drainage purposes."[118] Petitioners claimed that the alternative of acquiring land to mitigate the loss of natural resources should have been described in more detail. As an initial matter, the alternative itself appeared to be more of a mitigation measure in that the acquisition of land was to mitigate the impact of a loss of natural resources. Moreover, the court itself appears to have perpetuated the conflation of mitigation measures and alternatives. Specifically, the court stated that the agency's analysis was contrary to CEQ guidance, which states that "[s]ufficient analysis of such *alternatives* and their costs and impact on the environment should accompany the proposed action through the agency review process *in order not to foreclose prematurely options* which might have less detrimental effects."[119]

This guidance relates to alternatives and ensures that *alternatives* are not prematurely foreclosed. However, after citing this guidance, the court stated that in this case:

> [n]either agency decision-makers, such as the Chief of Engineers or the Secretary of the Army, nor the Congress were presented in the impact study with sufficient information to make an intelligent decision about proceeding with the project or awaiting the effectuation of a mitigation plan. Thus, the statement did not insure that the *option of mitigation* would not be prematurely foreclosed.[120]

The *Froehlke* court further confused the issue in its discussion of other mitigation measures the EIS should have covered. In particular, the court noted that the EIS should have considered other mitigation measures, because commenters and government agencies had raised them.[121] But in the next breath, the court noted that this was not an instance "where a previously unthought of or implausible *alternative* suddenly becomes practical because of the development of new sources of information or new technology."[122] Thus, the court appeared to be saying that the mitigation measures discussed by commenters were plausible alternatives.

In other cases, courts have focused on the mitigation *contained in* alternatives when determining whether the EIS is sufficient. For example, in *Natural Resources Defense Council, Inc. v. Ev-*

118. *Id.*

119. *Id.* at 352 (citing Interim CEQ guidelines section 7(a)(iii) and section 6(a)(iv)) (emphasis added).

120. *Id.*

121. *Id.*

122. *Froehlke*, 473 F.2d at 352 (emphasis added).

ans,[123] the court considered challenges to an EIS prepared by NMFS and the Navy regarding the Navy's use of low frequency sonar system. Several environmental groups claimed that the EIS did not consider reasonable alternatives. The challenged EIS considered three alternatives: the no action alternative, full deployment with no mitigation or monitoring,[124] and the Navy's preferred alternative, which included mitigation measures.[125] The court held that the full deployment with no mitigation or monitoring was a "phantom option."[126] Likewise, in the "Roadless Rule" litigation, the district court ruled that the Forest Service violated CEQ regulations because it did not, among other things, "include appropriate mitigation measures in the proposed alternatives."[127] These cases further demonstrate the interconnected nature of mitigation and alternatives and underscore the potential for confusion involving the two requirements.

B. Confusion in Academia: Primary & Secondary Alternatives

Academics have also introduced confusion based on how they discuss alternatives and mitigation. For example, noted environmental law scholar Daniel Mandelker talks about alternatives in terms of primary and secondary alternatives.[128] Dr. Mandelker remarked that the "Supreme Court's formulation of the duty to consider alternatives [in *Vermont Yankee*] would eliminate most alternatives that have not yet been fully studied. This holding undercuts NEPA's environmental decision-making responsibilities, at least as applied to *primary* alternatives. Whether the Court would apply its holding to *secondary* alternatives is not clear."[129] Mandelker describes primary alternatives as "a substitute for agency action that accomplishes the action in another manner."[130] This idea of primary alternatives tracks the language Congress used to describe alternatives in section 102(2)(C). Most alternatives cases relate to primary alternatives.[131]

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123. 279 F. Supp. 2d 1129 (N.D. Cal. 2003).

124. *Id*. at 1166.

125. *Id*. at 1164; *see, e.g., id*. at 1160 (discussing the exclusion zone around the ship).

126. *Id*. at 1166.

127. Wyoming v. U.S. Dep't of Agric., 277 F. Supp.2d 1197, 1224-25 (D. Wyo. 2003) (citing 40 C.F.R. § 1502.14(f)), *vacated and remanded by* 414 F.3d 1207.

128. DANIEL R. MANDELKER, ENVIRONMENT AND EQUITY 120 (1981).

129. MANDELKER, *supra* note 56, at § 9:18 (emphasis added).

130. MANDELKER, *supra* note 128, at 120.

131. MANDELKER, *supra* note 56, at § 9:18; *see id.* (noting that *Morton*, 458 F.2d at 827 and *Vermont Yankee*, 435 U.S. at 519 are two decisions that dominate the case law on alternatives and that both discuss primary alternatives).

In contrast, Mandelker describes secondary alternatives as "a means of carrying out a proposed action in a different manner."[132] For example, a secondary alternative could be the proposed project implemented at a different location, or the proposed project, but with modifications that mitigate harmful environmental impacts.[133] Thus, Mandelker's secondary alternatives are akin to mitigation measures. They also track the CEQ regulations' conception of alternatives, which describes mitigation measures as a type of alternative and also requires a discussion of mitigation that is not already included in the proposed action or alternatives. Given that both the academic literature and the CEQ regulations discuss mitigation and alternatives in the same breath, it is not surprising that the courts frequently confuse the two concepts.[134]

C. Confusion in the CEQ Regulations

Finally, the CEQ regulations contribute to the confusion between alternatives and mitigation measures by blurring the two concepts. In particular, CEQ's regulations require an alternatives analysis to consider mitigation in two ways. First, 40 C.F.R. § 1502.14 provides that an alternatives analysis should "[i]nclude appropriate mitigation measures not already included in the proposed action or alternatives." As explained in the regulation, this helps "define the issues and provide a clear basis for choice among options by the decisionmaker and the public."[135] This regulation appears to presume that the proposed action and other alternatives have some, but not all, mitigation measures "baked" into them. This flows from the CEQ regulations description of reasonable alternatives as those that "would avoid or minimize adverse impacts or enhance the quality of the human environment."[136]

Second, section 1508.25(b) also requires that an agency consider three types of alternatives, which include "mitigation measures."[137] Thus, the regulations treat mitigation measures as a type of alternative.[138] As discussed below, this confusion has poten-

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132. MANDELKER, *supra* note 56, at 10:32.

133. MANDELKER, *supra* note 128, at 120.

134 As discussed above, cases cited as secondary alternatives cases sometimes confuse mitigation and alternatives. *See supra* Section 3.A.

135. 40 C.F.R. § 1502.14 (2016).

136. 40 C.F.R. § 1502.1 (2016).

137. 40 C.F.R. § 1508.25(b)(3) (2016); *see also* Richards, *supra* note 11, at 221 (discussing these requirements). Mitigation must also be considered in the context of "environmental consequences." *See* 40 C.F.R. § 1502.16 (2106); *see also supra* Section II.A (for a complete discussion of this aspect of mitigation).

138. There are several other instances where alternatives and mitigation measures are discussed together. *See*, *e.g.*, 40 C.F.R. § 1502.16(e), (f) and (h) (2016) (noting that an EIS must discuss "[e]nergy requirements and conservation potential of various alternatives and

tially led to a vastly different approach to mitigation in the circuit courts than envisioned by the Supreme Court in *Methow Valley*.

IV. MITIGATION MEASURES: ALTERNATIVES BY ANOTHER NAME?

As shown above, NEPA case law fails to clearly define and adhere to a particular scope of alternatives and mitigation analyses in an EIS. In the case of mitigation measures, this confusion appears to have contributed to a string of cases that require a greater mitigation analysis than *Methow Valley* would require by analyzing whether those mitigation analyses contained many of the elements of an alternatives analysis.[139] These cases find that an EIS is inadequate when it fails to contain an expansive discussion of mitigation, even if the discussion is sufficient to understand the true impacts of the action, which is all *Methow Valley* requires. In turn, the courts frequently uphold an EIS that provides far more mitigation information than needed to apprehend the impacts of a project. As a result, notwithstanding *Methow Valley*, practitioners would be well advised to consider mitigation to be a major component of the alternatives analysis, at least as important to the durability of an EIS as the alternatives' impacts analysis.

A. The Wandering Heart: Ninth Circuit Decisions Following Methow Valley

The Ninth Circuit has decided the majority of mitigation measures cases since *Methow Valley*. The most influential of these cases has been *Neighbors of Cuddy Mountain v. U.S. Forest Service*.[140] In that case, the court considered the adequacy of an EIS prepared by the Forest Service for a proposed timber sale in the Cuddy Mountain area of the Payette National Forest.[141] As part of its NEPA discussion on the environmental impacts on the redband trout, the Forest Service succinctly described mitigation measures for impacts to the trout arising from potential sedimentation increases to three creeks impacted by the sale:[142]

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mitigation measures," "[n]atural or depletable resource requirements and conservation potential of various alternatives and mitigation measures," and "[m]eans to mitigate adverse environmental impacts (if not fully covered under § 1502.14(f))").

139. *See infra,* Section IV.C.

140. 137 F.3d 1372 (9th Cir. 1998).

141. *Id*. at 1375.

142. *Id*. at 1380.

> [s]mall increases in sedimentation and other effects of logging and road construction in Grade and Dukes creeks would be mitigated by improvements in fish habitat in other drainages. . . . Even minor improvements in other drainages, such as Wildhorse River or the Weiser River, would affect more fish habitat than exists in Grade and Dukes creeks. (See Forest Plan, page IV-38 for a list of offsetting mitigation projects.)
>
> Offsetting mitigation would include such projects as riparian enclosures (fences around riparian areas to keep cattle out) and fish passage restoration (removing fish passage blockages). These activities can be effective but cannot be quantified with present data.[143]

The Ninth Circuit found that this "perfunctory description of mitigation measures [was] inconsistent" with NEPA's hard look requirement.[144] Specifically, the court determined that the Forest Service inappropriately declined to consider methods to directly mitigate the increase in sediment levels in the three affected creeks.[145] Moreover, the Ninth Circuit concluded that the discussion was insufficiently detailed, failed to indicate whether any entity would actually adopt the mitigation measures, and did not provide a reasonable explanation for why the effectiveness of the activities could not be quantified.[146]

But this conclusion appears inconsistent with *Methow Valley's* core insight that the function of a mitigation discussion is to provide for a fair evaluation of impacts,[147] not to provide a robust discussion of mitigation for its own sake as though it were another alternative to the proposed action.[148] The purpose of the challenged

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143. *Id.*

144. *Id.*

145. Neighbors of Cuddy Mountain v. U.S. Forest Serv., 137 F.3d at 1381.

146. *Id.*

147. *See supra* Section II.B.1. The definition of mitigation in CEQ's regulations also reflects the connection between mitigation measures and the impact sought to be mitigated. 40 C.F.R. § 1508.20 (2016) (defining mitigation as "[a]voiding the impact altogether," "[m]inimizing the impacts," "[r]ectifying the impact," "[r]educing or eliminating the impact," or "[c]ompensating for the impact").

148. *See supra* Section II.A. In contrast, a number of courts have more clearly-linked the discussion of mitigation measures to the impacts at issue. For example, the Second Circuit in *Southeast Queens Concerned Neighbors, Inc. v. Fed. Aviation Admin.* opined that a mitigation plan was adequate when the exact details were not "so important to the ultimate question of whether" the application should be granted. 229 F.3d 387 (2d Cir. 2000). In a similar vein, the Fourth Circuit has noted that when an EIS insufficiently discloses the environmental impacts of a project, the discussion of mitigation measures is necessarily also invalid because it will not be based on an accurate assessment of impacts. Nat'l Audubon Soc'y v. Dep't of the Navy, 422 F.3d 174, 200 (4th Cir. 2005). Likewise, the Tenth Circuit has stated that where an EIS did not find significant impacts on the environment, it did not

mitigation discussion in *Cuddy Mountain* was to provide a complete understanding of the impacts of the timber sale on a specific species, the redband trout. There, the Forest Service noted that the impact on the species would occur through a small increase in sedimentation in some habitats but that the negative effects of that increase could be more than offset by minor but effective improvements to more important habitats.[149] Thus, in *Methow Valley*'s terms, the discussion provided sufficient information to identify the impact as small and show that it could likely be easily and effectively offset in its entirety. Additional requests for detail beyond this level, for a quantification of the plan's effectiveness, and for indications of who would adopt it, appear to lead to precisely the type of "detailed mitigation plan" that *Methow Valley* rejected.[150]

Cuddy Mountain is not an isolated example of the Ninth Circuit's insistence on an expansive analysis of mitigation measures in the wake of *Methow Valley*. In *League of Wilderness Defenders-Blue Mountains Biodiversity Project v. Forsgren*,[151] the court again found a mitigation analysis inadequate because it was more akin to a listing of potential measures than a thorough discussion. In that proceeding, environmental groups challenged the Forest Service's development of an insecticide spraying program designed to prevent a moth outbreak, similar to an outbreak in the early 1970's that defoliated over 700,000 acres in the Pacific Northwest.[152] The Forest Service noted that the insecticide could harm "moths and butterflies in adjacent wilderness areas," and developed measures to mitigate those impacts.[153] Specifically, the Forest Service adopted a one-mile buffer zone, in which spraying would be prohibited adjacent to wilderness areas, and mandated the use of less hazardous pesticides if there was a chance that the spraying could drift into wilderness areas. [154] Additionally, the Forest Service's Record of Decision referred to the project guidelines as additional mitigation measures, and those guidelines required ces-

need to discuss mitigation measures for such impacts. Holy Cross Wilderness Fund v. Madigan, 960 F.2d 1515, 1526 (10th Cir. 1992).

149. *Cuddy Mountain*, 137 F.3d at 1381.

150. *Methow Valley*, 490 U.S. at 353. Other cases in the Ninth Circuit take a similar approach to considering the adequacy of mitigation measures relied on by Federal agencies to forego preparing a full EIS in favor of an EA. Nat'l Parks & Conservation Ass'n v. Babbitt, 241 F.3d 722, 733-34 (9th Cir. 2001). Because the agencies rely on these mitigation measures to forego preparing an EIS, as opposed to simply accounting for the impacts of a project within an EIS, a more rigorous review of mitigation measures in EAs may be appropriate.

151. League of Wilderness Defenders-Blue Mountains Biodiversity Project v. U.S. Forest Serv., 689 F.3d 1060 (9th Cir. 2012).

152. *Id.* at 1183.

153. *Id.* at 1191.

154. *Id.*

sation of spraying when wind speeds exceeded eight miles an hour or the spraying would drift into "non-target" areas.[155] Thus, the EIS concluded that the spraying would have no impact on the butterfly and moth species.[156]

The court determined that this "documentation [did] not amount to a reasonably complete discussion of possible mitigation measures"[157] but was instead a "mere listing."[158] The court reasoned that while the mitigation measures addressed the effects of spray drift into wilderness areas, the EIS did not discuss the effect of drift into non-wilderness areas.[159]

Again, the Ninth Circuit did not indicate how the challenged mitigation measures' discussion did not satisfy *Methow Valley*'s charge to fully consider the impacts at issue. The opinion conceded that the impact the Forest Service sought to mitigate was "harm to moths and butterflies in adjacent *wilderness* areas."[160] Thus, the Forest Service's decision to focus on mitigation measures pertaining to wilderness spraying was reasonable in the EIS, to the extent the Forest Service sought to limit harm to species in those areas. However, the court's insistence on also discussing mitigation measures for areas in which the impact could not occur echoes *Cuddy Mountain*'s insistence on considering mitigation measures in their own right, as courts routinely require for alternatives.

The Ninth Circuit largely faulted the Forest Service's EIS for failing to discuss "how far the pesticide might drift, in what direction, or of the effect of spraying or not spraying at different wind speeds."[161] Therefore, the mitigation analysis in *League of Wilderness Defenders* should have satisfied *Methow Valley's* core requirement that mitigation be discussed in sufficient detail to provide a sufficient understanding of the identified impacts. The court's critique appears to again rest on a misapprehension that mitigation is itself a separate component of an EIS that must be discussed separate from the impact analysis.

Notably, in a similar case, *Okanogan Highlands Alliance v. Williams*,[162] the Ninth Circuit acknowledged that "the line between an EIS that contains an adequate discussion of mitigation measures and one that contains a 'mere listing' is not well defined."[163] In that proceeding, the court considered the adequacy of

155. *Id.* at 1191-92.
156. *Id.* at 1191.
157. *Id.* at 1192 (quoting *Methow Valley*, 490 U.S. at 352).
158. *Id.*
159. *Id.* at 1191.
160. *Id.* (emphasis added).
161. *Id.* at 1192.
162. 236 F.3d 468 (9th Cir. 2000).
163. *Id.* at 476.

the Forest Service's EIS for an application from the Battle Mountain Gold Company to construct and operate a gold mine near Buckhorn Mountain in Washington.[164] The proposed operations would create a mine pit that would ultimately fill with water, leaving a forty-acre lake.[165] The EIS found significant uncertainties with respect to the quality of the water that would accumulate in the lake and the impact that run-off from the lake would have on groundwater.[166] The EIS noted that if the impacts exceeded the limits required by state and federal permits, various monitoring measures would be required.[167]

The court acknowledged that the mitigation measures were listed in "bullet form" in the EIS but found that this was not necessarily deficient.[168] Because the Forest Service did not know what the exact water quality impacts from the project would be, the court determined that the flexible approach provided by the list of mitigation measures was reasonable, in that it could be used to respond to a wide range of potential water quality projects that could develop.[169] In evaluating the adequacy of the mitigation discussion, the court compared the analysis to the mitigation discussions considered in *Cuddy Mountain* and *Methow Valley*.[170] The Ninth Circuit extensively summarized the holdings in *Cuddy Mountain* and *Methow Valley* and concluded that the "difference between the discussion of proposed mitigation measures in *Methow Valley* and that in *Cuddy Mountain* appears to be one of degree."[171]

Having established this framework, the Ninth Circuit sought to distinguish its prior holding in *Cuddy Mountain* from the instant case. Once more, the Ninth Circuit observed that the EIS at issue in *Cuddy Mountain* was inadequate because it did not consider ways to mitigate the impacts on the affected creeks.[172] The Ninth Circuit found that this reasoning was favorable to the EIS at issue, which generally discussed mitigation measures related to water quality, the impact at issue.[173]

The Ninth Circuit also upheld the general nature of the mitigation discussion in *Okanogan Highlands Alliance* on the grounds that the potential impacts were uncertain because the action had

164. *Id.* at 470.
165. *Id.* at 471.
166. *Id.* at 473-75.
167. *Id.*
168. *Okanogan Highlands Alliance v. Williams*, 236 F.3d 468, 476 (9th Cir. 2000).
169. *Id.*
170. *Id.* at 476-77.
171. *Id.* at 476.
172. *Id.*
173. *Id.*

yet to be undertaken.[174] As a result, the court found that the case was "closer to *Methow Valley*" than *Cuddy Mountain*.[175] But again, this analysis seems to rest on a misunderstanding of *Cuddy Mountain's* underlying facts – in *Cuddy Mountain* the court, as is typical in NEPA cases, considered an action that had yet to be undertaken: the proposed sale of timber.[176] Therefore, the court did not provide a convincing explanation of how *Okanogan Highlands Alliance* differed from *Cuddy Mountain*. This suggests that, as the court noted, the line between a successful and unsuccessful mitigation analysis after *Methow Valley* is unclear. It also indicates that if the court actually squarely applied the *Methow Valley* test in *Cuddy Mountain*, the results in that case would have been different.

Nonetheless, one significant difference between *Okanogan Highlands Alliance* and *Cuddy Mountain* is the length of the mitigation discussion in *Okanogan Highlands Alliance.* As opposed to the succinct discussion in *Cuddy Mountain*, the Forest Service in *Okanogan Highlands Alliance* provided a lengthy analysis regarding mitigation for water discharge. It observed that if the discharges exceeded the requirements of water quality permits, water treatment would be required. It then defined water treatment as precipitation and settling using lime, sulfide, ferricion, and/or flocculents; filtration; ion exchange; reverse osmosis; electrodialysis; air stripping; biological precipitation; or, passive wetlands.[177]

It stated that "[w]ater quality problems may also be addressed by diverting discharges to the tailings facility (during operations only), or special cap design and construction on waste rock disposal areas or tailings pond embankments."[178] Finally the EIS concluded that, "[i]f water quality problems develop, then several steps would be taken to achieve compliance."[179] These steps are:

1. Review of environmental impacts with the possibility of additional or increased frequency of monitoring;
2. Implement an interim (emergency or long term) water management plan to stabilize the situation;

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174. *Okanogan Highlands Alliance*, 236 F.3d at 477. When an agency prepares a programmatic EIS, the Ninth Circuit allows the agency to defer "development of more specific mitigation measures" to the development of site-specific EIS's under the EIS, in light of the "uncertainty regarding which sites would eventually be developed." N. Alaska Envtl. Ctr. v. Kempthorne, 457 F.3d 969, 979 (9th Cir. 2003).

175. *Id.*

176. *Cuddy Mountain*, 137 F.3d at 1375.

177. *Okanogan Highlands Alliance*, 236 F.3d at 474.

178. *Id.*

179. *Id.*

3. Develop a conceptual engineering design of water treatment system alternatives that would be available to remedy the situation and select the most appropriate design for more detailed engineering;
4. The Proponent would prepare a detailed engineering design of the selected alternative; the agencies would review and revise, as appropriate, the environmental protection performance security required from the Proponent;
5. Undertake appropriate permitting of the selected water treatment system (conduct NEPA/SEPA review as appropriate);
6. Construct the selected water treatment system;
7. Operate and maintain the water treatment system to meet design goals;
8. Monitor the water treatment system for compliance; and
9. Achieve a demonstrated "clean closure" or maintain long term (permanent) treatment.

Goal: Protect ground and surface water quality in case of unacceptable water discharges.

Effectiveness: High[180]

The court then noted that the EIS contained a similar discussion for water quality within the lake.[181]

Therefore, the type of analysis the court upheld in *Okanogan Highlands Alliance* was, in fact, a very detailed plan that provided for many mitigation measures that could be required, depending on how events unfolded. Arguably, this level of detail goes well beyond the information needed to fully understand the impacts of the project on water and ground water. As the court acknowledged, the impacts on the water quality would be monitored by state and federal permits, which would presumably have methods for ensuring that their limits were met. Thus, in light of *Methow Valley*, the reader of the EIS could logically expect that the impacts on ground water would be limited based on that information alone. As a result, the length and detail of the mitigation plan in *Okanogan Highlands Alliance*, which the Ninth Circuit ultimately found adequate, is the type of more detailed mitigation analysis that discusses mitigation measures in their own right, rather than

180. *Id.* at 474-75.
181. *Id.* at 475.

relating the detail of the discussion to the level of environmental impact.[182]

In more recent years, the Ninth Circuit has continued to require more extensive discussions of mitigation measures in an EIS than required under *Methow Valley*. For example, in *South Fork Band Council of Western Shoshone of Nevada v. Department of the Interior*,[183] the Ninth Circuit again considered the adequacy of an EIS for a gold mine project.[184] The court took issue with the treatment of measures to mitigate the impacts of mine dewatering, which would lead to an "extensive removal of groundwater" that would "cause some number of local springs and streams to dry up."[185] The Ninth Circuit acknowledged that the EIS listed several mitigation measures but found the discussion inadequate because the EIS only noted that "[f]easibility and success of mitigation would depend on site-specific conditions and details of the mitigation plan."[186] Because this statement did not indicate whether any of the mitigation measures would actually be effective, the court found the mitigation analysis deficient.[187]

But if the touchstone of *Methow Valley* is whether the discussion of mitigation measures is sufficient to facilitate informed decision making, then the court appeared to once again ask for too much.[188] An acknowledgement that the effectiveness of the mitigation measures would vary based on the specific spring or stream informs the decision maker and the public that some of the impacts may be unavoidable, while other may perhaps be ameliorated.[189] Given the number of springs and streams affected, a reader could reasonably conclude that the results would be a mix of impacts. Thus, the impact could be weighted accordingly. Additionally, the court's argument appears to contradict the analysis in *Okanogan Highlands Alliance*, which noted that when the impacts of a

182. A number of recent Ninth Circuit cases have upheld similarly detailed-mitigation discussions. *E.g.,* Alaska Survival v. Surface Transpt. Bd., 705 F.3d 1073, 1089 (9th Cir. 2013) ("The FEIS contains a lengthy discussion of measures to mitigation impacts on water resources, which includes removing debris from wetlands as soon as practicable and constructing the railroad to maintain natural water flows by installing bridges or using equalization culverts. Further, [the board's] authorization of the exemption was conditional to [the applicant's] adoption of one hundred mitigation measures . . . Nothing about the discussion of mitigation measures is perfunctory."); Rock Creek Alliance v. U.S. Forest Serv., 703 F. Supp. 2d 1152, 1179 (D. Mont. 2010) (noting that EIS discussed mitigation measures in "great detail" and providing lengthy quotations).

183. 588 F.3d 718 (9th Cir. 2009).

184. *Id*. at 722.

185. *Id*. at 726-27.

186. *Id*. at 727 (internal quotations omitted).

187. *Id*.

188. Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 352 (1989).

189. *See* Theodore Roosevelt Conservation P'ship v. Salazar, 616 F.3d 497, 517 (D.C. Cir. 2010) (allowing "adaptable mitigation measures is a responsible decision in light of the inherent uncertainty of environmental impacts, not a violation of NEPA.").

project are inchoate, NEPA permits a less detailed discussion of mitigation measures.[190] Therefore, the Ninth Circuit appears to still be influenced by a theory of mitigation measures that is contrary to *Methow Valley* and more in line with an alternatives analysis. Namely, the Ninth Circuit regularly seeks a fuller discussion of mitigation measures in their own right, like NEPA's alternatives requirements, instead of the mitigation discussion suggested by *Methow Valley*, which merely suffices to reveal the true scope of the impacts of a project.

B. Other Circuits' Approaches to Methow Valley

While other circuits have infrequently found discussions of mitigation measures inadequate under NEPA,[191] the EISs that are upheld nonetheless typically discuss mitigation in considerable detail. For example, in *Webster v. Department of Agriculture*,[192] the Fourth Circuit upheld a mitigation analysis that was highly detailed and included "a map with wetland areas marked on it and, using that map, described how it would attempt to avoid certain marked areas."[193] Likewise, the Fifth Circuit has found that a "serious and thorough evaluation of environmental mitigation options" meets "NEPA's process-oriented requirements," even when the probability that the mitigation measures will be implemented is contested.[194] Similarly the Tenth Circuit has determined that a mitigation analysis, which "identified nearly 150 project-specific mitigation measures, and, as evidenced by numerical effectiveness ratings, separately analyzed and evaluated each," was reasonable under NEPA.[195] Therefore, while these circuits do not explicitly hold that the discussion of mitigation measures must go beyond providing sufficient information to understand the impacts of the problem, it appears that, like the Ninth Circuit, these courts routinely encourage lengthy, resource-intensive analyses that go far beyond the basic requirements set forth in *Methow Valley*.

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190. Okanogan Highlands Alliance v. Williams, 236 F.3d 468, 477 (9th Cir. 2000).

191. *See, e.g.,* Mid States Coal. for Progress v. Surface Transp. Bd., 345 F.3d 520, 536 (8th Cir. 2003) (finding an EIS inadequate when the mitigation analysis did not consider a full-range of methods to ameliorate horn noise from passing trains in affected areas, specifically by insulating buildings).

192. 685 F.3d 411 (4th Cir. 2012).

193. *Id.* at 432.

194. Miss. River Basin Alliance v. Westphal, 230 F.3d 170, 177 (5th Cir. 2000).

195. Colo. Envtl. Coal. v. Dombeck, 185 F.3d 1162, 1173 (10th Cir. 1999).

C. Conclusion

Methow Valley acknowledged that NEPA's requirement to discuss mitigation measures in an EIS does not flow directly from the text of that statute, but the court held that agencies must nonetheless discuss mitigation in order to provide a complete understanding of the project's impacts. A number of cases in the Ninth Circuit appear to have gone well beyond this requirement and found mitigation analyses insufficiently detailed, even when they appeared to provide enough information to understand the impacts at issue. As a corollary, mitigation analyses that provide a great deal of information, potentially far more than is needed to understand the environmental impacts of a project, find success in the Ninth Circuit, as well as other courts.

While some may attribute this to an expansive judiciary, the more likely source for the insistence on an alternatives-like level of detail in a mitigation analysis is the wide-spread confusion, arising from CEQ's implementing regulations, case law, and scholarly material, regarding mitigation measures and alternatives. Unlike mitigation measures, alternatives must be fully discussed in their own right to enable a meaningful evaluation of whether the project should go forward.[196] In practice, the courts' approaches toward mitigation measures are far closer to the standard for alternatives than they are to the standard for mitigation measures provided in *Methow Valley*: that providing sufficient information to understand environmental impacts is all that NEPA requires. Courts have typically upheld mitigation analyses that, like an adequate alternative analysis under CEQ regulations, encompass a wide range of reasonable proposals.[197] Courts have also upheld agencies' mitigation analyses that thoroughly evaluate those measures as they would do for alternative analyses.[198] Additionally, courts uphold agencies that consider mitigation measures beyond the jurisdiction of the lead agency, which is also a requirement for alternatives analyses.[199] In contrast, those EISs that only provide sufficient information to "properly evaluate the severity of adverse effects,"[200]

196. *See supra* Section II.A.

197. *Compare* Alaska Survival v. Surface Transp. Bd., 705 F.3d 1073, 1088-89 (9th Cir. 2013) (upholding an EIS that discussed over 100 mitigation measures), *with* 40 C.F.R. § 1502.14 (a) (2106) (requiring EISs to evaluate "all reasonable alternatives").

198. *Compare Colo. Envtl. Coal.*, 185 F.3d at 1173, *with* 40 C.F.R. § 1502.14(b) (2016) (requiring EIS's to devote "substantial treatment to each alternative").

199. *Compare* Ctr. for Biological Diversity v. Fed. Highway Admin., 290 F. Supp. 2d 1175, 1188 (S.D. Cal. 2003), *with* 40 C.F.R. § 1502.14(c) (2016) (requiring EIS's to consider "reasonable alternatives not within the jurisdiction of the lead agency").

200. Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 352 (1989).

without including a detailed discussion of the mitigation measures themselves, are much less likely to be upheld.[201] Therefore, pronouncements in *Methow Valley* aside, it appears that in practice mitigation measures function as much to supplement the alternatives analysis as they do to inform the impact analysis. This invites the question: are mitigation measures the true heart of the NEPA analysis, notwithstanding the lip service paid to alternatives?

V. A SILVER LINING: THE UPSIDE TO AN EXPANDED MITIGATION MEASURES ANALYSIS

In practice, mitigation measures function more like a "mini-alternatives" analysis than the limited inquiry envisioned by the Supreme Court in *Methow Valley*. While these analyses may expand the requirements of NEPA, as interpreted by the Supreme Court, they may also produce some of the most useful information to members of the public by providing a systematic discussion of pragmatic measures the action agency, or other decision makers, can undertake to ameliorate the environmental impacts of the proposed action. Therefore, the circuit courts' approach to mitigation measures following *Methow Valley* may have unintentionally created a new heart to NEPA, or greatly reshaped its existing heart.

Critics allege that the alternatives analysis in an EIS often appears to have little direct impact on an agency's final decision.[202] In contrast, mitigation measures discuss modest options that can produce significant environmental benefits while still allowing the action agency to pursue its preferred alternative. Such options can include acquiring in-kind land to offset environmental impacts on wetlands,[203] reductions in off-site noise,[204] and use of "best management practices" to minimize impacts on water quality.[205] Moreover, agencies frequently adopt mitigation measures discussed in an EIS.[206]

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201. *E.g. Cuddy Mountain*, 137 F.3d at 1375. Thus, early commenter's fears that *Methow Valley* signaled the end of mitigation measures as a critical component of EIS's have not fully materialized. *See* Richards, *supra* note 11, at 1230-33.

202. Kelly Wittorff, *A Call to Revitalize the Heart of NEPA: The Alternatives Analysis*, 12 U. FLA. J.L. & PUB. POL'Y 361, 372-74 (2001). Of course, the expectation of preparing an alternatives analysis may funnel an agency's decision-making toward environmentally-preferable, or at least reasonable, alternatives.

203. Miss. River Basin Alliance v. Westphal, 230 F.3d 170, 177 (2000).

204. Mid States Coal. for Progress v. Surface Transp. Bd., 345 F.3d 520, 534 (8th Cir. 2003).

205. San Juan Citizens Alliance v. Stiles, 654 F.3d 1038, 1055 (10th Cir. 2011).

206. *E.g.* Webster v. Dep't of Agric., 685 F.3d 411, 432 (4th Cir. 2012) (noting that the EIS discussed measures the agency intended to implement to mitigate impacts on wetlands, including creating new wetlands in other locations).

Additionally, in *Methow Valley*, the Court noted that while NEPA does not require substantive results, it does serve an "action-forcing" function by ensuring that agency decision makers will "carefully consider, detailed information concerning significant environmental impacts; [and guaranteeing] that the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking [sic] process and the implementation of that decision."[207] Thus, a robust discussion of mitigation measures may also spur public demand that agencies or other decision makers undertake particularly cost-effective or beneficial mitigation measures.

As a result, the more expansive approach to mitigation undertaken by the circuit courts, while generally not needed to fully understand the impacts of a project under NEPA, may ultimately provide the agency and public with the most pragmatic information not only for informed decision making, but also for environmental protection. As a result, mitigation, rather than alternatives, may be the true heart of NEPA.

VI. WHAT TO DO GOING FORWARD

While there is confusion in the case law, academia, and CEQ regulations regarding alternatives and mitigation, the authors recommend that NEPA practitioners do the following to prepare a NEPA analysis that adequately considers alternatives and mitigation. With respect to alternatives, practitioners would be wise to not ignore the section 102(2)(E) requirement or conflate it with the section 102(2)(C) requirement, as some courts do. First, they are separate and distinct requirements and should be treated as such. Second, some courts do make distinctions in what is required under each section in terms of scope and depth of analysis. Practitioners would also be wise to include mitigation measures in each alternative, as the CEQ regulations require this and courts have found alternatives unreasonable when mitigation measures are not included or sufficient.

With regard to mitigation measures in general, practitioners should approach *Methow Valley* cautiously. While the natural reading of the case may suggest that an EIS may briefly discuss mitigation measures, mitigation in practice is not so simple. A successful EIS typically provides a detailed discussion of mitigation measures that fully discusses the mitigation, provides an estimate of how successful the plan will be, and often provides a significant level of quantification to support these results. Therefore, practi-

207. Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 349 (1989).

tioners should recognize that courts will often demand more from a mitigation analysis than the Supreme Court suggested in *Methow Valley*, and should proceed accordingly. The result may be more resource intensive and less efficient, but practitioners will stand a better chance of being upheld and may ultimately provide documents that are more useful to the public. The resulting EIS will contain not only a complete discussion of large-scale alternatives to the project, but also a thorough discussion of more modest but potentially easier-to-implement approaches to completing the action. This more thorough discussion of mitigation measures may have more of a pragmatic benefit in that it encourages decision makers to pursue unobtrusive but efficacious ways to moderate impacts on the environment.

VII. CONCLUSION

The promise of NEPA was that it would help "control, at long last, the destructive engine of material 'progress.'" [208] But critics allege that it is primarily a paper tiger.[209] And while the case law and regulations provide grandiose statements about alternatives serving as the linchpin or heart of an EIS, the true heart of a given NEPA analysis is not always clear. Alternatives sometimes get short shrift as courts confuse or ignore the separate and distinct alternatives requirements. Furthermore, both the CEQ regulations and the courts conflate alternatives and mitigation measures, making it unclear what exactly is being discussed (an alternative? a mitigation measure?) and what aspect(s) of the analysis is (or are) deficient.

Moreover, in many cases or at least those cases where the agency proceeds with the proposed action, the consideration of mitigation measures may influence the agency's efforts to protect the environment more than the alternatives discussion. And while a discussion of alternatives fits neatly into the procedural framework of NEPA, mitigation measures seem to skirt the substantive line in practice. Because mitigation measures frequently reduce the environmental impact of major federal actions, it could certainly be argued that mitigation is the true linchpin of an environmental analysis.

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208. *See* Calvert Cliffs' Coordinating Comm., Inc. v. Atomic Energy Comm., 449 F.2d 1109, 1111 (D.C. Cir. 1971).

209. *See* Jason J. Czarnezki, *Revisiting the Tense Relationship Between the U.S. Supreme Court, Administrative Procedure, and the National Environmental Policy Act*, 25 STAN. ENVTL. L.J. 3, 12 (2006) ("[The Supreme Court] must provide some mechanism for NEPA to be more than a 'paper tiger'."). However, projects can be stopped until NEPA compliance occurs. *See, e.g.*, Alaska Ctr. for Env't v. Browner, 20 F.3d 981, 986 (9th Cir. 1994); *see also* N. Cheyenne Tribe v. Norton, 503 F.3d 836, 843 (9th Cir. 2007).

Nevertheless, the limits of a mitigation analysis under NEPA, as interpreted by *Methow Valley*, remain murky. Perhaps due to the confusion over the difference between mitigation measures and alternatives, courts routinely go beyond *Methow Valley's* simple requirement that the limited purpose of mitigation in an EIS is to provide a complete picture of a project's impacts. These courts have found mitigation analyses that do precisely that inadequate and have approved mitigation analyses that are far more elaborate and akin to the complete discussion of alternatives explicitly mandated by NEPA.

Thus, NEPA practitioners should consider providing more detail on mitigation measures than *Methow Valley* would suggest. This includes providing a wide range of mitigation measures, discussing them in great detail and quantifying their effectiveness if possible, and even discussing some mitigation measures beyond the lead agency's authority. While such detail may appear to go beyond the strict requirements of NEPA, it may also end up among the most useful information to the public and decision makers because ultimately, mitigation may be the most action-forcing portion of an EIS.[210] Thus, while the courts approach to mitigation may rest on an errant interpretation of *Methow Valley*, the mistake may ultimately be one that serves as the true heart of NEPA. By knowing how to mitigate environmental impacts, decision makers and the public can choose to move forward in a way that best protects the environment and humanity.

210. *See Methow Valley*, 490 U.S at 352.

THE HEART OF THE MATTER: ALTERNATIVES, MITIGATION MEASURES, AND THE CLOUDED HEART OF NEPA

CATHERINE E. KANATAS*
MAXWELL C. SMITH**

I. Introduction

The linchpin.[1] The heart.[2] These are just a few of the names courts use to emphasize the centrality of an agency's discussion of alternatives to a proposed federal project in an environmental impact statement (EIS), prepared pursuant to the National Environmental Policy Act of 1969 (NEPA).[3] NEPA's procedural framework places alternatives front and center. Two explicit provisions within the statute relate to alternatives.[4] These requirements go far to serve NEPA's twin purposes by providing decision makers and the public with essential context for the agency's assessment of the impacts that may occur from its proposed or, ultimately, its selected course of action.[5]

The meaning of alternatives appears straightforward on its face: an agency must consider different ways of achieving its desired ends. But the case law and implementing regulations are not as simple. Courts and agencies often conflate the alternatives re-

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* Catherine E. Kanatas is a Senior Attorney at the United States Nuclear Regulatory Commission (NRC) and primarily represents the NRC Staff in contested nuclear reactor proceedings. Mrs. Kanatas also clerked for the Attorney General of Georgia and served as a research assistant at the University of Georgia, where she graduated *cum laude* in 2009. Before law school, Mrs. Kanatas worked in the education research field. She would like to thank her husband and daughter for making her dreams a reality. The views expressed in this article are solely those of the author and do not necessarily represent the positions of the NRC.

** Maxwell C. Smith is an attorney at the NRC, where he currently serves as the Legal Counsel and Deputy Chief of Staff to NRC Commissioner Kristine L. Svinicki. Prior to working with Commissioner Svinicki, the primary focus of his practice was representing the staff of the NRC in contested adjudicatory proceedings on applications to renew nuclear reactor operating licenses. Mr. Smith has also clerked for the Hon. Jackson L. Kiser in the Western District of Virginia and the Hon. Charles E. Poston and Hon. Lydia C. Taylor in the Norfolk Circuit Court. He graduated from Washington and Lee University, *magna cum laude* in 2005 where he contributed to the *Capital Defense Journal*. As always, he would like to thank his brilliant wife Angela, daughter Jasmine, and son Raj for the fun, wisdom, joy, and love they bring to his life everyday. The views expressed in this article are solely those of the author and do not necessarily represent the positions of the NRC. The authors would also like to thank Sean Croston, Anita Ghosh, and Andrew Stuyvenberg for their invaluable input.

1. Nat. Res. Def. Council, Inc. v. Callaway, 524 F.2d 79, 92 (2d Cir. 1975) (quoting Monroe Cnty. Conservation Council, Inc. v. Volpe, 472 F.2d 693, 697-98 (2d Cir. 1972)).

2. Ctr. for Biological Diversity v. U.S. Dep't of Interior, 623 F.3d 633 (9th Cir. 2010). *See also* 40 C.F.R. § 1502.14 (stating that the alternatives section is the heart of the EIS).

3. Nat'l Envtl. Policy Act of 1969, Pub. L. No. 91-190, 83 Stat. 852 (1970) (codified as amended at 42 U.S.C. §§ 4321-4370c (1988 & Supp. III 1991)) (stating an EIS must be prepared when a federal agency is proposing a major federal action significantly affecting the quality of the human environment); 42 U.S.C. § 4232(2)(C) (2012); *see also* 40 C.F.R. § 1501.7 (2016).

4. 42 U.S.C. § 4322(2)(C), (E) (2012).

5. *See* 42 U.S.C. § 4321 (2012) (describing purposes); *see also* Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 349–50 (1989); Hughes River Watershed Conservancy v. Glickman, 81 F.3d 437, 443 (4th Cir. 1996) (describing the principal goals of an EIS as twofold: to compel agencies to take a "hard look" at the environmental consequences of a proposed project and to permit the public a role in the agency's decision-making process).

quirements.[6] Even more significantly, courts frequently mistake alternatives for another key requirement of an EIS: mitigation measures. The Supreme Court has stated an EIS must discuss mitigation measures in order to provide a complete picture of the impacts of the project.[7] While the Supreme Court's requirement is clear, the line between alternatives to a proposed action and mitigation measures is hazy, as both requirements compel agencies to explore different methods of meeting a project's purpose. As a result, courts, commenters, and even the Council on Environmental Quality (CEQ)—which issues regulations governing compliance with NEPA[8]—routinely conflate the two, due in part to the CEQ's regulations that treat mitigation measures as merely one type of alternative.[9] This confusion has apparently led some courts to demand that agencies discuss mitigation measures in far more detail than required by the Supreme Court to fairly reveal a project's impacts. These courts require that mitigation analyses contain a depth of consideration typically reserved for alternatives.[10]

Because NEPA case law on mitigation and alternatives can be muddled, it is often difficult to determine the true heart of a NEPA analysis. Is it a procedural discussion of alternatives—some of which are likely beyond the purview of the action agency—or is it the potentially more substantive discussion of mitigation measures that an agency may realistically implement to avoid harm to the environment?[11] Finally, how can a NEPA practitioner prepare an

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6. *See infra* Sections III.A and III.C. As discussed below, some of this conflation may be explained because the CEQ regulations regarding alternatives include a provision which states that the alternatives discussion should "[i]nclude appropriate mitigation measures *not already included* in the proposed action or alternatives." 40 C.F.R. § 1502.14 (2016) (emphasis added).

7. *Methow Valley,* 490 U.S. at 349–50. Interestingly, NEPA itself does not explicitly mention mitigation. 42 U.S.C. § 4321 (2012).

8. *See* 42 U.S.C. § 4342 (2012); Exec. Order No. 11,991, 42 Fed. Reg. 26,927 (1978). *See also* Exec. Order 11,514, 35 Fed. Reg. 4,247 (1970) (mandating issuance of guidelines to assist the agencies in preparing EISs).

9. *See* 40 C.F.R. § 1508.25(b) (2016).

10. *See* Ocean Mammal Inst. v. Gates, 546 F. Supp. 2d 960, 983 (D. Haw. 2008) (requiring mitigation measures in narrowly crafted injunction to avoid harm to marine mammals caused by the Navy's use of sonar in training exercises, instead of shutting down those exercises). *See* N.W. Indian Cemetery Protective Ass'n v. Peterson, 795 F.2d 688, 697 (9th Cir. 1986) (holding EIS inadequate for failure to discuss mitigation measures in sufficient detail*), rev'd on other grounds, sub nom.* Lyng v. N.W. Indian Cemetery Protective Ass'n, 485 U.S. 439 (1988).

11. *See* David C. Richards, Robertson v. Methow Valley Citizens Council: *The Gray Area of Environmental Impact Statement Mitigation*, 10 J. ENERGY L. & POL'Y 217, 233 (1990) (noting that NEPA is procedural but that adequate mitigation is a procedural requirement which inevitably results in substantive action). *See also* Bradley C. Karkkainen, *Toward a Smarter NEPA: Monitoring and Managing Government's Environmental Performance*, 102 COLUM. L. REV. 903, 932 (2002) (discussing the benefits of mitigated finding of no significant impacts or FONSIs).

EIS that meets NEPA's requirements with respect to alternatives and mitigation measures, and withstands judicial scrutiny?

In answering these questions, this article first introduces the requirements for both alternatives and mitigation measures and discusses how courts have treated these requirements. Next, this article considers cases where courts, scholars, and the CEQ seemingly conflate the two requirements and the confusion that can consequently arise. Third, this article examines how this confusion has potentially led lower courts to demand more of mitigation analyses than required by the Supreme Court. Next, this article argues that mitigation measures are the more significant part of an EIS, in that they instruct decision makers and the public on practical, and frequently easily achievable, ways to lessen environmental impacts. As a result, the additional discussion of mitigation measures required by many lower courts has an unintended, but beneficial, side effect: providing a relatively complete discussion of more modest alternatives to the project as initially proposed. Finally, this article concludes with recommendations for how practitioners should consider both alternatives and mitigation measures in their environmental analyses to avoid challenges and remands by the courts.

II. BACKGROUND: NEPA REQUIREMENTS RELATED TO ALTERNATIVES & MITIGATION

A. Alternatives

NEPA contains two separate requirements related to alternatives. First, section 102(2)(C)(iii) requires that an environmental impact statement (EIS) contain a discussion of "alternatives to the proposed action."[12] Second, section 102(2)(E) requires federal agencies to "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources."[13] In the first landmark NEPA case, *Calvert Cliffs' Coordinating Committee, Inc. v. Atomic Energy Commission*,[14] the U.S. Court of Appeals for the D.C. Circuit highlighted the importance of these requirements and noted that they seek:

> [T]o ensure that each agency decision maker has before him and takes into proper account all possible approaches to a

12. 42 U.S.C. § 4232(2)(C)(iii) (2012).
13. *Id.* § 4232(2)(E) (2012).
14. 449 F.2d 1109 (D.C. Cir. 1971).

> particular project (including total abandonment of the project) which would alter the environmental impact and the cost benefit analysis. Only in that fashion is it likely that the most intelligent, optimally beneficial decision will ultimately be made.[15]

As discussed below, while these requirements are separate and distinct, courts often (1) discuss only the 102(2)(C)(iii) requirement, or (2) treat the two provisions as a single requirement.

1. Section 102(2)(C) Requirement

NEPA section 102(2)(C) requires an EIS[16] to discuss "alternatives to the proposed action."[17] The CEQ, in its implementing regulations, emphasizes alternatives as the "heart" of the EIS.[18] Despite the apparently critical role alternatives play in accomplishing NEPA's goals, the statute itself does not define alternatives. The legislative history offers little guidance and only defines "alternatives" broadly as "[t]he alternative ways of accomplishing the objectives of the proposed action."[19] One court found that "the term 'alternatives' is not self-defining,"[20] while another court explained section 102(2)(C)(iii) as a terse notation for both "[t]he alternative ways of accomplishing the objectives of the proposed action and the results of not accomplishing the proposed action."[21]

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15. *Id*. at 1114.

16. The EIS is described as the primary procedural mechanism embodied in NEPA. Grazing Fields Farm v. Goldschmidt, 626 F.2d 1068, 1072 (1st Cir. 1980). An EIS "aids a reviewing court to ascertain whether the agency has given the good faith consideration to environmental concerns . . . , provides environmental information to the public and to interested departments of government, and prevents stubborn problems or significant criticism from being shielded from internal and external scrutiny." *Id*; *see also* Silva v. Lynn, 482 F.2d 1282, 1283-84 (1st Cir. 1973).

17. 42 U.S.C. § 4332(2)(c)(iii) (2012). An EIS must describe the impact of federal actions which have a major effect on the environment. In terms of timing, an EIS "ought not to be modeled upon the works of Jules Verne or H. G. Wells, or written at such late date that 'the purposes of NEPA will already have been thwarted.'" Scientists' Inst. for Public Information v. Atomic Energy Comm'n, 481 F.2d 1079, 1093 (D.C. Cir. 1973) (citing CEQ guidance).

18. CEQ distinguishes between the "environmental consequences section" of an EIS, which should be devoted largely to a scientific analysis of the impacts of the analyzed alternatives, and the "alternatives section," which should present a concise comparison of alternatives (based on and summarizing information developed in the "environmental consequences section"). Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, 46 Fed. Reg. 18,026, 18,028 (1981) ("Forty Questions").

19. 115 CONG. REC. 40,420 (1969).

20. Vermont Yankee Nuclear Power Corp. v. Nat. Res. Def. Council, Inc., 435 U.S. 519, 551 (1978).

21. Nat. Res. Def. Council, Inc. v. Morton, 458 F.2d 827, 833 (D.C. Cir. 1972) (citing 115 CONG. REC. 40420 (Dec. 20, 1969)) (discussing language of the Section-by-Section Analysis presented by Senator Jackson, in charge of the legislation and chairman of the Senate

Despite their zeal for alternatives, the CEQ's regulations only generally refer to an alternative as a means to accomplish the agency's goal.[22] This stands in contrast to the CEQ's relatively detailed definition of mitigation measures.[23] Weakness of its definition notwithstanding, CEQ's regulations provide detailed directions on the contents of the alternatives discussion in an EIS. Specifically, agencies shall:

> (a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.
> (b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.
> (c) Include reasonable alternatives not within the jurisdiction of the lead agency.
> (d) Include the alternative of no action.
> (e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.
> (f) Include appropriate mitigation measures not already included in the proposed action or alternatives.[24]

While each of the regulatory requirements for EIS alternatives discussions could be the subject of its own law review article, this section will briefly highlight a few principles related to these provisions. First, the alternatives discussion is procedural. Agencies must discuss alternatives in an EIS, including alternatives not within their jurisdictions,[25] but NEPA does not require an agency

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Interior Committee, in explaining and recommending approval of the bill as agreed in conference).

22. 40 C.F.R. § 1508.23 (2016).

23. *See id.* § 1508.20 (2016) (defining mitigation).

24. *Id.* § 1502.14 (2016); *see* 43 Fed. Reg. 55994; *see also* 40 C.F.R. § 1502.16 (2016) ("This section [environmental consequences] forms the scientific and analytic basis for the comparisons under § 1502.14."). The CEQ regulations also provide that an EIS must contain the alternatives discussion required by section 102(2)(E). *See* 40 C.F.R. § 1502.10 (2016) (providing recommended format for EISs and noting that one section should be "[a]lternatives, including proposed action (sections 102(2)(C)(iii) and 102(2)(E) of the Act)"); *see also* 40 C.F.R. § 1502.12 (2016) (providing that the EIS summary should stress "the issues to be resolved including the choice among alternatives").

25. *See* 40 C.F.R. § 1502.16 (2016); Sierra Club v. Lynn, 502 F.2d 43, 62 (5th Cir. 1974), *cert. denied* 421 U.S. 994 (1975); Envtl. Defense Fund, Inc. v. U.S. Army Corps of Eng'rs, 492 F.2d 1123, 1135 (5th Cir. 1974); Nat. Res. Def. Council, Inc. v. Morton, 458 F.2d 827, 834 (1972); *see also* Dubois v. U.S. Dept. of Agric., 102 F.3d 1273 (1st Cir. 1996) (stating

to choose any particular alternative.[26] Agencies, however, are directed to consider modifying the alternatives — including the proposed action — as well as to develop and evaluate alternatives not previously given serious consideration by the agency when responding to comments on the EIS.[27] The court's role is to ensure that the agency took a hard look at the environmental impacts of the proposed action and adequately disclosed those impacts.[28] The court's review is aimed at ensuring compliance with NEPA's procedures, not at "trying to coax agency decision makers to reach certain results."[29]

Another important principle outlined in the CEQ regulations is that all reasonable alternatives must be discussed.[30] This comports with NEPA's central purpose of fostering informed decision-making. Thus, it is not surprising that many NEPA challenges revolve around whether the agency considered a reasonable range of alternatives, with courts holding that the existence of reasonable but unexamined alternatives renders an EIS inadequate.[31]

During rulemaking, many commenters opposed the "all reasonable alternatives" language in 40 C.F.R. § 1502.14 as being "unduly broad."[32] However, the CEQ did not change the language because it reasoned that the phrase "is firmly established in the case law interpreting NEPA."[33] In an attempt, however, to provide boundaries on the regulation's broad language, the CEQ gives guidance on what constitutes "reasonable" alternatives. For example, the CEQ regulations state that reasonable alternatives "would avoid or minimize adverse impacts or enhance the quality of the

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that part of the duty of analyzing reasonable alternatives is to consider significant alternatives suggested by other agencies or public during comment period).

26. *See* Corridor H. Alternatives, Inc. v. Slater, 982 F. Supp. 24, 29 (D.D.C. 1997), *aff'd in part, rev'd in part* 166 F.3d 368 (D.C. Cir. 1999). Agencies must also briefly discuss the reason for eliminating an alternative from detailed study. *See* 40 C.F.R. § 1502.14(a); Utahns for Better Transp. v. Dep't of Transp., 305 F.3d 1152, 1166 (10th Cir. 2002).

27. 40 C.F.R. § 1503(a)(1) and (2) (2016).

28. *See* James E. Brookshire, *Engaging the Future: A Survey of Federal Environmental and Land Management Developments*, 26 URB. LAW. 293, 299 (1994).

29. Northern Crawfish Frog (Rana Areolata Circulosa) v. Federal Highway Admin., 858 F. Supp. 1503, 1506 (D. Kansas 1994). For this reason, NEPA is described as prohibiting "uninformed-rather than unwise-agency action." Custer County Action Ass'n v. Garvey, 256 F.3d 1024, 1034 (10th Cir. 2001); *see also* Habitat Educ. Center, Inc. v. U.S. Forest Service, 603 F. Supp. 2d 1176, 1182 (E.D. Wis. 2009) (citing Highway J Citizens Group v. Mineta, 349 F.3d 938, 952 (7th Cir. 2003)) (noting that a "court is not empowered to examine whether the agency made the 'right' decision, but only to determine whether, in making its decision, the agency followed the procedures prescribed by NEPA").

30. 40 C.F.R. § 1502.14(a) and (c) (2016).

31. 'Ilio'ulaokalani Coal. v. Rumsfeld, 464 F.3d 1083, 1095 (9th Cir. 2005); Westlands Water Dist. v. U.S. Dep't of Interior, 376 F.3d 853, 868 (9th Cir. 2004) (citation omitted).

32. National Environmental Policy Act – Regulations, 43 Fed. Reg. 55978, 55983 (Nov. 29, 1978).

33. *Id.*

human environment."[34] The regulations also require that as part of reasonable decision-making, "[a]gencies [will] not commit resources prejudicing selection of alternatives before making a final decision."[35]

In considering challenges to alternatives analyses, courts apply a rule of reason.[36] In applying this rule of reason, courts consider the feasibility of the alternatives.[37] For example, in *Vermont Yankee*,[38] the Court explained that the Nuclear Regulatory Commission (NRC) was not responsible for considering every conceivable alternative device and consideration when licensing nuclear power facilities. Instead, the Court explained that the NRC's evaluation of alternatives would be "judged by the information then available to it."[39] This focus on feasibility means that agencies are not expected to discuss remote and highly speculative consequences of proposed actions and their alternatives.[40]

Courts also look to the goals, needs, and purposes defined for the project in determining whether the alternatives discussion is reasonable.[41] While giving deference to the agencies,[42] courts are

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34. 40 C.F.R. § 1502.1 (2016).

35. 40 C.F.R. § 1502.2(f) (2016) (citing 40 C.F.R. § 1506.1). *See also* 40 C.F.R. § 1502.2(e) (2016) ("The range of alternatives discussed in environmental impact statements shall encompass those to be considered by the ultimate agency decisionmaker.").

36. *See* California v. Block, 690 F.2d 753, 767 (9th Cir. 1982); Headwaters, Inc. v. Bureau of Land Mgmt., 914 F.2d 1174, 1180 (9th Cir. 1990) (stating that agencies must "set forth only those alternatives necessary to permit a reasoned choice."); *see also* Nat'l Helium Corp. v. Morton, 486 F. 2d 995, 1002 (10th Cir. 1973). While this is generally the standard, some courts have applied the arbitrary and capricious standard when considering an EIS's sufficiency. *See* Sierra Club v. Morton, 510 F.2d 813 (5th Cir. 1975), *rev'd on other grounds*, 96 S. Ct. 2718 (1976); Envtl. Def. Fund, Inc. v. Armstrong, 487 F.2d 814 (9th Cir. 1973); Silva v. Lynn, 482 F.2d 1282 (1st Cir. 1973).

37. High Country Conservation Advocates v. U.S. Forest Serv., 52 F. Supp. 3d 1174 (D. Colo. 2014) (stating that reasonable alternatives are "bounded by some notion of feasibility, and, thus, need not include alternatives which are remote, speculative, impractical, or ineffective."). Many courts have cited to *Vermont Yankee* for the proposition *that* the burden is on the party challenging an agency action to offer feasible alternatives. *See, e.g.,* City of Sausalito v. O'Neill, 386 F.3d 1186 (9th Cir. 2004); Morongo Band of Mission Indians v. FAA., 161 F.3d 569 (9th Cir. 1998); Olmstead Citizens for a Better Cmty. v. U.S., 793 F.2d 201 (8th Cir. 1986); River Rd. Alliance, Inc. v. U.S. Army Corps of Eng'rs, 764 F.2d 445 (7th Cir. 1985).

38. Vermont Yankee Nuclear Power Corp. v. Natural Res. Def. Council, Inc., 435 U.S. 519 (1978).

39. Brookshire, *supra* note 28, at 297-98 (noting that NEPA was not intended to impose an impossible standard on an agency). *See* Miller v. United States, 654 F.2d 513, 514 (8th Cir. 1981) (per curiam); *cf.* 435 U.S. 519 at 551 ("To make an impact statement something more than an exercise in frivolous boilerplate the concept of alternatives must be bounded by some notion of feasibility.").

40. *See, e.g.*, Nw. Coal. for Alts. to Pesticides v. Lyng, 673 F. Supp. 1019, 1025 (D. Or. 1987), *aff'd,* 844 F.2d 588 (finding that alternatives discussion was adequate).

41. *See e.g.*, Michael C. Blumm & Keith Mosman, *The Overlooked Role of the National Environmental Policy Act in Protecting the Western Environment: NEPA in the Ninth Circuit*, 2 WASH. J. ENVTL. L. & POL'Y 193 (2012) (claiming that the Ninth Circuit cases reflect NEPA's conservation purpose by "accept[ing] a relaxed scope of alternatives in EIS's on agency proposals that have a conservation purpose.").

wary when agencies narrowly define the purpose or scope of an action. For example, when considering the scope of reasonable alternatives in an EIS, the Seventh Circuit stated that "[o]ne obvious way for an agency to slip past the strictures of NEPA is to contrive a purpose so slender as to define competing 'reasonable alternatives' out of consideration (and even out of existence)."[43]

Courts also look to the complexity of the action in considering whether the amount of detail in the alternatives section is sufficient.[44] Agencies are directed to "present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public."[45] "The touchstone for [a court's] inquiry is whether an EIS's selection and discussion of alternatives fosters informed decision-making and informed public participation."[46]

2. Section 102(2)(E)

The second NEPA alternatives requirement is in section 102(2)(E).[47] Section 102(2)(E) requires agencies to "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." By its terms, the section 102(2)(E) alternatives requirement applies more broadly than the section 102(2)(C) requirement. Namely, this alternatives discussion is required for actions that do not trigger an EIS, such as those that would instead require an Environmental Assessment.[48] Thus, even when an EIS is not required, NEPA and the

42. Citizens for Alts. to Radioactive Dumping v. U.S. Dep't of Energy, 485 F.3d 1091, 1098 (10th Cir. 2007) (judicial deference is "especially strong" where decision involves technical or scientific matters within agency's area of expertise).

43. Simmons v. U.S. Army Corps of Eng'rs, 120 F.3d 664, 666, 670 (7th Cir. 1997) (noting that if "NEPA mandates anything, it mandates this: a federal agency cannot *ram through* a project before first weighing the pros and cons of the alternatives") (emphasis added).

44. Nw. Coal. for Alts. to Pesticides v. Lyng, 844 F.2d 588, 591 (9th Cir. 1988); *see* Wyoming v. U.S. Dept. of Agric., 277 F. Supp. 2d 1197, 1224-25 (D. Wyo. 2003) (finding that the EA was insufficient because the Forest Service only considered two action alternatives in implementing the "most significant land conservation initiative in nearly a century").

45. 40 C.F.R. § 1502.14 (2016). Agencies must also briefly explain why other alternatives, not discussed, have been eliminated. 42 U.S.C. § 4332 (2012); 40 C.F.R. § 1502.14 (2016). Middle Rio Grande Conservancy Dist. v. Babbitt, 206 F. Supp. 2d 1156 (D. N.M. 2000).

46. Westlands Water Dist. v. U.S. Dep't of Interior, 376 F.3d 853, 868 (9th Cir. 2004) (quoting California v. Block, 690 F.2d 753, 767 (9th Cir. 1982)).

47. 42 U.S.C. § 4332 (1970) (this paragraph was numbered 102(2)(D) prior to 1975).

48. *See* Nat. Res. Def. Council v. Callaway, 524 F.2d 79, 93 (2d Cir. 1975) (stating that the section 102(2)(E) requirement is "independent of and of wider scope than the duty to file

CEQ regulations provide that federal agencies must discuss alternatives in NEPA documents.[49]

Environmental Assessments (EAs), which are documents prepared to, among other purposes, explain an agency's decision not to prepare an EIS, "[s]hall include brief discussions of the need for the proposal, of alternatives as required by section 102(2)(E), of the environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted."[50]

The section 102(2)(E) alternatives requirement in the CEQ guidelines state that:

> A rigorous exploration and objective evaluation of alternative actions that might avoid some or all of the adverse environmental effects is essential. Sufficient analysis of such alternatives and their costs and impact on the environment should accompany the proposed action through the agency review process in order not to foreclose prematurely options which might have less detrimental effects.[51]

Thus, section 102(2)(E):

> [W]as intended to emphasize an important part of NEPA's theme that all change was not progress and to insist that no major federal project should be undertaken without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means.[52]

As with section 102(2)(C), courts apply a rule of reason when applying the section 102(2)(E) requirement. For example, in *Natural Resources Defense Council v. Morton*,[53] the court noted that "[t]he statute must be construed in the light of reason if it is not to demand what is, fairly speaking, not meaningfully possible, given the obvious, that the resources of energy and research – and time – available to meet the Nation's needs are not infinite."[54]

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the EIS"); *see also* Envtl. Def. Fund, Inc. v. Callaway, 497 F.2d 1340, 1341 (8th Cir. 1974); Envtl. Def. Fund, Inc. v. U.S. Army Corps of Eng'rs, 470 F.2d 289, 296 (8th Cir. 1972).

49. 40 C.F.R. § 1507.2(d) (2016); *see* Nat'l Wildlife Fed'n v. Appalachian Reg'l Comm'n, 677 F.2d 883, 889 (D.C. Cir. 1981); Envtl. Def. Fund, Inc. v. Costle, 657 F.2d 275, 297 (D.C. Cir. 1981).

50. 40 C.F.R. § 1508.9(b) (2016).

51. Statements on Proposed Actions Affecting the Environment, 36 Fed. Reg. 7724, 7725 (Apr. 23, 1971); *see Envtl. Def. Fund, Inc.*, 470 F.2d at 296-97.

52. Envtl. Def. Fund, Inc. v. U.S. Army Corps of Eng'rs, 492 F.2d 1123, 1135 (5th Cir. 1974).

53. 458 F.2d 827 (D.C. Cir. 1971).

54. *Id.* at 837.

3. Sections 102(2)(C) & 102(2)(E): The Same or Different?

By their explicit terms, sections 102(2)(C) and 102(2)(E) provide separate and distinct alternatives requirements.[55] However, courts often treat them interchangeably.[56] *Calvert Cliffs* described the two requirements together as achieving NEPA's goals, with no discussion of how the requirements differ.[57] In other cases, the 102(2)(E) requirement is ignored altogether. For example, in *Habitat Educational Center, Inc. v. U.S. Forest Service*,[58] the court emphasized the importance of the alternatives discussion, but only discussed the section 102(2)(C) requirement.[59] This has also happened in administrative decisions. For example, in *Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site),[60] the Nuclear Regulatory Commission cited both 102(2)(C) and 102(2)(E) for the proposition that NEPA requires an agency to consider alternatives before deciding whether to take a major federal action significantly affecting the human environment.[61] But as noted, NEPA requires a consideration of alternatives under section 102(2)(E) even if there is no major federal action significantly affecting the human environment.

Other courts recognize distinctions between the two alternatives' requirements. In particular, many early Eighth Circuit decisions found that the section 102(2)(E) requirement is more stringent than the section 102(2)(C) requirement. For example, in *Environmental Defense Fund v. Froehlke*,[62] the court noted that "section 102(2)(E), unlike section 102(2)(C), required an agency to 'explicate fully its course of inquiry, its analysis and its reasoning.'"[63] More recently, the Eighth Circuit reasoned that:

> The "supplemental" and "more extensive" command of section [102(2)(E)] which [the petitioner] draws from *Environmental Defense Fund, Inc. v. Corps of Engineers of the U.S. Army,* 492 F.2d 1123, 1135 (5th Cir. 1974), imposes not a duty to publish an even more thorough explanation than in

55. *See also Envtl. Def. Fund, Inc.*, 492 F.2d at 1135 (describing section 102(2)(E) as supplemental to section 102(2)(C)).

56. DANIEL R. MANDELKER, NEPA LAW AND LITIGATION, SCOPE OF THE ENVIRONMENTAL IMPACT STATEMENT 9:18 (2d ed. 2014).

57. Calvert Cliffs' Coordinating Comm. v. U.S. Atomic Energy Comm'n, 449 F.2d 1109, 1114-16 (D.C. Cir. 1971).

58. 603 F. Supp. 2d 1176 (E.D. Wis. 2009).

59. *Id.* at 1182.

60. 62 N.R.C. 134 (2005).

61. *Id.* at 154 (citing 42 U.S.C § 4332(2)(C)).

62. 473 F.2d 346 (8th Cir. 1972).

63. *Id.* at 351 (quoting Ely v. Velde, 451 F.2d 1130, 1139 (4th Cir. 1971)).

> an impact statement but instead a duty to actively seek out and develop alternatives as opposed to merely writing out options that reasonable speculation suggests might exist. The case proposes, for example, that an agency should consider "shelving the entire project" or "accomplishing the same result by entirely different means."[64]

Similarly, in finding that 102(2)(E) imposed more stringent requirements, another Eighth Circuit court cited CEQ guidance on the provision, which states that "[a] rigorous exploration and objective evaluation of alternative actions that might avoid some or all of the adverse environmental effects is essential."[65] The court stated that the "economic benefits and environmental impact of each alternative [including total abandonment of the project] are developed in great detail"[66] over thirty-seven pages of a 200-page EIS and upheld the alternatives discussion. Even so, the court noted that while 102(2)(E) required detail, an agency is not required to come up with a perfect EIS.[67]

Other circuits have also recognized the stringency distinction between sections 102(2)(C) and 102(2)(E). For example, in *Environmental Defense Fund, Inc. v. Corps of Engineers of the U.S. Army*,[68] the Fifth Circuit agreed with petitioners that section 102(2)(E) requires something different and more stringent than 102(2)(C), before upholding the adequacy of the 102(2)(E) discussion in the Corps' EIS. Petitioners' claimed that the "Corps has violated Section 102(2)([E]) because it has not developed and described alternatives to the waterway system, particularly the alternative of increased reliance on railroads for the movement of goods."[69] The petitioners argued that the section 102(2)(E) requirement contained "a more affirmative duty" than the section 102(2)(C) requirement to describe "such alternatives as might be thought to exist."[70] The court agreed, noting that the section 102(2)(E) requirement was:

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64. Olmsted Citizens for a Better Cmty. v. United States, 793 F.2d 201, 208 (8th Cir. 1986).

65. Envtl. Def. Fund, Inc. v. U.S. Army Corps of Eng'rs, 470 F.2d 289, 297 (8th Cir. 1972).

66. *Id.*

67. *Id.* (citing Envtl. Def. Fund, Inc. v. U.S. Army Corps of Eng'rs, 342 F. Supp. 1211, 1217 (E.D. Ark. 1971) ("Further studies, evaluations and analyses by experts are almost certain to reveal inadequacies or deficiencies. But even such deficiencies and inadequacies, discovered after the fact, can be brought to the attention of the decision makers, including, ultimately, the President and the Congress itself."); *see also* Envtl. Def. Fund, Inc. v. U.S. Army Corps of Eng'rs, 492 F.2d 1123, 1123 (5th Cir. 1974) (upholding the adequacy of the section 102(2)(E) discussion in the Corps' EIS).

68. 492 F.2d 1123 (1974).

69. *Id.* at 1132.

70. *Id.* at 1134.

> [I]ntended to emphasize an important part of NEPA's theme that all change was not progress and to insist that no major federal project should be undertaken without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means."[71]

In addition, at least one court has recognized the differing scope of the alternatives discussion required by the two sections. Specifically, in *City of New York v. U.S. Department of Transportation*,[72] the court noted that the range of alternatives to consider under section 102(2)(E) was narrower because the federal action did not have a significant impact.[73]

Thus, several courts consider the section 102(2)(E) requirement as more affirmative and stringent than the 102(2)(C) requirement. But it is the section 102(2)(C) alternatives requirement – not section 102(2)(E)'s – that is called the heart of an EIS. Given that a section 102(2)(E) discussion is frequently mixed in with an EIS's section 102(2)(C) discussion, it is difficult to tell how much, if at all, the section 102(2)(E) discussion is really the heart of the EIS. Further, NEPA practitioners face challenges in determining what must be included in an alternatives discussion and what will be deemed sufficient if the discussion is challenged.

B. Mitigation Measures

1. Mitigation in Environmental Impact Statements

Unlike alternatives, NEPA itself is silent with respect to mitigation measures.[74] However, shortly after NEPA's enactment, the CEQ promulgated regulations that required an EIS to discuss mitigation.[75] In addition, the CEQ provided guidance that expanded this requirement to include mitigation measures that were outside

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71. *Id.* at 1135.

72. 715 F.2d 732 (1983).

73. *Id.* at 736.

74. 42 U.S.C. § 4332 (2012) (listing the requisite elements for an EIS and omitting "mitigation").

75. *See* 40 C.F.R. § 1508.25(b)(3) (2016) (requiring the scope of an EIS to encompass alternatives, including "mitigation measures"); 40 C.F.R. § 1502.14(f) (2016) (requiring an EIS to include "mitigation measures not already included in the proposed action or alternatives"); 40 C.F.R. § 1502.16(h) (2016) (stating that an EIS must discuss "[m]eans to mitigate adverse environmental impacts"); 40 C.F.R. § 1505.2(c) (2016) (providing that the record of decision must also discuss "whether all practicable means to avoid or minimize environmental harm . . . have been adopted").

the scope of the action agency's authority, in much the same way that agencies must consider alternatives outside the scope of the action agency's authority.[76]

Federal courts followed suit and required an EIS to include extensive discussions of mitigation measures: "An EIS must include a discussion of measures to mitigate adverse environmental impacts of the proposed action."[77] Courts cautioned that a "mere listing" of mitigation measures would be insufficient.[78] Rather, an adequate EIS must discuss the mitigation measures in sufficient detail to reveal their efficacy.[79] Thus, these courts found that a fully developed mitigation plan was a necessary component of an EIS because mitigation measures could not be "properly analyzed and their effectiveness explained when they have yet to be developed."[80] And, the same courts frequently suggested that mitigation measures were a critical element of a substantive component to NEPA and frequently held "so long as significant measures are undertaken to 'mitigate the project's effects,' they need not completely compensate for adverse environmental impacts."[81] Unsurprisingly, these courts frequently found EIS mitigation discussions inadequate.[82]

In *Robertson v. Methow Valley Citizens Council*,[83] the Supreme Court provided the defining statement on mitigation measures in an EIS. Notably, this statement departed significantly from the earlier case law. The Court first affirmed that mitigation measures are "one important ingredient of an EIS."[84] While NEPA does not explicitly mention mitigation measures, the Court found that the requirement flowed from NEPA's requirement that an adequate EIS discuss "any adverse environmental effects which cannot be avoided should the proposal be implemented."[85] More fundamentally, the Court found that a discussion of mitigation measures is necessary to accurately describe the impacts of the proposed action. "An adverse effect that can be fully remedied by, for example, an inconsequential public expenditure is certainly not as serious as a similar effect that can only be modestly ameliorated through the

76. Forty Questions, *supra* note 18, at 18,031.
77. Oregon Nat. Res. Council v. Marsh, 832 F.2d 1489, 1493 (9th Cir. 1987) (citing 40 C.F.R. § 1502.16(h)), *rev'd on other grounds*, 490 U.S. 360 (1989).
78. Nw. Indian Cemetery Protective Ass'n v. Peterson, 795 F.2d 688, 697 (9th Cir. 1986).
79. *Marsh*, 832 F.2d at 1493.
80 *Id.*
81. Friends of Endangered Species, Inc. v. Jantzen, 760 F.2d 976, 987 (9th Cir. 1985).
82. *E.g., Peterson*, 795 F.2d at 697; *Marsh*, 832 F.2d at 1494.
83. 490 U.S. 332 (1989).
84. *Id.* at 351.
85. *Id.* at 352.

commitment of vast public and private resources."[86] Thus, discussing mitigation measures preserves the "action-forcing function of NEPA" because it allows the public and decision makers to meaningfully comprehend the likely impacts of the proposed action.[87]

As a result, the Court determined that mitigation must "be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated."[88] However, the Court cautioned that this does not mean that agencies must provide a fully-developed mitigation plan within the EIS, a result that "would be inconsistent with NEPA's reliance on procedural mechanisms – as opposed to substantive, result-based standards."[89] Consequently, the Supreme Court overturned the Ninth Circuit's opinion that NEPA required the EIS to include a "detailed explanation of specific measures which *will* be employed to mitigate adverse impacts of the proposed action."[90]

A few aspects of the Court's decision in *Methow Valley* deserve further unpacking. First, while the Court understood NEPA to contain a requirement to discuss mitigation, it tethered that requirement to the larger obligation to disclose the environmental impacts in sufficient detail to inform agency decision makers and the public of the impacts of the proposed action. In doing so, the Court appears to have consciously rejected much of the old mitigation case law, which required elaborate discussions of mitigation measures as a stand-alone element of an EIS. By linking mitigation to the environmental impacts of the proposed activity, the Court presumably intended for the discussion of mitigation measures to be evaluated as part of the normal test for evaluating analyses of environmental impacts – the "hard look" review.[91] Rather than study mitigation measures for their own sake, a hard look review must simply account for "all foreseeable direct and indirect impacts," discuss adverse impacts without "improperly minimiz[ing] negative side effects," and not rely on "[g]eneral statements about possible effects and some risk . . . absent a justification regarding why more definitive information could not be provided."[92]

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86. *Id.*

87. *Id.*; *see also* 40 C.F.R. § 1508.20 (2016) (defining mitigation in terms of reducing environmental impacts).

88. *Methow Valley*, 490 U.S. at 352.

89. *Id.* at 353.

90. *Id.*

91. Kleppe v. Sierra Club, 427 U.S. 390, 410 n.21 (1976). This also suggests that CEQ erroneously linked mitigation to alternatives in earlier, as well as later, guidance.

92. League of Wilderness Defenders-Blue Mountains Biodiversity Project v. U.S. Forest Serv., 689 F.3d 1060, 1075 (9th Cir. 2012).

Second, *Methow Valley* rests on the assumption that a complete mitigation plan is not necessary for an informed understanding of the impacts of a proposed project. This conclusion undermines the reasoning of earlier opinions, which found that a "complete mitigation plan" was necessary to arriving at an "informed judgment" of the project's environmental impact.[93] Despite the clarity of *Methow Valley*'s holdings, some courts continue to impose a heightened, and arguably more substantive, requirement for mitigation measures – a requirement that is far closer to the standard for alternatives than the one envisioned for mitigation measures in *Methow Valley*. As discussed below, this error may stem from the long-standing confusion over the difference between mitigation and alternatives in NEPA.

2. Mitigation Measures in Environmental Assessments

As an additional matter, when an agency relies on mitigation measures to avoid preparing an EIS, courts may impose heightened requirements. NEPA only requires agencies to prepare an EIS for "major Federal actions significantly effecting the human environment."[94] As noted above, for those actions that the agency finds will not have a significant impact on the environment, the agency may prepare a shorter document, called an Environmental Assessment (EA) that explains the basis for the agency's determination of no significant impact.[95] Although NEPA does not provide any further details on this significance determination,[96] the CEQ's early NEPA guidance recognized the possibility that agencies could rely on mitigation measures to lower the impacts of the action beneath the threshold for preparing an EIS.[97] Later cases have firmly established this principle.[98]

However, these courts have cautioned that agencies should only rely on such mitigation measures to make a finding of no significant impact (a so-called mitigated finding of no significant impact or FONSI) when the mitigation measures are required by statute, regulation, or part of the original proposal. Agencies may not use speculative mitigation measures as an excuse to avoid preparing

93. Oregon Nat. Res. Council v. Marsh, 832 F.2d 1489, 1494 (9th Cir. 1987) *rev'd on other grounds* 490 U.S. 360 (1989).

94. 42 U.S.C. § 4332 (2012).

95. 40 C.F.R. § 1508.9 (2016).

96. Peter J. Eglick & Henryk J. Hiller, *The Myth of Mitigation Under NEPA and SEPA*, 20 ENVTL. L. REV. 773, 777 (1990).

97. Forty Questions, *supra* note 18, at 18,037-38.

98. Davis v. Mineta, 302 F.3d 1104, 1125 (10th Cir. 2002).

an EIS.[99] Moreover, courts frequently require an EA to include a discussion of mitigation measures that is similar in detail to the mitigation discussion in an EIS.[100] Commenters have generally noted that while application of this rule varies from circuit to circuit, overall the standards for mitigation discussion in an EA are quite high.[101]

The heightened standard in this context is logical. By invoking mitigation measures to forego preparing an EIS, the agency assures the public that an EIS will not serve a valuable function because the impacts of the project will be minimal. But, if the mitigation measures never materialize, then the project may have significant impacts, but contrary to NEPA, those impacts will never be discussed in an EIS. Therefore, when an EA relies on mitigation measures to support a finding of no significant impact, the discussion of mitigation should be at least as detailed as the discussion of mitigation measures in an EIS.

III. CONFUSION OF THE HEART: THE TREATMENT OF ALTERNATIVES & MITIGATION

Alternatives and mitigation measures are both important aspects of an EIS, and mitigation measures can even be used to avoid preparing an EIS. However, both courts and CEQ describe the alternatives discussion as the linchpin or heart of a NEPA analysis.[102] The linchpin idea has taken hold in the Ninth Circuit, where courts have held that the "existence of a viable but unexamined alternative renders an environmental impact statement inadequate."[103] In some cases, alternatives-based challenges have even resulted in the agency action being set aside.[104] This gives credence

99. *Id.* (*quoting* Forty Questions, *supra* note 18, at 18,039). Indeed, recent CEQ guidance encourages agencies to track the effectiveness of such mitigation measures. COUNCIL ON ENVIRONMENTAL QUALITY, APPROPRIATE USE OF MITIGATION AND MONITORING AND CLARIFYING THE APPROPRIATE USE OF MITIGATED FINDINGS OF NO SIGNIFICANT IMPACT (Jan. 14, 2011).

100. Nat'l Parks & Conservation Ass'n v. Babbitt, 241 F.3d 722, 734 (9th Cir. 2001).

101. *See* Eglick & Hiller, *supra* note 96, at 782-83.

102. *See* Natural Res. Def. Council, Inc. v. Callaway, 524 F.2d 79, 92 (2d Cir. 1975).

103. Res. Ltd. v. Robertson, 35 F.3d 1300, 1307 (9th Cir. 1993), *as amended on denial of reh'g* (quoting Idaho Conservation League v. Mumma, 956 F.2d 1508, 1519 (9th Cir. 1992)).

104. Soda Mountain Wilderness Council v. Norton, 424 F. Supp. 2d 1241, 1263-65 (E.D. Cal. 2006) (agency action should be set aside when agency failed to adequately select and analyze a reasonable range of alternatives in its EA, as required by NEPA); *see* California v. Block, 690 F.2d 753, 767-79 (9th Cir. 1982) (holding that EIS considering eleven alternatives to the proposed action did not embrace an "adequate range" because some "obvious" alternatives were omitted and those considered were not sufficiently diverse); *see also* Nat. Res. Def. Council, Inc. v. Morton, 458 F.2d 827, 834-35 (D.C. Cir. 1972) (holding EIS inadequate for failure to consider reasonably foreseeable alternatives requiring interagency cooperation); Karkkainen, *supra* note 11, at 903.

to the idea that alternatives are truly the crux of an EIS. However, a review of the case law shows that this heart is treated rather carelessly, with courts often conflating the alternatives requirements or merging alternatives with mitigation measures. Likewise, there is confusion in academia, with noted environmental law scholars parsing between types of alternatives and potentially blending alternatives with mitigation. As discussed below, this confusion is understandable.[105]

A. Confusion in Case Law: When Alternatives & Mitigation Are Confused

The courts appear to confuse alternatives and mitigation measures. For example, in *Dubois v. Department of Agriculture*,[106] the First Circuit reviewed a proposal that appeared to be a mitigation measure (another source of water for snow making at a ski resort) as an alternative and found it inadequate. In *Dubois*, a petitioner challenged the Forest Service's approval of an expansion plan for a ski resort.[107] The Forest Service adopted an alternative that appeared for the first time in the final EIS. Therefore, the selected alternative had never before been considered or disseminated for public comment.[108] The court framed the issue as:

> whether the Forest Service in the instant case should have considered an alternative *means* of implementing the expansion of the Loon Mountain Ski Area — a particular means of operation that would do less environmental damage — without changing the site to another state or another mountain.[109]

The court stated that based on comments provided, the agency was on notice of a different alternative and the "environmental concern that alternative might address."[110] Specifically, the court pointed out "that commenters thought the agency should consider some

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105. *See infra* Section III.C (noting that it is understandable that alternatives and mitigation measures are conflated, as CEQ's regulations describe mitigation as a type of alternative).

106. Dubois v. U.S. Dep't of Agric., 102 F.3d 1273, 1289 (1st Cir. 1996).

107. An environmental group and the owner of the facility intervened. *Id*. at 1277.

108. *Id.* at 1292. *Dubois* also ruled on a supplementation issue under *Marsh*. In particular, the First Circuit held that under these circumstances the agency was required to submit a SEIS. For a discussion of the need to supplement EIS's under *Marsh* based on new and significant information, see Maxwell C. Smith & Catherine E. Kanatas, *Acting with No Regret: A Twenty-Five Year Retrospective of* Marsh v. Oregon Nat. Res. Defense Council, 32 UCLA J. ENVTL. L. & POL'Y 329 (2014).

109. *Dubois*, 102 F.3d at 1290.

110. *Id.* at 1291.

alternative source of water other than Loon Pond and some alternative place to discharge the water after it had gone through the snowmaking pipes."[111] The court stated that the commenters "argued that such an alternative would reduce the negative environmental impact on Loon Pond from depleting the pond's water and from refilling the pond with polluted water either from the East Branch or from acidic snowmelt."[112] In fact, one commenter explicitly suggested "the possibility of new man-made storage units to accomplish these goals."[113] Therefore, the court reasoned that the comments provided sufficient notice to alert the agency to the alternative being proposed and the environmental concern the alternative might address."[114] The court emphasized that it was then the agency's duty to examine reasonable alternatives and to "try on its own to develop alternatives that will 'mitigate the adverse environmental consequences' of a proposed project."[115]

Thus, the *Dubois* court's analysis of alternatives, which focused on ways to minimize the harm of the proposed project as opposed to other projects that would have met the project's purpose, appears to have equated alternatives with proposals to mitigate the adverse environmental consequences of a proposed action. As an additional complication, the court cited *Methow Valley's* discussion of mitigation measures in support of its holding. Further, the confusion in *Dubois* has spread to other cases. Other courts cite to *Dubois* as an alternatives case, when it appears it is actually a case about mitigation.[116]

Likewise, the court confused alternatives and mitigation in *Froehlke*, an early NEPA case wherein petitioners challenged an alternatives discussion as insufficient. In particular, the Corps of Engineers filed an EIS associated with the Cache River-Bayou DeView Channelization Project.[117] This project involved "clearing, realigning, enlarging, and rechanneling approximately one hundred forty miles of the Cache River upstream from its junction with the White River, fifteen miles of its upper tributaries, and seventy-seven miles of its principal tributary-the Bayou DeView,

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111. *Id.*; *see also id*. at 1290 ("Here, the Forest Service was alerted by commenters to the alternative of using artificial storage ponds instead of Loon Pond for snowmaking; but even without such comments, it should have been 'reasonably apparent' to the Forest Service, not 'unknown,' that such an alternative existed.") (internal citations omitted).

112. *Id.* at 1291.

113. *Id.*

114. *Id.*

115. *Id.* (*citing Methow Valley*, 490 U.S. at 351).

116. Oceana, Inc. v. Evans, 384 F. Supp. 2d 203, 240-41 (D.D.C. 2005) (calling *Dubois* an alternatives case but discussing how the agency "ignored a discrete and obvious proposal for *mitigating* environmental harm").

117. Envtl. Defense Fund v. Froehlke, 473 F.2d 346, 348 (8th Cir. 1972).

for flood control and drainage purposes."[118] Petitioners claimed that the alternative of acquiring land to mitigate the loss of natural resources should have been described in more detail. As an initial matter, the alternative itself appeared to be more of a mitigation measure in that the acquisition of land was to mitigate the impact of a loss of natural resources. Moreover, the court itself appears to have perpetuated the conflation of mitigation measures and alternatives. Specifically, the court stated that the agency's analysis was contrary to CEQ guidance, which states that "[s]ufficient analysis of such *alternatives* and their costs and impact on the environment should accompany the proposed action through the agency review process *in order not to foreclose prematurely options* which might have less detrimental effects."[119]

This guidance relates to alternatives and ensures that *alternatives* are not prematurely foreclosed. However, after citing this guidance, the court stated that in this case:

> [n]either agency decision-makers, such as the Chief of Engineers or the Secretary of the Army, nor the Congress were presented in the impact study with sufficient information to make an intelligent decision about proceeding with the project or awaiting the effectuation of a mitigation plan. Thus, the statement did not insure that the *option of mitigation* would not be prematurely foreclosed.[120]

The *Froehlke* court further confused the issue in its discussion of other mitigation measures the EIS should have covered. In particular, the court noted that the EIS should have considered other mitigation measures, because commenters and government agencies had raised them.[121] But in the next breath, the court noted that this was not an instance "where a previously unthought of or implausible *alternative* suddenly becomes practical because of the development of new sources of information or new technology."[122] Thus, the court appeared to be saying that the mitigation measures discussed by commenters were plausible alternatives.

In other cases, courts have focused on the mitigation *contained in* alternatives when determining whether the EIS is sufficient. For example, in *Natural Resources Defense Council, Inc. v. Ev-*

118. *Id.*

119. *Id.* at 352 (citing Interim CEQ guidelines section 7(a)(iii) and section 6(a)(iv)) (emphasis added).

120. *Id.*

121. *Id.*

122. *Froehlke*, 473 F.2d at 352 (emphasis added).

ans,[123] the court considered challenges to an EIS prepared by NMFS and the Navy regarding the Navy's use of low frequency sonar system. Several environmental groups claimed that the EIS did not consider reasonable alternatives. The challenged EIS considered three alternatives: the no action alternative, full deployment with no mitigation or monitoring,[124] and the Navy's preferred alternative, which included mitigation measures.[125] The court held that the full deployment with no mitigation or monitoring was a "phantom option."[126] Likewise, in the "Roadless Rule" litigation, the district court ruled that the Forest Service violated CEQ regulations because it did not, among other things, "include appropriate mitigation measures in the proposed alternatives."[127] These cases further demonstrate the interconnected nature of mitigation and alternatives and underscore the potential for confusion involving the two requirements.

B. Confusion in Academia: Primary & Secondary Alternatives

Academics have also introduced confusion based on how they discuss alternatives and mitigation. For example, noted environmental law scholar Daniel Mandelker talks about alternatives in terms of primary and secondary alternatives.[128] Dr. Mandelker remarked that the "Supreme Court's formulation of the duty to consider alternatives [in *Vermont Yankee*] would eliminate most alternatives that have not yet been fully studied. This holding undercuts NEPA's environmental decision-making responsibilities, at least as applied to *primary* alternatives. Whether the Court would apply its holding to *secondary* alternatives is not clear."[129] Mandelker describes primary alternatives as "a substitute for agency action that accomplishes the action in another manner."[130] This idea of primary alternatives tracks the language Congress used to describe alternatives in section 102(2)(C). Most alternatives cases relate to primary alternatives.[131]

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123. 279 F. Supp. 2d 1129 (N.D. Cal. 2003).

124. *Id*. at 1166.

125. *Id*. at 1164; *see, e.g., id*. at 1160 (discussing the exclusion zone around the ship).

126. *Id*. at 1166.

127. Wyoming v. U.S. Dep't of Agric., 277 F. Supp.2d 1197, 1224-25 (D. Wyo. 2003) (citing 40 C.F.R. § 1502.14(f)), *vacated and remanded by* 414 F.3d 1207.

128. DANIEL R. MANDELKER, ENVIRONMENT AND EQUITY 120 (1981).

129. MANDELKER, *supra* note 56, at § 9:18 (emphasis added).

130. MANDELKER, *supra* note 128, at 120.

131. MANDELKER, *supra* note 56, at § 9:18; *see id.* (noting that *Morton*, 458 F.2d at 827 and *Vermont Yankee*, 435 U.S. at 519 are two decisions that dominate the case law on alternatives and that both discuss primary alternatives).

In contrast, Mandelker describes secondary alternatives as "a means of carrying out a proposed action in a different manner."[132] For example, a secondary alternative could be the proposed project implemented at a different location, or the proposed project, but with modifications that mitigate harmful environmental impacts.[133] Thus, Mandelker's secondary alternatives are akin to mitigation measures. They also track the CEQ regulations' conception of alternatives, which describes mitigation measures as a type of alternative and also requires a discussion of mitigation that is not already included in the proposed action or alternatives. Given that both the academic literature and the CEQ regulations discuss mitigation and alternatives in the same breath, it is not surprising that the courts frequently confuse the two concepts.[134]

C. Confusion in the CEQ Regulations

Finally, the CEQ regulations contribute to the confusion between alternatives and mitigation measures by blurring the two concepts. In particular, CEQ's regulations require an alternatives analysis to consider mitigation in two ways. First, 40 C.F.R. § 1502.14 provides that an alternatives analysis should "[i]nclude appropriate mitigation measures not already included in the proposed action or alternatives." As explained in the regulation, this helps "define the issues and provide a clear basis for choice among options by the decisionmaker and the public."[135] This regulation appears to presume that the proposed action and other alternatives have some, but not all, mitigation measures "baked" into them. This flows from the CEQ regulations description of reasonable alternatives as those that "would avoid or minimize adverse impacts or enhance the quality of the human environment."[136]

Second, section 1508.25(b) also requires that an agency consider three types of alternatives, which include "mitigation measures."[137] Thus, the regulations treat mitigation measures as a type of alternative.[138] As discussed below, this confusion has poten-

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132. MANDELKER, *supra* note 56, at 10:32.

133. MANDELKER, *supra* note 128, at 120.

134 As discussed above, cases cited as secondary alternatives cases sometimes confuse mitigation and alternatives. *See supra* Section 3.A.

135. 40 C.F.R. § 1502.14 (2016).

136. 40 C.F.R. § 1502.1 (2016).

137. 40 C.F.R. § 1508.25(b)(3) (2016); *see also* Richards, *supra* note 11, at 221 (discussing these requirements). Mitigation must also be considered in the context of "environmental consequences." *See* 40 C.F.R. § 1502.16 (2106); *see also supra* Section II.A (for a complete discussion of this aspect of mitigation).

138. There are several other instances where alternatives and mitigation measures are discussed together. *See*, *e.g.*, 40 C.F.R. § 1502.16(e), (f) and (h) (2016) (noting that an EIS must discuss "[e]nergy requirements and conservation potential of various alternatives and

tially led to a vastly different approach to mitigation in the circuit courts than envisioned by the Supreme Court in *Methow Valley*.

IV. MITIGATION MEASURES: ALTERNATIVES BY ANOTHER NAME?

As shown above, NEPA case law fails to clearly define and adhere to a particular scope of alternatives and mitigation analyses in an EIS. In the case of mitigation measures, this confusion appears to have contributed to a string of cases that require a greater mitigation analysis than *Methow Valley* would require by analyzing whether those mitigation analyses contained many of the elements of an alternatives analysis.[139] These cases find that an EIS is inadequate when it fails to contain an expansive discussion of mitigation, even if the discussion is sufficient to understand the true impacts of the action, which is all *Methow Valley* requires. In turn, the courts frequently uphold an EIS that provides far more mitigation information than needed to apprehend the impacts of a project. As a result, notwithstanding *Methow Valley*, practitioners would be well advised to consider mitigation to be a major component of the alternatives analysis, at least as important to the durability of an EIS as the alternatives' impacts analysis.

A. The Wandering Heart: Ninth Circuit Decisions Following Methow Valley

The Ninth Circuit has decided the majority of mitigation measures cases since *Methow Valley*. The most influential of these cases has been *Neighbors of Cuddy Mountain v. U.S. Forest Service*.[140] In that case, the court considered the adequacy of an EIS prepared by the Forest Service for a proposed timber sale in the Cuddy Mountain area of the Payette National Forest.[141] As part of its NEPA discussion on the environmental impacts on the redband trout, the Forest Service succinctly described mitigation measures for impacts to the trout arising from potential sedimentation increases to three creeks impacted by the sale:[142]

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mitigation measures," "[n]atural or depletable resource requirements and conservation potential of various alternatives and mitigation measures," and "[m]eans to mitigate adverse environmental impacts (if not fully covered under § 1502.14(f))").

139. *See infra,* Section IV.C.

140. 137 F.3d 1372 (9th Cir. 1998).

141. *Id*. at 1375.

142. *Id*. at 1380.

> [s]mall increases in sedimentation and other effects of logging and road construction in Grade and Dukes creeks would be mitigated by improvements in fish habitat in other drainages. . . . Even minor improvements in other drainages, such as Wildhorse River or the Weiser River, would affect more fish habitat than exists in Grade and Dukes creeks. (See Forest Plan, page IV-38 for a list of offsetting mitigation projects.)
>
> Offsetting mitigation would include such projects as riparian enclosures (fences around riparian areas to keep cattle out) and fish passage restoration (removing fish passage blockages). These activities can be effective but cannot be quantified with present data.[143]

The Ninth Circuit found that this "perfunctory description of mitigation measures [was] inconsistent" with NEPA's hard look requirement.[144] Specifically, the court determined that the Forest Service inappropriately declined to consider methods to directly mitigate the increase in sediment levels in the three affected creeks.[145] Moreover, the Ninth Circuit concluded that the discussion was insufficiently detailed, failed to indicate whether any entity would actually adopt the mitigation measures, and did not provide a reasonable explanation for why the effectiveness of the activities could not be quantified.[146]

But this conclusion appears inconsistent with *Methow Valley's* core insight that the function of a mitigation discussion is to provide for a fair evaluation of impacts,[147] not to provide a robust discussion of mitigation for its own sake as though it were another alternative to the proposed action.[148] The purpose of the challenged

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143. *Id.*

144. *Id.*

145. Neighbors of Cuddy Mountain v. U.S. Forest Serv., 137 F.3d at 1381.

146. *Id.*

147. *See supra* Section II.B.1. The definition of mitigation in CEQ's regulations also reflects the connection between mitigation measures and the impact sought to be mitigated. 40 C.F.R. § 1508.20 (2016) (defining mitigation as "[a]voiding the impact altogether," "[m]inimizing the impacts," "[r]ectifying the impact," "[r]educing or eliminating the impact," or "[c]ompensating for the impact").

148. *See supra* Section II.A. In contrast, a number of courts have more clearly-linked the discussion of mitigation measures to the impacts at issue. For example, the Second Circuit in *Southeast Queens Concerned Neighbors, Inc. v. Fed. Aviation Admin.* opined that a mitigation plan was adequate when the exact details were not "so important to the ultimate question of whether" the application should be granted. 229 F.3d 387 (2d Cir. 2000). In a similar vein, the Fourth Circuit has noted that when an EIS insufficiently discloses the environmental impacts of a project, the discussion of mitigation measures is necessarily also invalid because it will not be based on an accurate assessment of impacts. Nat'l Audubon Soc'y v. Dep't of the Navy, 422 F.3d 174, 200 (4th Cir. 2005). Likewise, the Tenth Circuit has stated that where an EIS did not find significant impacts on the environment, it did not

mitigation discussion in *Cuddy Mountain* was to provide a complete understanding of the impacts of the timber sale on a specific species, the redband trout. There, the Forest Service noted that the impact on the species would occur through a small increase in sedimentation in some habitats but that the negative effects of that increase could be more than offset by minor but effective improvements to more important habitats.[149] Thus, in *Methow Valley*'s terms, the discussion provided sufficient information to identify the impact as small and show that it could likely be easily and effectively offset in its entirety. Additional requests for detail beyond this level, for a quantification of the plan's effectiveness, and for indications of who would adopt it, appear to lead to precisely the type of "detailed mitigation plan" that *Methow Valley* rejected.[150]

Cuddy Mountain is not an isolated example of the Ninth Circuit's insistence on an expansive analysis of mitigation measures in the wake of *Methow Valley*. In *League of Wilderness Defenders-Blue Mountains Biodiversity Project v. Forsgren*,[151] the court again found a mitigation analysis inadequate because it was more akin to a listing of potential measures than a thorough discussion. In that proceeding, environmental groups challenged the Forest Service's development of an insecticide spraying program designed to prevent a moth outbreak, similar to an outbreak in the early 1970's that defoliated over 700,000 acres in the Pacific Northwest.[152] The Forest Service noted that the insecticide could harm "moths and butterflies in adjacent wilderness areas," and developed measures to mitigate those impacts.[153] Specifically, the Forest Service adopted a one-mile buffer zone, in which spraying would be prohibited adjacent to wilderness areas, and mandated the use of less hazardous pesticides if there was a chance that the spraying could drift into wilderness areas. [154] Additionally, the Forest Service's Record of Decision referred to the project guidelines as additional mitigation measures, and those guidelines required ces-

need to discuss mitigation measures for such impacts. Holy Cross Wilderness Fund v. Madigan, 960 F.2d 1515, 1526 (10th Cir. 1992).

149. *Cuddy Mountain*, 137 F.3d at 1381.

150. *Methow Valley*, 490 U.S. at 353. Other cases in the Ninth Circuit take a similar approach to considering the adequacy of mitigation measures relied on by Federal agencies to forego preparing a full EIS in favor of an EA. Nat'l Parks & Conservation Ass'n v. Babbitt, 241 F.3d 722, 733-34 (9th Cir. 2001). Because the agencies rely on these mitigation measures to forego preparing an EIS, as opposed to simply accounting for the impacts of a project within an EIS, a more rigorous review of mitigation measures in EAs may be appropriate.

151. League of Wilderness Defenders-Blue Mountains Biodiversity Project v. U.S. Forest Serv., 689 F.3d 1060 (9th Cir. 2012).

152. *Id.* at 1183.

153. *Id.* at 1191.

154. *Id.*

sation of spraying when wind speeds exceeded eight miles an hour or the spraying would drift into "non-target" areas.[155] Thus, the EIS concluded that the spraying would have no impact on the butterfly and moth species.[156]

The court determined that this "documentation [did] not amount to a reasonably complete discussion of possible mitigation measures"[157] but was instead a "mere listing."[158] The court reasoned that while the mitigation measures addressed the effects of spray drift into wilderness areas, the EIS did not discuss the effect of drift into non-wilderness areas.[159]

Again, the Ninth Circuit did not indicate how the challenged mitigation measures' discussion did not satisfy *Methow Valley*'s charge to fully consider the impacts at issue. The opinion conceded that the impact the Forest Service sought to mitigate was "harm to moths and butterflies in adjacent *wilderness* areas."[160] Thus, the Forest Service's decision to focus on mitigation measures pertaining to wilderness spraying was reasonable in the EIS, to the extent the Forest Service sought to limit harm to species in those areas. However, the court's insistence on also discussing mitigation measures for areas in which the impact could not occur echoes *Cuddy Mountain*'s insistence on considering mitigation measures in their own right, as courts routinely require for alternatives.

The Ninth Circuit largely faulted the Forest Service's EIS for failing to discuss "how far the pesticide might drift, in what direction, or of the effect of spraying or not spraying at different wind speeds."[161] Therefore, the mitigation analysis in *League of Wilderness Defenders* should have satisfied *Methow Valley's* core requirement that mitigation be discussed in sufficient detail to provide a sufficient understanding of the identified impacts. The court's critique appears to again rest on a misapprehension that mitigation is itself a separate component of an EIS that must be discussed separate from the impact analysis.

Notably, in a similar case, *Okanogan Highlands Alliance v. Williams*,[162] the Ninth Circuit acknowledged that "the line between an EIS that contains an adequate discussion of mitigation measures and one that contains a 'mere listing' is not well defined."[163] In that proceeding, the court considered the adequacy of

155. *Id.* at 1191-92.
156. *Id.* at 1191.
157. *Id.* at 1192 (quoting *Methow Valley*, 490 U.S. at 352).
158. *Id.*
159. *Id.* at 1191.
160. *Id.* (emphasis added).
161. *Id.* at 1192.
162. 236 F.3d 468 (9th Cir. 2000).
163. *Id.* at 476.

the Forest Service's EIS for an application from the Battle Mountain Gold Company to construct and operate a gold mine near Buckhorn Mountain in Washington.[164] The proposed operations would create a mine pit that would ultimately fill with water, leaving a forty-acre lake.[165] The EIS found significant uncertainties with respect to the quality of the water that would accumulate in the lake and the impact that run-off from the lake would have on groundwater.[166] The EIS noted that if the impacts exceeded the limits required by state and federal permits, various monitoring measures would be required.[167]

The court acknowledged that the mitigation measures were listed in "bullet form" in the EIS but found that this was not necessarily deficient.[168] Because the Forest Service did not know what the exact water quality impacts from the project would be, the court determined that the flexible approach provided by the list of mitigation measures was reasonable, in that it could be used to respond to a wide range of potential water quality projects that could develop.[169] In evaluating the adequacy of the mitigation discussion, the court compared the analysis to the mitigation discussions considered in *Cuddy Mountain* and *Methow Valley*.[170] The Ninth Circuit extensively summarized the holdings in *Cuddy Mountain* and *Methow Valley* and concluded that the "difference between the discussion of proposed mitigation measures in *Methow Valley* and that in *Cuddy Mountain* appears to be one of degree."[171]

Having established this framework, the Ninth Circuit sought to distinguish its prior holding in *Cuddy Mountain* from the instant case. Once more, the Ninth Circuit observed that the EIS at issue in *Cuddy Mountain* was inadequate because it did not consider ways to mitigate the impacts on the affected creeks.[172] The Ninth Circuit found that this reasoning was favorable to the EIS at issue, which generally discussed mitigation measures related to water quality, the impact at issue.[173]

The Ninth Circuit also upheld the general nature of the mitigation discussion in *Okanogan Highlands Alliance* on the grounds that the potential impacts were uncertain because the action had

164. *Id.* at 470.
165. *Id.* at 471.
166. *Id.* at 473-75.
167. *Id.*
168. *Okanogan Highlands Alliance v. Williams*, 236 F.3d 468, 476 (9th Cir. 2000).
169. *Id.*
170. *Id.* at 476-77.
171. *Id.* at 476.
172. *Id.*
173. *Id.*

yet to be undertaken.[174] As a result, the court found that the case was "closer to *Methow Valley*" than *Cuddy Mountain*.[175] But again, this analysis seems to rest on a misunderstanding of *Cuddy Mountain's* underlying facts – in *Cuddy Mountain* the court, as is typical in NEPA cases, considered an action that had yet to be undertaken: the proposed sale of timber.[176] Therefore, the court did not provide a convincing explanation of how *Okanogan Highlands Alliance* differed from *Cuddy Mountain*. This suggests that, as the court noted, the line between a successful and unsuccessful mitigation analysis after *Methow Valley* is unclear. It also indicates that if the court actually squarely applied the *Methow Valley* test in *Cuddy Mountain*, the results in that case would have been different.

Nonetheless, one significant difference between *Okanogan Highlands Alliance* and *Cuddy Mountain* is the length of the mitigation discussion in *Okanogan Highlands Alliance.* As opposed to the succinct discussion in *Cuddy Mountain*, the Forest Service in *Okanogan Highlands Alliance* provided a lengthy analysis regarding mitigation for water discharge. It observed that if the discharges exceeded the requirements of water quality permits, water treatment would be required. It then defined water treatment as precipitation and settling using lime, sulfide, ferricion, and/or flocculents; filtration; ion exchange; reverse osmosis; electrodialysis; air stripping; biological precipitation; or, passive wetlands.[177]

It stated that "[w]ater quality problems may also be addressed by diverting discharges to the tailings facility (during operations only), or special cap design and construction on waste rock disposal areas or tailings pond embankments."[178] Finally the EIS concluded that, "[i]f water quality problems develop, then several steps would be taken to achieve compliance."[179] These steps are:

1. Review of environmental impacts with the possibility of additional or increased frequency of monitoring;
2. Implement an interim (emergency or long term) water management plan to stabilize the situation;

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174. *Okanogan Highlands Alliance*, 236 F.3d at 477. When an agency prepares a programmatic EIS, the Ninth Circuit allows the agency to defer "development of more specific mitigation measures" to the development of site-specific EIS's under the EIS, in light of the "uncertainty regarding which sites would eventually be developed." N. Alaska Envtl. Ctr. v. Kempthorne, 457 F.3d 969, 979 (9th Cir. 2003).

175. *Id.*

176. *Cuddy Mountain*, 137 F.3d at 1375.

177. *Okanogan Highlands Alliance*, 236 F.3d at 474.

178. *Id.*

179. *Id.*

3. Develop a conceptual engineering design of water treatment system alternatives that would be available to remedy the situation and select the most appropriate design for more detailed engineering;
4. The Proponent would prepare a detailed engineering design of the selected alternative; the agencies would review and revise, as appropriate, the environmental protection performance security required from the Proponent;
5. Undertake appropriate permitting of the selected water treatment system (conduct NEPA/SEPA review as appropriate);
6. Construct the selected water treatment system;
7. Operate and maintain the water treatment system to meet design goals;
8. Monitor the water treatment system for compliance; and
9. Achieve a demonstrated "clean closure" or maintain long term (permanent) treatment.

Goal: Protect ground and surface water quality in case of unacceptable water discharges.

Effectiveness: High[180]

The court then noted that the EIS contained a similar discussion for water quality within the lake.[181]

Therefore, the type of analysis the court upheld in *Okanogan Highlands Alliance* was, in fact, a very detailed plan that provided for many mitigation measures that could be required, depending on how events unfolded. Arguably, this level of detail goes well beyond the information needed to fully understand the impacts of the project on water and ground water. As the court acknowledged, the impacts on the water quality would be monitored by state and federal permits, which would presumably have methods for ensuring that their limits were met. Thus, in light of *Methow Valley*, the reader of the EIS could logically expect that the impacts on ground water would be limited based on that information alone. As a result, the length and detail of the mitigation plan in *Okanogan Highlands Alliance*, which the Ninth Circuit ultimately found adequate, is the type of more detailed mitigation analysis that discusses mitigation measures in their own right, rather than

180. *Id.* at 474-75.
181. *Id.* at 475.

relating the detail of the discussion to the level of environmental impact.[182]

In more recent years, the Ninth Circuit has continued to require more extensive discussions of mitigation measures in an EIS than required under *Methow Valley*. For example, in *South Fork Band Council of Western Shoshone of Nevada v. Department of the Interior*,[183] the Ninth Circuit again considered the adequacy of an EIS for a gold mine project.[184] The court took issue with the treatment of measures to mitigate the impacts of mine dewatering, which would lead to an "extensive removal of groundwater" that would "cause some number of local springs and streams to dry up."[185] The Ninth Circuit acknowledged that the EIS listed several mitigation measures but found the discussion inadequate because the EIS only noted that "[f]easibility and success of mitigation would depend on site-specific conditions and details of the mitigation plan."[186] Because this statement did not indicate whether any of the mitigation measures would actually be effective, the court found the mitigation analysis deficient.[187]

But if the touchstone of *Methow Valley* is whether the discussion of mitigation measures is sufficient to facilitate informed decision making, then the court appeared to once again ask for too much.[188] An acknowledgement that the effectiveness of the mitigation measures would vary based on the specific spring or stream informs the decision maker and the public that some of the impacts may be unavoidable, while other may perhaps be ameliorated.[189] Given the number of springs and streams affected, a reader could reasonably conclude that the results would be a mix of impacts. Thus, the impact could be weighted accordingly. Additionally, the court's argument appears to contradict the analysis in *Okanogan Highlands Alliance*, which noted that when the impacts of a

182. A number of recent Ninth Circuit cases have upheld similarly detailed-mitigation discussions. *E.g.,* Alaska Survival v. Surface Transpt. Bd., 705 F.3d 1073, 1089 (9th Cir. 2013) ("The FEIS contains a lengthy discussion of measures to mitigation impacts on water resources, which includes removing debris from wetlands as soon as practicable and constructing the railroad to maintain natural water flows by installing bridges or using equalization culverts. Further, [the board's] authorization of the exemption was conditional to [the applicant's] adoption of one hundred mitigation measures . . . Nothing about the discussion of mitigation measures is perfunctory."); Rock Creek Alliance v. U.S. Forest Serv., 703 F. Supp. 2d 1152, 1179 (D. Mont. 2010) (noting that EIS discussed mitigation measures in "great detail" and providing lengthy quotations).

183. 588 F.3d 718 (9th Cir. 2009).

184. *Id*. at 722.

185. *Id*. at 726-27.

186. *Id*. at 727 (internal quotations omitted).

187. *Id*.

188. Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 352 (1989).

189. *See* Theodore Roosevelt Conservation P'ship v. Salazar, 616 F.3d 497, 517 (D.C. Cir. 2010) (allowing "adaptable mitigation measures is a responsible decision in light of the inherent uncertainty of environmental impacts, not a violation of NEPA.").

project are inchoate, NEPA permits a less detailed discussion of mitigation measures.[190] Therefore, the Ninth Circuit appears to still be influenced by a theory of mitigation measures that is contrary to *Methow Valley* and more in line with an alternatives analysis. Namely, the Ninth Circuit regularly seeks a fuller discussion of mitigation measures in their own right, like NEPA's alternatives requirements, instead of the mitigation discussion suggested by *Methow Valley*, which merely suffices to reveal the true scope of the impacts of a project.

B. Other Circuits' Approaches to Methow Valley

While other circuits have infrequently found discussions of mitigation measures inadequate under NEPA,[191] the EISs that are upheld nonetheless typically discuss mitigation in considerable detail. For example, in *Webster v. Department of Agriculture*,[192] the Fourth Circuit upheld a mitigation analysis that was highly detailed and included "a map with wetland areas marked on it and, using that map, described how it would attempt to avoid certain marked areas."[193] Likewise, the Fifth Circuit has found that a "serious and thorough evaluation of environmental mitigation options" meets "NEPA's process-oriented requirements," even when the probability that the mitigation measures will be implemented is contested.[194] Similarly the Tenth Circuit has determined that a mitigation analysis, which "identified nearly 150 project-specific mitigation measures, and, as evidenced by numerical effectiveness ratings, separately analyzed and evaluated each," was reasonable under NEPA.[195] Therefore, while these circuits do not explicitly hold that the discussion of mitigation measures must go beyond providing sufficient information to understand the impacts of the problem, it appears that, like the Ninth Circuit, these courts routinely encourage lengthy, resource-intensive analyses that go far beyond the basic requirements set forth in *Methow Valley*.

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190. Okanogan Highlands Alliance v. Williams, 236 F.3d 468, 477 (9th Cir. 2000).

191. *See, e.g.,* Mid States Coal. for Progress v. Surface Transp. Bd., 345 F.3d 520, 536 (8th Cir. 2003) (finding an EIS inadequate when the mitigation analysis did not consider a full-range of methods to ameliorate horn noise from passing trains in affected areas, specifically by insulating buildings).

192. 685 F.3d 411 (4th Cir. 2012).

193. *Id.* at 432.

194. Miss. River Basin Alliance v. Westphal, 230 F.3d 170, 177 (5th Cir. 2000).

195. Colo. Envtl. Coal. v. Dombeck, 185 F.3d 1162, 1173 (10th Cir. 1999).

C. Conclusion

Methow Valley acknowledged that NEPA's requirement to discuss mitigation measures in an EIS does not flow directly from the text of that statute, but the court held that agencies must nonetheless discuss mitigation in order to provide a complete understanding of the project's impacts. A number of cases in the Ninth Circuit appear to have gone well beyond this requirement and found mitigation analyses insufficiently detailed, even when they appeared to provide enough information to understand the impacts at issue. As a corollary, mitigation analyses that provide a great deal of information, potentially far more than is needed to understand the environmental impacts of a project, find success in the Ninth Circuit, as well as other courts.

While some may attribute this to an expansive judiciary, the more likely source for the insistence on an alternatives-like level of detail in a mitigation analysis is the wide-spread confusion, arising from CEQ's implementing regulations, case law, and scholarly material, regarding mitigation measures and alternatives. Unlike mitigation measures, alternatives must be fully discussed in their own right to enable a meaningful evaluation of whether the project should go forward.[196] In practice, the courts' approaches toward mitigation measures are far closer to the standard for alternatives than they are to the standard for mitigation measures provided in *Methow Valley*: that providing sufficient information to understand environmental impacts is all that NEPA requires. Courts have typically upheld mitigation analyses that, like an adequate alternative analysis under CEQ regulations, encompass a wide range of reasonable proposals.[197] Courts have also upheld agencies' mitigation analyses that thoroughly evaluate those measures as they would do for alternative analyses.[198] Additionally, courts uphold agencies that consider mitigation measures beyond the jurisdiction of the lead agency, which is also a requirement for alternatives analyses.[199] In contrast, those EISs that only provide sufficient information to "properly evaluate the severity of adverse effects,"[200]

196. *See supra* Section II.A.

197. *Compare* Alaska Survival v. Surface Transp. Bd., 705 F.3d 1073, 1088-89 (9th Cir. 2013) (upholding an EIS that discussed over 100 mitigation measures), *with* 40 C.F.R. § 1502.14 (a) (2106) (requiring EISs to evaluate "all reasonable alternatives").

198. *Compare Colo. Envtl. Coal.*, 185 F.3d at 1173, *with* 40 C.F.R. § 1502.14(b) (2016) (requiring EIS's to devote "substantial treatment to each alternative").

199. *Compare* Ctr. for Biological Diversity v. Fed. Highway Admin., 290 F. Supp. 2d 1175, 1188 (S.D. Cal. 2003), *with* 40 C.F.R. § 1502.14(c) (2016) (requiring EIS's to consider "reasonable alternatives not within the jurisdiction of the lead agency").

200. Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 352 (1989).

without including a detailed discussion of the mitigation measures themselves, are much less likely to be upheld.[201] Therefore, pronouncements in *Methow Valley* aside, it appears that in practice mitigation measures function as much to supplement the alternatives analysis as they do to inform the impact analysis. This invites the question: are mitigation measures the true heart of the NEPA analysis, notwithstanding the lip service paid to alternatives?

V. A SILVER LINING: THE UPSIDE TO AN EXPANDED MITIGATION MEASURES ANALYSIS

In practice, mitigation measures function more like a "mini-alternatives" analysis than the limited inquiry envisioned by the Supreme Court in *Methow Valley*. While these analyses may expand the requirements of NEPA, as interpreted by the Supreme Court, they may also produce some of the most useful information to members of the public by providing a systematic discussion of pragmatic measures the action agency, or other decision makers, can undertake to ameliorate the environmental impacts of the proposed action. Therefore, the circuit courts' approach to mitigation measures following *Methow Valley* may have unintentionally created a new heart to NEPA, or greatly reshaped its existing heart.

Critics allege that the alternatives analysis in an EIS often appears to have little direct impact on an agency's final decision.[202] In contrast, mitigation measures discuss modest options that can produce significant environmental benefits while still allowing the action agency to pursue its preferred alternative. Such options can include acquiring in-kind land to offset environmental impacts on wetlands,[203] reductions in off-site noise,[204] and use of "best management practices" to minimize impacts on water quality.[205] Moreover, agencies frequently adopt mitigation measures discussed in an EIS.[206]

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201. *E.g. Cuddy Mountain*, 137 F.3d at 1375. Thus, early commenter's fears that *Methow Valley* signaled the end of mitigation measures as a critical component of EIS's have not fully materialized. *See* Richards, *supra* note 11, at 1230-33.

202. Kelly Wittorff, *A Call to Revitalize the Heart of NEPA: The Alternatives Analysis*, 12 U. FLA. J.L. & PUB. POL'Y 361, 372-74 (2001). Of course, the expectation of preparing an alternatives analysis may funnel an agency's decision-making toward environmentally-preferable, or at least reasonable, alternatives.

203. Miss. River Basin Alliance v. Westphal, 230 F.3d 170, 177 (2000).

204. Mid States Coal. for Progress v. Surface Transp. Bd., 345 F.3d 520, 534 (8th Cir. 2003).

205. San Juan Citizens Alliance v. Stiles, 654 F.3d 1038, 1055 (10th Cir. 2011).

206. *E.g.* Webster v. Dep't of Agric., 685 F.3d 411, 432 (4th Cir. 2012) (noting that the EIS discussed measures the agency intended to implement to mitigate impacts on wetlands, including creating new wetlands in other locations).

Additionally, in *Methow Valley*, the Court noted that while NEPA does not require substantive results, it does serve an "action-forcing" function by ensuring that agency decision makers will "carefully consider, detailed information concerning significant environmental impacts; [and guaranteeing] that the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking [sic] process and the implementation of that decision."[207] Thus, a robust discussion of mitigation measures may also spur public demand that agencies or other decision makers undertake particularly cost-effective or beneficial mitigation measures.

As a result, the more expansive approach to mitigation undertaken by the circuit courts, while generally not needed to fully understand the impacts of a project under NEPA, may ultimately provide the agency and public with the most pragmatic information not only for informed decision making, but also for environmental protection. As a result, mitigation, rather than alternatives, may be the true heart of NEPA.

VI. WHAT TO DO GOING FORWARD

While there is confusion in the case law, academia, and CEQ regulations regarding alternatives and mitigation, the authors recommend that NEPA practitioners do the following to prepare a NEPA analysis that adequately considers alternatives and mitigation. With respect to alternatives, practitioners would be wise to not ignore the section 102(2)(E) requirement or conflate it with the section 102(2)(C) requirement, as some courts do. First, they are separate and distinct requirements and should be treated as such. Second, some courts do make distinctions in what is required under each section in terms of scope and depth of analysis. Practitioners would also be wise to include mitigation measures in each alternative, as the CEQ regulations require this and courts have found alternatives unreasonable when mitigation measures are not included or sufficient.

With regard to mitigation measures in general, practitioners should approach *Methow Valley* cautiously. While the natural reading of the case may suggest that an EIS may briefly discuss mitigation measures, mitigation in practice is not so simple. A successful EIS typically provides a detailed discussion of mitigation measures that fully discusses the mitigation, provides an estimate of how successful the plan will be, and often provides a significant level of quantification to support these results. Therefore, practi-

207. Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 349 (1989).

tioners should recognize that courts will often demand more from a mitigation analysis than the Supreme Court suggested in *Methow Valley*, and should proceed accordingly. The result may be more resource intensive and less efficient, but practitioners will stand a better chance of being upheld and may ultimately provide documents that are more useful to the public. The resulting EIS will contain not only a complete discussion of large-scale alternatives to the project, but also a thorough discussion of more modest but potentially easier-to-implement approaches to completing the action. This more thorough discussion of mitigation measures may have more of a pragmatic benefit in that it encourages decision makers to pursue unobtrusive but efficacious ways to moderate impacts on the environment.

VII. CONCLUSION

The promise of NEPA was that it would help "control, at long last, the destructive engine of material 'progress.'" [208] But critics allege that it is primarily a paper tiger.[209] And while the case law and regulations provide grandiose statements about alternatives serving as the linchpin or heart of an EIS, the true heart of a given NEPA analysis is not always clear. Alternatives sometimes get short shrift as courts confuse or ignore the separate and distinct alternatives requirements. Furthermore, both the CEQ regulations and the courts conflate alternatives and mitigation measures, making it unclear what exactly is being discussed (an alternative? a mitigation measure?) and what aspect(s) of the analysis is (or are) deficient.

Moreover, in many cases or at least those cases where the agency proceeds with the proposed action, the consideration of mitigation measures may influence the agency's efforts to protect the environment more than the alternatives discussion. And while a discussion of alternatives fits neatly into the procedural framework of NEPA, mitigation measures seem to skirt the substantive line in practice. Because mitigation measures frequently reduce the environmental impact of major federal actions, it could certainly be argued that mitigation is the true linchpin of an environmental analysis.

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208. *See* Calvert Cliffs' Coordinating Comm., Inc. v. Atomic Energy Comm., 449 F.2d 1109, 1111 (D.C. Cir. 1971).

209. *See* Jason J. Czarnezki, *Revisiting the Tense Relationship Between the U.S. Supreme Court, Administrative Procedure, and the National Environmental Policy Act*, 25 STAN. ENVTL. L.J. 3, 12 (2006) ("[The Supreme Court] must provide some mechanism for NEPA to be more than a 'paper tiger'."). However, projects can be stopped until NEPA compliance occurs. *See, e.g.*, Alaska Ctr. for Env't v. Browner, 20 F.3d 981, 986 (9th Cir. 1994); *see also* N. Cheyenne Tribe v. Norton, 503 F.3d 836, 843 (9th Cir. 2007).

Nevertheless, the limits of a mitigation analysis under NEPA, as interpreted by *Methow Valley*, remain murky. Perhaps due to the confusion over the difference between mitigation measures and alternatives, courts routinely go beyond *Methow Valley's* simple requirement that the limited purpose of mitigation in an EIS is to provide a complete picture of a project's impacts. These courts have found mitigation analyses that do precisely that inadequate and have approved mitigation analyses that are far more elaborate and akin to the complete discussion of alternatives explicitly mandated by NEPA.

Thus, NEPA practitioners should consider providing more detail on mitigation measures than *Methow Valley* would suggest. This includes providing a wide range of mitigation measures, discussing them in great detail and quantifying their effectiveness if possible, and even discussing some mitigation measures beyond the lead agency's authority. While such detail may appear to go beyond the strict requirements of NEPA, it may also end up among the most useful information to the public and decision makers because ultimately, mitigation may be the most action-forcing portion of an EIS.[210] Thus, while the courts approach to mitigation may rest on an errant interpretation of *Methow Valley*, the mistake may ultimately be one that serves as the true heart of NEPA. By knowing how to mitigate environmental impacts, decision makers and the public can choose to move forward in a way that best protects the environment and humanity.

210. *See Methow Valley*, 490 U.S at 352.

FORCED SUBORDINATIONS OF LIENS TO LEASES: IS TEXAS PROPERTY CODE CHAPTER 66 AN UNCONSTITUTIONALLY RETROACTIVE LAW?

MICHAEL P. VARGO*

In 2015, the Texas Legislature enacted a law that benefits oil and gas producers, but retroactively affects (and potentially harms) lenders. Chapter 66 of the Texas Property Code alters traditional expectations regarding the effects of foreclosures on oil and gas leases. Due to its impact on previously executed mortgages, the law could be deemed unconstitutional.

Lenders that issue security interests often rely on foreclosure sales or future transactions to recover the balance of an unpaid obligation. Historically, a foreclosure terminated subsequently executed, or "junior," encumbrances (such as mineral leases) that covered mortgaged property. Purchasers, who would then acquire a greater interest in the property, would ideally offer a higher price for it. In turn, lenders had a greater possibility of recovering their initial loan. However, as of January 1, 2016, Chapter 66 protects junior leases from termination by foreclosure, and retroactively applies to mortgages that were issued years earlier. Unfortunately, due to the recently volatile energy market, some junior leases may significantly decrease property values. Therefore, lenders that issued mortgages with the expectation that foreclosures would remove junior leases may be less likely to recoup their outstanding debt.

This Article describes the nature of Chapter 66, and explores Texas jurisprudence surrounding retroactive laws. It then analyzes the statute under the Supreme Court of Texas's 2010 Robinson v. Crown Cork & Seal Co. *decision, and explains how a Texas court may find that Chapter 66 is unconstitutionally retroactive.*

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* 2010 J.D., South Texas College of Law. Michael P. Vargo practices oil, gas, and natural resource law in Houston, Texas. He would like to thank E. Lynn Grisell, III, for his support and input regarding this article.

I. INTRODUCTION

Throughout history, the legal community has largely viewed retroactive laws with disdain.[1] Such policies are said to punish citizens without notice and ignore man's free will as a moral actor.[2] These laws are unjust because they are created "with the knowledge of the precise conditions to which they are to apply" and therefore "expose the lawgiver to greater temptation to partiality and corruption."[3] Philosophers have analogized retroactive laws to disciplining pets, in the sense that "[w]hen your dog does anything you want to break him of, you wait until he does it, and then beat him for it."[4] Even children comprehend the injustice of changing the rules after the game has been played.[5] In this regard, the Texas Legislature arguably enacted an unconstitutionally retroactive law in efforts to promote oil and gas production.

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1. *See* Landgraf v. USI Film Prods., 511 U.S. 244, 265 (1994) (recognizing a "deeply rooted" presumption against retroactive laws in American jurisprudence, as well as in earlier civilizations); LON L. FULLER, THE MORALITY OF LAW 53 (1964) ("[A] retroactive law is truly a monstrosity. Law has to do with the governance of human conduct by rules. To speak of governing or directing conduct today by rules that will be enacted tomorrow is to talk in blank prose."); J.G. SUTHERLAND, STATUTES AND STATUTORY CONSTRUCTION 311 (2nd ed. 1904) ("The injustice of permitting laws to have retroactive effect by relation is so manifest that it has not had much countenance in the United States."); AILEEN KAVANAGH & JOHN OBERDIEK, ARGUING ABOUT LAW 183 (2009); Jan G. Laitos, *Legislative Retroactivity*, 52 WASH. U. J. URB. & CONTEMP. L. 81, 109 (1997) (recognizing a "traditional dislike" of retroactive laws). *See generally*, Bryant Smith, *Retroactive Laws and Vested Rights*, 5 TEX. L. REV. 231 (1927) (exploring how Texas courts in particular have handled retroactive laws).

2. DANIEL E. TROY, RETROACTIVE LEGISLATION 18 (1998); *see* W. David Slawson, *Constitutional and Legislative Considerations in Retroactive Lawmaking*, 48 CALIF. L. REV. 216, 225 (1960) ("[N]othing seems more basic to the existence of a legal order than the ability to rely upon the actions of others, including the government, with some assurance.").

3. Bryant Smith, *Retroactive Laws and Vested Rights*, 6 TEX. L. REV. 409, 417 (1928); *see* Lon L. Fuller, *Positivism and Fidelity to Law—A Reply to Professor Hart* 71 HARV. L. REV. 630, 650–51 (1958).

4. Jeffrey Omar Usman, *Constitutional Constraints on Retroactive Civil Legislation: The Hollow Promises of the Federal Constitution and Unrealized Potential of State Constitutions*, 14 NEV. L.J. 63, 63–64 (2013) (citing Jeremy Bentham, *Truth* Versus *Ashhurst; or, Law As It Is, Contrasted With What It Is Said To Be*, *in* 5 THE WORKS OF JEREMY BENTHAM 235 (John Bowring ed., 1843)).

5. *Id*. at 63-64; Robinson v. Crown Cork & Seal Co., 335 S.W.3d 126, 139 (Tex. 2010).

On June 15, 2015, Governor Greg Abbott signed House Bill No. 2207 into law.[6] The statute amended the Texas Property Code by adding Chapter 66, titled "Sale of Property Subject to Oil or Gas Lease."[7] Before the law was enacted, oil and gas leases that were executed subsequent to a security interest (such as a mortgage) were deemed inferior to the mortgage.[8] These "junior" leases would terminate in the event of a foreclosure,[9] unless the lender agreed to subordinate his lien to the lease by a separate agreement.[10]

Chapter 66 forcibly subordinates security interests to later-executed leases, so that such leases would continue in spite of a foreclosure.[11] A controversial aspect of Chapter 66 is that it retroactively applies to mortgages that were issued prior to the law's creation.[12]

Proponents of Chapter 66 primarily include oil and gas companies.[13] They support the law because it promotes statewide energy production by shielding mineral leases from termination due to foreclosure.[14] Chapter 66 also benefits lessees named in leases (usually energy companies), by removing the need for them to incur "substantial time, effort, and cost" to obtain subordination agreements from security interest holders.[15]

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6. Texas Legislature Online, Actions – H.B. 2207, 84th Leg. R.S. (Tex. 2015), http://www.legis.state.tx.us/BillLookup/Actions.aspx?LegSess=84R&Bill=HB2207 (indicating that House Bill No. 2207 was "Signed by the Governor" on June 15, 2015).

7. TEX. PROP. CODE ANN. § 66.001 (West 2016).

8. RICHARD HEMINGWAY, ET AL., OIL AND GAS LAW AND TAXATION 198 (4th ed. 2004); Robert Kratovil, *Mortgages – Problems in Possession, Rents, and Mortgagee Liability*, 11 DEPAUL L. REV. 1, 9–10 (1961). Throughout this article, terms such as "security instrument," "lien" and "mortgage" will be used interchangeably.

9. "Generally, a valid foreclosure of an owner's interest in property terminates any agreement through which the owner has leased the property to another." Coinmach Corp. v. Aspenwood Apartment Corp., 417 S.W.3d 909, 915 (Tex. 2013) (citing B.F. Avery & Sons' Plow Co. v. Kennerly, 12 S.W.2d 140, 141 (Tex. Comm'n App. 1929)); Arnold v. Eaton, 910 S.W.2d 181, 184 (Tex. App. 1995).

10. "A subordination agreement is a contractual modification of lien priorities which establishes different lien priorities than those provided under the statutory or common law rules." TITLE STANDARDS JOINT EDITORIAL BD., ET AL., TEX. TITLE EXAMINATION STANDARD 15.90, Comment (2009).

11. TEX. PROP. CODE ANN. § 66.001(b) (West 2016).

12. "[Chapter 66] not only applies to mortgages executed in the future, but also undertakes to limit retroactively the rights of mortgage holders under existing mortgages." Carl Glaze, John Holden, Jr., Peter Hosey, & Jackson Walker, *Texas Legislature Imposes Statutory Subordination of Real Estate Mortgages to Oil and Gas Leases*, JD SUPRA BUSINESS ADVISOR (Aug. 20, 2015), http://www.jdsupra.com/legalnews/texas-legislature-imposes-statutory-29296.

13. *Id.*; Jesse Tyner Moore, *Existing Security Interests in Mineral Estates Undermined by New (and Potentially Unconstitutional) Texas Law*, DYKEMA BANKING BLOG (September 28, 2015), http://www.banking-lawblog.com/Existing-Security-Interests-in-Mineral-Estates-Undermined-by-New-and-Potentially-Unconstitutional-Texas-Law-09-28-15.

14 Gloria Leal, *Texas 84th Legislative Session Wrap-Up*, SHALE MAG. (July 17, 2005), http://shalemag.com/texas-84th-legislative-leal.

15. Glaze et al., *supra* note 12.

Conversely, lien owners, including many in the lending industry, are skeptical of Chapter 66.[16] The policy disrupts the traditional notion that liens enjoy priority over subsequently created encumbrances, such as oil and gas leases.[17] Some lenders claim Chapter 66 unfairly allows energy companies to secure leases across Texas without regard to a landowner's relationship with its lender.[18]

A further concern is the law's effect on property value. If a landowner defaults on his obligation, security interest holders rely on foreclosure sales, or subsequent transactions, to recover the unpaid balance of their loan.[19] Prior to the creation of Chapter 66, lenders issued mortgages with the expectation that a foreclosure would terminate junior leases.[20] Thus, foreclosed property would be sold with fewer encumbrances, which would increase its value because a future purchaser would receive a greater interest in the land at issue.[21]

However, under Chapter 66, such expectations have largely changed. Given the plummeting prices of oil and gas, a junior lease could decrease the value of the property it covers, which would lower the price a future purchaser would offer for it.[22] Depending on the situation, these concerns may compel lenders to challenge

16. *See* Moore, *supra* note 13 (noting that House Bill No. 2207 was enacted because "the mineral lessee lobby—a well-funded and important interest—apparently grew tired of having to actually bargain for subordination agreements, and convinced the Legislature to up-end this well-established system"). Throughout this article, terms such as "lien owner," "security interest holder," "lender," and "mortgagee" will be used interchangeably.

17. *See* Regold Mfg. Co. v. Maccabees, 348 S.W.2d 864, 865 (Tex. App. 1961) (discussing the priority of a previously executed lien to subsequent encumbrances).

18. *Id.*

19. Anthony Pennington-Cross, *The Value of Foreclosed Property*, 28 J. REAL EST. RES. 193, 200 (2006); Steven Wechsler, *Through the Looking Glass: Foreclosure by Sale as De Facto Strict Foreclosure – An Empirical Study of Mortgage Foreclosure and Subsequent Resale*, 70 CORNELL L. REV. 850, 863 (1985). Because a mortgagee is often the purchaser at a foreclosure sale, he will likely sell the property to a subsequent purchaser at a later date. *See* Kratovil, *supra* note 8, at 8.

20. *See id.*; Moore, *supra* note 13.

21. *See* Kimberly Luff Wakim & Justin C. Harding, *The Legal and Business Risks of Developing an Oil and Gas Leasehold Interest Without Obtaining Lien Subordination Agreements*, 19 E. MIN. L. INST. 37, 63–64 (1999) ("If . . . a parcel of land is subject to an existing oil and gas lease, the buyer of the land receives something less than the entire bundle of rights associated with the land, which is less valuable than the entire bundle of rights").

22. *See infra* Part IV(B); *see also* Slawson, *supra* note 2, at 21 (discussing legal retroactivity, and providing the example of parties who invested in the liquor business prior to the creation of the eighteenth amendment). If the lender acquires the property pursuant to the foreclosure sale, it will usually sell the property to a third party at a later time. In that case, any decreased property value reflected by an existing lease will likely affect the property's subsequent sale price. *See* Harvey S. Jacobs, *Thinking of Buying at a Foreclosure Auction? Better Do Your Research*, WASH. POST (Oct. 14, 2011), http://wpo.st/7QAN1 (noting that many foreclosure sales will generate no bids, and therefore the lender will take possession of the foreclosed property).

Chapter 66 as an unconstitutional retroactive law based on precedent from the Supreme Court of Texas.[23]

Part II of this Article explains Chapter 66 and its effect on oil and gas leases. Understanding that the law retroactively affects the rights of parties under certain security instruments, Part III of this Article explores the jurisprudence of retroactive laws, and explores a 2010 Supreme Court of Texas decision, *Robinson v. Crown Cork & Seal Co.*, which clarified the review of such policies. With this framework in mind, Part IV analyzes Chapter 66 in the context of such jurisprudence, and discusses whether it would survive a constitutional challenge. Part V of this Article concludes that, given the correct set of circumstances, Chapter 66 may be deemed an unconstitutionally retroactive law, as applied to a lender that issued a mortgage prior to the policy's creation.

II. TEXAS PROPERTY CODE SECTION 66

Chapter 66 applies to leases that cover the mineral estate underlying certain property.[24] Also, it affects leases that are subject to (i.e., executed after) a security instrument,[25] and are filed of record prior to a foreclosure sale affecting the property.[26] Leases executed prior to a security instrument are not terminated by a foreclosure, and are thus not affected by Chapter 66.[27]

Under the law, a junior lease largely remains in effect after a foreclosure sale, unless it has ended by its own terms (e.g., an expiration of the primary term without production).[28] The foreclosure sale purchaser acquires the right to receive royalty amounts, or other payments, under the lease.[29] However, Chapter 66 provides that a foreclosure sale "terminates and extinguishes any right granted under the oil or gas lease for the lessee to use the surface of the real property."[30] Thus, a future purchaser and the lessee named in the lease may be required to negotiate additional terms, should the lessee wish to use the surface estate.

Chapter 66 indicates that an agreement, such as a subordination agreement, executed between the lessee named in a lease, and

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23. *See generally*, Robinson v. Crown Cork & Seal Co., 335 S.W.3d 126, 145 (Tex. 2010) (establishing a recent framework for analyzing retroactive laws).

24. TEX. PROP. CODE ANN. § 66.001(a)(3) (West 2016).

25. *Id.* § 66.001(b).

26. *Id.*

27. *See* Regold Mfg. Co. v. Maccabees, 348 S.W.2d 864, 865 (Tex. App. 1961); Kratovil, *supra* note 8, at 8-9.

28. TEX. PROP. CODE ANN. § 66.001(b) (West 2016).

29. *Id.*

30. *Id.* § 66.001(c).

either the mortgagee or foreclosure sale purchaser, will control over the terms of the law.[31] Thus, lessees who are concerned about their surface rights would be wise to immediately obtain such agreements, regardless of the law's protections.

Chapter 66 took effect on January 1, 2016.[32] The law applies to situations where either notice of a foreclosure sale is given on or after that date, or a judicial foreclosure action commences after that date.[33] Therefore, the statute retroactively affects security instruments that were issued before January 1, 2016.[34]

A. Reaction to Chapter 66

Prior to the creation of Chapter 66, a lessee named in a junior lease could protect the lease from a foreclosure sale termination by securing a subordination agreement from the security instrument's owner.[35] This subordination would, in effect, treat the lease as though it was executed prior to the security instrument, and would bind a foreclosure sale purchaser to the lease terms.[36] Many lenders welcomed such subordinations, as the royalties generated by a profitable lease represented additional income which borrowers could use to repay their loans.[37] Some security instruments require that landowners advance such payments towards their debt.[38]

However, due to recent industry trends which saw massive increases in residential mineral leases, energy companies became increasingly unable,[39] or unwilling,[40] to secure subordination

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31. *Id.* § 66.001(d).

32. *Id.*

33. *Id.*

34. *See* Glaze et al., *supra* note 12 ("[Chapter 66] not only applies to mortgages executed in the future, but also undertakes to limit retroactively the rights of mortgage holders under existing mortgages.").

35. RICHARD HEMINGWAY ET AL., OIL AND GAS LAW AND TAXATION 198 (4th ed. 2004).

36. *See id.*; Vahlsing Christina Corp. v. First Nat'l Bank of Hobbs, 491 S.W.2d 954, 958 (Tex. App. 1973) (holding that "a subordination agreement is nothing more than a contractual modification of lien priorities").

37. Kratovil, *supra* note 8, at 10-11; Glaze et al., *supra* note 12; Moore, *supra* note 13 ("Most lenders will happily agree to subordination for reasonable, economically efficient leases—if foreclosure becomes necessary, lenders typically prefer to foreclose on income producing property.").

38. *See* Hemingway, *supra* note 35 (noting that, in return for a mortgagee's execution of a subordination agreement, a mortgagor usually "executes an assignment of some or all of the economic benefits from the lease to the mortgagee").

39. Glaze et al., *supra* note 12.

40. *See* John McFarland, *Texas Legislature – Bills of Interest to Mineral Owners*, OIL AND GAS LAWYER BLOG (June 3, 2015), http://www.oilandgaslawyerblog.com/2015/06/texas-legislature-bills-of-interest-to-mineral-owners.html ("Operators who obtain oil and gas leases from [homeowners in urban areas of the Barnett Shale, near Fort Worth] don't try to obtain subordinations from the homeowners' mortgage company."); Moore, *supra* note 13 ("But the mineral lessee lobby—a well-funded and important interest—apparently grew

agreements from security interest holders. Some lessees claimed that in their haste to secure leases in popular drilling areas, they did not have time to secure subordinations before a lien was foreclosed upon.[41] In these cases, some lessees simply "didn't anticipate the worst-case scenario that involved tens of thousands of foreclosures."[42] Also, many mortgages issued by local banks were sold to large financial service companies that were unfamiliar with the oil and gas industry, and refused to execute subordinations.[43] Other lenders' internal procedures resulted in a lengthy delay before a subordination agreement could be acquired.[44]

As a result, lessees named in junior leases faced significant risk if a landowner defaulted on his obligation.[45] Lessees were likewise hesitant to conduct operations under such leases, as a foreclosure may render their efforts meaningless.[46] This scenario no doubt stifled mineral production throughout the state.[47] Chapter 66 was welcomed by many in the Texas oil and gas industry as an added protection to lessees, and a law that promotes energy production.[48]

On the contrary, some lenders are weary of the "somewhat convoluted"[49] aspects of Chapter 66. Though oil and gas leases may provide additional funding to landowners, such contracts convey property rights to third parties and are viewed as encumbrances

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tired of having to actually bargain for subordination agreements . . . . ").

41. Max B. Baker, *Texas Lawmaker to Push Bill on Foreclosed Gas Leases*, FORT WORTH STAR-TELEGRAM (Nov. 27, 2014), http://www.star-telegram.com/news/business/barnett-shale/article4356411.html.

42. *Id.*

43. Glaze et al., *supra* note 12.

44. Moore, *supra* note 13 ("Getting hundreds of different residential mortgage companies to execute subordination agreements through their myriad servicers is all but impossible.").

45. Glaze et al., *supra* note 12.

46. *See* Baker, *supra* note 41 (noting that an energy company whose lease has been extinguished by a foreclosure "essentially trespasses on the property if it continues to extract gas and other minerals").

47. Analysis of a similar bill that was vetoed in 2013 suggested that many in the energy industry were concerned that properties burdened by superior mortgages would not be developed, due to uncertainty regarding foreclosure sale terminations. *See* Texas House Energy Resources Committee Report, C.S.H.B. 2590, http://www.legis.state.tx.us/tlodocs/83R/analysis/pdf/HB02590H.pdf.

48. *See* McFarland, *supra* note 40 ("The law will allow the lease to continue, and the mortgage company will acquire the royalty interest in the foreclosure.").

49. Ellen Wied, *First National Title Insurance Company, Underwriting Bulletin: 2015-02* (Aug. 27, 2015), http://www.fnti.com/docs/Underwriting%20Bulletins/Underwriting%20Bulletin%202015-02%20New%20Legislation.pdf.

on the land they affect.[50] Thus, forced subordination laws have been criticized as unfairly burdening subsequent purchasers with agreements they did not negotiate.[51]

Some feel that Chapter 66 "reward[s] lessees for . . . willfully disregard[ing] the obligation to obtain a subordination agreement,"[52] which was previously "standard" in many cases because properties are commonly burdened by mortgages.[53] The Legislature has been criticized for "drastically undermin[ing] the property rights of all lenders with security interests in mineral estates."[54] Other lenders suggest the law could encourage defaulting landowners to bind foreclosure sale purchasers to leases that contain unfavorable terms.[55]

Interestingly, the Texas Legislature passed a similar law in 2013, which was referred to as House Bill No. 2590.[56] This legislation was almost identical to House Bill No. 2207, but provided that a lessee must indemnify a foreclosure sale purchaser and mortgagee from actual damages resulting from the lessee's operations.[57] Though Governor Rick Perry agreed with the overall intent of the law, he vetoed it.[58] The governor noted that the bill would have benefitted parties located in urban areas, but was "less well suited to leases in rural areas, where the bill's prohibition on entering onto the land [might] make the lease impossible to utilize."[59] He also feared the law would be misinterpreted to allow lawsuits against lessees for drilling operations occurring before a foreclosure, which would "have a serious chilling effect on the production

50. GRANT NELSON ET AL., REAL ESTATE FINANCE LAW 1130 (6th ed. 2015).

51. Ian D. Ghrist, *House Bill 2590 (Continuation of Oil and Gas Leases After Foreclosure) Would Reward Wrongful Conduct*, GHRIST LAW (Apr. 4, 2014), http://www.ghristlaw.com/blogs/mineralrights/hb2590.

52. *See id.* (criticizing a previously vetoed law which is almost identical to House Bill No. 2207).

53. Christopher Helman, *Chesapeake Energy: What's Up with These Lawsuits?* FORBES (Jan. 21, 2011), http://www.forbes.com/sites/christopherhelman/2011/01/ 21/chesapeake-energy-whats-up-with-these-lawsuits (indicating that subordination agreements are standard because "almost every parcel of property has a mortgage on it.").

54. Moore, *supra* note 13.

55. *See id.* (noting that, under Chapter 66, "the foreclosure purchaser will be stuck with the mineral lease, good or bad," and that "[Chapter 66] may primarily benefit lessees who have obtained below-market leases.").

56. H.R. 2590, 2013 Leg., 83d Reg. Sess. (Tex. 2013).

57. *Id.*

58. TEX. H.R. HOUSE RESEARCH ORG., VETOES OF LEGISLATION, H.R. 83-6, 83d Sess., at 22–32 (2013).

59. *Id.*

of oil and gas" across Texas.[60] Some commentators have suggested that the Bill was vetoed at the request of large energy producers who wanted more favorable terms.[61]

B. Subordination Agreements Under Chapter 66

Before discussing the retroactive nature of Chapter 66, it is interesting to note one of the law's shortcomings. The statute does not address situations where a lessee named in a junior lease has begun drilling operations prior to a foreclosure sale. Before the creation of Chapter 66, such lessees would forfeit the right to continue their operations.[62] Now, however, the lease will remain in effect, though disputes regarding existing surface use may remain. Texas law grants lessees deference in efforts to access minerals.[63] Nonetheless, a foreclosure sale purchaser could stifle a lessee's existing operations under Chapter 66 by refusing to accommodate specific surface provisions set forth in the lease.[64] Thus, while lessees are legally allowed to retrieve minerals, their means of doing so may be subject to future negotiation, or even litigation.

To mitigate a foreclosure's effect on surface operations, Chapter 66 allows a lessee and a mortgagee to execute an agreement, such as a subordination agreement, which "controls over any conflicting provision of [Chapter 66]."[65] However, securing this agreement may prove difficult. As previously mentioned, many lenders have already demonstrated an unwillingness to execute subordination agreements with lessees.[66] Also, even if a lessee were to find a cooperative lender, he may be required to draft a more detailed subordination agreement in order to protect his surface rights.

Texas courts strictly construe contracts such as subordination agreements.[67] Yet, traditional agreements used by many drillers simply identify the lease and the security instrument at issue, and include general language whereby the lienholder agrees to subor-

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60. *Id.*

61. Karen Neeley, *The 2013 Legislative Session: Action and Inaction*, 17-18 (June 2013), http://www.ibat.org/files/PDFs/2013_Legislative_WP.pdf.

62. Coinmach Corp. v. Aspenwood Apartment Corp., 417 S.W.3d 909, 915 (Tex. 2013).

63. "The mineral owner, as owner of the dominant estate, has the right to make any use of the surface which is necessarily and reasonably incident to the removal of the minerals." Moser v. U.S. Steel Corp., 676 S.W.2d 99, 103 (Tex. 1984).

64. TEX. PROP. CODE ANN. § 66.001(c) (West 2016).

65. *Id.* § 66.001(d).

66. *See* Glaze et al., *supra* note 12.

67. IT Diversified Credit Corp. v. First City Capital Corp., 737 S.W.2d 803, 804 (Tex. 1987) (noting that a subordination agreement "must be construed according to the expressed intention of the parties and its terms").

dinate her lien to the mineral lease.[68] The problem with using such a form going forward is that Chapter 66 already subordinates security instruments to leases.[69] Also, Chapter 66 allows subordination agreements to supersede only *conflicting* provisions of the law.[70] Thus, lessees who wish to maintain their surface rights under Chapter 66 may be forced to abandon traditional subordination agreements in favor of instruments that unambiguously reserve their surface rights in the event of a foreclosure.[71]

Regardless of its shortcomings, perhaps the most controversial aspect of Chapter 66 is its application to security instruments that were executed prior to the law's creation.[72] In this sense, Chapter 66 retroactively alters the rights of mortgagors who issued loans with the expectation that a foreclosure would terminate junior leases.[73] The remainder of this article will examine whether Chapter 66 could survive a legal challenge on such grounds.

III. RETROACTIVE LAWS AND ROBINSON V. CROWN CORK & SEAL CO.

Legal scholars have traditionally frowned upon laws that retroactively affect parties' rights.[74] Courts have similarly echoed a "presumption against retroactive legislation" which "embodies a legal doctrine centuries older than our Republic."[75] While the United States Constitution does not guarantee that one's reliance on civil laws will be protected, commentators have recognized that,

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68. *See* Kimberly Luff Wakim & Justin C. Harding, *The Legal and Business Risks of Developing an Oil and Gas Leasehold Interest Without Obtaining Lien Subordination Agreements*, 19 E. MIN. L. INST. 37, 72-74 (1999) (describing subordination agreements and setting forth language that can be used in such instruments); *Subordination Agreement*, LANDMEN.NET, http://www.landmen.net/clausesforms/subordination.html.

69. TEX. PROP. CODE ANN. § 66.001 (West 2016).

70. *Id.* § 66.001(d).

71. *First City Capital*, 737 S.W.2d at 804; *see* Vahlsing Christina Corp. v. First Nat'l Bank of Hobbs, 491 S.W.2d 954, 958 (Tex. App. 1973) (discussing the contractual nature of subordination agreements).

72. *See* TEX. PROP. CODE ANN. § 66.001(a)(2) (West 2016); Glaze et al., *supra* note 12.

73. *See* Glaze et al., *supra* note 12.

74. *See* Landgraf v. USI Film Prods., 511 U.S. 244, 265, 114 S. Ct. 1483, 1522 (1994) ("Elementary considerations of fairness dictate that individuals should have an opportunity to know what the law is and to conform their conduct accordingly; settled expectations should not be lightly disrupted."); Jeffrey Omar Usman, *Constitutional Constraints on Retroactive Civil Legislation: The Hollow Promises of the Federal Constitution and Unrealized Potential of State Constitutions*, 14 NEV. L.J. 78 (2013) (noting that antipathy to retroactive legislation by the framers of the United States Constitution helped frame various provisions of the document).

75. *Landgraf*, 511 U.S. at 265.

to a large extent, an orderly society must be able to depend on the notion that laws will remain consistent.[76]

Thus, for example, Article I, Sections 9 and 10 of the United States Constitution expressly prohibit retroactive penal legislation, Bills of Attainder (which punish individuals for past conduct), and laws that interfere with contractual obligations.[77] The Texas prohibition against such laws is more specific. Article I, Section 16 of the Texas constitution expressly provides that "[n]o bill of attainder, ex post facto law, *retroactive law*, or any law impairing the obligation of contracts, shall be made."[78]

Historically, judicial interpretation of retroactive laws has been far from clear.[79] Commentators have noted that various United States Supreme Court decisions which addressed retroactivity, are "rife with separate opinions" and "reflect a variety of conflicting and confusing approaches."[80] Similarly, Texas courts have given deference to various factors when analyzing such policies.[81] The confusion stems partly from the reality that almost all laws have some impact on past rights and expectations.[82] Thus, invalidating all policies that affect prior matters is impossible.[83]

Accordingly, the Supreme Court of Texas sought to clarify the analysis of retroactive laws in 2010 in *Robinson v. Crown Cork & Seal Co.,*[84] as well as in subsequent decisions that relied on similar reasoning.[85]

A. Background of Robinson

Barbara Robinson's husband, John Robinson, suffered mesothelioma from asbestos exposure.[86] In 2002 the couple sued a number of plaintiffs, including Crown Cork & Seal Co. ("Crown").[87]

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76. *See* Slawson, *supra* note 2, at 225-26.

77. U.S. CONST. art. I, §§ 9, cl. 3, 10, cl. 1; *see Landgraf*, 511 U.S. at 266.

78. TEX. CONST. art. I, § 16 (emphasis added).

79. *See* Robinson v. Crown Cork & Seal Co., 335 S.W.3d 126, 138–45 (Tex. 2010).

80. Jill E. Fisch, *Retroactivity and Legal Change: An Equilibrium Approach*, 110 HARV. L. REV. 1055, 1058 (1997) (discussing the Supreme Court's recognition that retroactivity analysis has lacked depth and explaining the concept of equilibrium theory).

81. *Robinson*, 335 S.W.3d at 139. *See also* Hyeongjoon David Choi, *Robinson v. Crown: Formulation of a New Test for Unconstitutional Retroactivity or Mere Restatement of Century-Old Texas Precedents?*, 64 BAYLOR L. REV. 309, 317–30 (2012) (explaining the standards used in various Texas Supreme Court decisions which analyzed retroactive laws).

82. Tex. Water Rights Comm'n v. Wright, 464 S.W.2d 642, 648 (Tex. 1971).

83. *Id.*

84. *Robinson*, 335 S.W.3d at 126.

85. Union Carbide Corp. v. Synatzske, 438 S.W.3d 39, 55–60 (Tex. 2014); Tenet Hosps., Ltd. v. Rivera, 445 S.W.3d 698, 706-09 (Tex. 2014).

86. *Robinson*, 335 S.W.3d at 129.

87. *Id.*

Crown never manufactured asbestos-related products.[88] Its liability stemmed from a 1966 acquisition of a smaller company, the Mundet Cork Corporation ("Mundet"), which produced asbestos insulation.[89] Crown purchased Mundet for about $7 million; however, it had paid over $413 million in asbestos injury settlements as of 2003.[90]

Crown initially conceded that under New York and Pennsylvania law (which governed its corporate predecessors) it succeeded to Mundet's liability for asbestos exposure.[91] A Texas trial court granted partial summary judgment for the Robinsons on that issue.[92] However, around the time the order was issued, the Texas Legislature enacted Chapter 149 of the Texas Civil Practice and Remedies Code, which was part of a statewide tort reform effort.[93]

The law capped successor corporations' liability for asbestos-related claims,[94] and was specifically intended to protect an "innocent successor" such as Crown.[95] Chapter 149 also included a choice-of-law provision, which required Texas courts to use Texas law in successor asbestos-related liability cases.[96] This provision ensured that plaintiffs such as the Robinsons could not sue Crown in Texas under New York or Pennsylvania law.

Interestingly, evidence suggests Chapter 149 was enacted entirely for Crown's benefit.[97] During a debate, the Bill's sponsor specifically named Crown as a Texas company that would be protected from the law.[98] Also, a Texas Senate committee chair referred to

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88. *Id.*
89. *Id.*
90. *Id.*
91. *Id.*
92. *Robinson,* 335 S.W.3d at 129-30.
93. *Id.* at 130.
94. *Id.* Chapter 149 applied to "a domestic corporation or a foreign corporation that has . . . done business in this state and that is a successor which became a successor prior to May 13, 1968' — a date by which, the Legislature appears to have thought, the dangers of asbestos should have been commonly known." *Id.* Chapter 149 also limited a defendant's asbestos-related liabilities to the fair market value of its total gross assets. *Id.* This amount was determined as of the time the defendant merged or consolidated with a company that produced asbestos products. *Id*. Also, the limitation included the aggregate coverage under a defendant's insurance policy that was related to asbestos-related injuries. *Id.* In this case, Mundet's aggregate insurance coverage was $3.683 million. *Id.* at 129-30.
95. *Id.* at 132. The history supporting Chapter 149 included a statement of intent that explained that the law was intended to protect larger corporations that acquired smaller asbestos manufacturers. *Id.* Without such policy, "a much larger successor [could] easily be bankrupted by the asbestos-related liabilities it innocently received from a much smaller predecessor with which it merged [many] decades ago." *Id*.
96. *See Robinson,* 335 S.W.3d at 147.
97. *Id.* at 131-32. *See also* Tenet Hosps., Ltd. v. Rivera, 445 S.W.3d 698, 707 (Tex. 2014) (noting that Chapter 149 "was enacted solely to benefit a single company by reducing its liability in asbestos litigation").
98. *Robinson*, 335 S.W.3d at 131.

Chapter 149 as "the Crown Cork and Seal asbestos issue," and noted that the contents of the Bill are "what [he understood] to be an agreed arrangement between all of the parties in this matter."[99]

Chapter 149 took effect immediately upon its creation on June 11, 2003.[100] Soon after the law was enacted, Crown moved for summary judgment, and the trial court granted the motion.[101] John Robinson died days later.[102]

B. Appeal

On appeal, Barbara Robinson argued that Chapter 149 was an unconstitutional retroactive law because it extinguished her vested rights (i.e., her cause of action against Crown).[103] The 14th Texas Court of Appeals disagreed, and noted that the jurisprudence of retroactive laws was unclear as to whether Chapter 149 was valid.[104]

The appeals court reasoned that a retroactive law's validity did not depend on whether it affected a vested right.[105] Rather, its constitutionality hinged on whether the law was an appropriate use of the Legislature's police power.[106] The court asserted that a valid exercise of such power depends on (1) whether a law is appropriate and reasonably necessary to accomplish a purpose within the scope of such power, and (2) whether a law is reasonable by not being arbitrary and unjust, or whether the effect on individuals is unduly harsh and out of proportion to the means it seeks to accomplish.[107]

The court found that Chapter 149 was enacted to protect the financial viability of Texas businesses, which was a lawful use of Legislative authority.[108] Also, it noted that the law limited any detrimental impact on plaintiffs, such as the Robinsons, because it allowed them to collect from many other potential defendants.[109] Thus, the court upheld the summary judgment ruling.[110]

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99. *Id.* at 132.

100. *Id* at 131. The Court also noted that the Texas Legislature was well aware that Chapter 149 would specifically benefit Crown. *Id.* at 131-32.

101. *Id.* at 132-33.

102. *Id.* at 133.

103. *Id.*

104. *Robinson,* 335 S.W.3d at 133.

105. *Id.*

106. *Id.* at 133-34 (citing Robinson v. Crown Cork & Seal Co., 251 S.W.3d 520, 526 (Tex. App. 2006); Barshop v. Medina Cnty. Underground Water Conservation Dist., 925 S.W.2d 618, 633–34 (Tex. 1996)).

107. *Robinson*, 335 S.W.3d at 134.

108. *Id.*

109. *Id.*

110. *Id.* However, the dissent argued that the analysis of Ms. Robinson's claim should

C. Supreme Court of Texas Review

Upon appeal to the Supreme Court of Texas, Ms. Robinson argued that the appeals court should have found Chapter 149 unconstitutional because it eliminated her vested right to sue.[111] Conversely, Crown maintained that the appeals court correctly deemed Chapter 149 a reasonable exercise of police power.[112] Both arguments were supported by Texas case law.[113]

1. Prior Analyses of Retroactive Laws

The majority began its analysis by attempting to reconcile the muddled jurisprudence surrounding retroactive laws.[114] It described a legal history that generally disfavored retroactive laws, as has been recognized by the country's highest court.[115] Traditionally, this "solid foundation of American law" views such policies as "generally unjust," and "neither accord with sound legislation nor with the fundamental principles of the social compact."[116]

However, retroactive laws must be carefully scrutinized, as a broad rejection of policies that affect prior issues would be unworkable.[117] The term "'retroactive' simply means '[e]xtending in scope or effect to matters which have occurred in the past; retrospective', and 'retrospective', even more simply, means '[d]irected to, contemplative of, past time.'"[118] Thus, prohibiting all laws that impose a retroactive or retrospective effect would "embarrass legislation on existing or past rights and matters, to such an extent as to create inextricable difficulties."[119]

The Court explained that the traditional presumption against retroactive laws has two purposes: protecting society's reasonable

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have relied on the fact that Chapter 149 extinguished her vested right to sue Crown. *Id.* at 134–35. It claimed that, "[b]ecause Mrs. Robinson's claims accrued and were pending in the trial court when [Chapter 149] took effect, Mrs. Robinson held vested rights in these claims that could not be destroyed." *Id.* at 134.

111. *Id.*

112. *Id.* at 136.

113. *Robinson,* 335 S.W.3d at 136.

114. *See id.* ("We conclude that the history and purpose of the constitutional provision [regarding retroactive laws] require a fuller statement of its proper application than we have previously given.").

115. *Id.*

116. *Id.* (quoting Kaiser Aluminum & Chem. Corp. v. Bonjorno, 494 U.S. 827, 855-56 (1990) (Scalia, J., concurring)).

117. *Id.* at 138.

118. *Id.* (citing 13 THE OXFORD ENGLISH DICTIONARY 796, 801 (2nd ed. 1989)).

119. *Robinson,* 335 S.W.3d at 138 (citing DeCordova v. City of Galveston, 4 Tex. 470, 475-76 (1849)).

expectations regarding laws, and safeguarding against abuses of legislative power.[120] It noted that constitutional provisions that limit retroactive laws should support these aims.[121] However, past application of such principles has not resulted in consistent rulings.[122]

In its 1849 *DeCordova v. City of Galveston* decision, the Texas Supreme Court reasoned that retroactive laws were unconstitutional when they "destroy or impair" a vested right.[123] It further clarified that a law that impairs a *remedy* does not necessarily impair a *right*.[124] Chief Justice Hemphill explained that

> unless the remedy be taken away altogether, or encumbered with conditions that would render it useless or impracticable to pursue it. Or, if the provisions regulating the remedy, be so unreasonable as to amount to a denial of right . . . or if an attempt were made by law, either by implication or expressly, to revive causes of action already barred; such legislation would be retrospective within the intent of the prohibition, and would therefore be wholly inoperative.[125]

Conversely, in 1971 the court reasoned that "[r]emedies are the life of rights" and that "the two terms are often inseparable."[126] This inconsistency highlighted a challenge with analyzing retroactive laws solely based on whether they affect a vested right.[127]

In two subsequent decisions, the court upheld retroactive laws that impaired vested rights because such policies were valid exercises of the State's police power.[128] In *Barshop v. Medina County Underground Water Conservation District*, the court reviewed a law that restricted citizens' ability to extract water from the Edwards Aquifer.[129] Prior to the policy's creation, landowners enjoyed unlimited use of such water.[130] However, the law retroactive

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120. *Id.* at 139.
121. *Id.*
122. *See id.* at 139-45.
123. *Id.* at 139-40 (citing *DeCordova,* 4 Tex. at 479).
124. *Id.* at 140 (citing *DeCordova,* 4 Tex. at 480).
125. *Robinson,* 335 S.W.3d at 140 (quoting *DeCordova*, 4 Tex. at 480).
126. *Id.* (quoting Tex. Water Rights Comm'n v. Wright, 464 S.W.2d 642, 648-49 (Tex. 1971).
127. *Id.*
128. *Id.* at 143 (citing Barshop v. Medina Cnty. Underground Water Conservation District, 925 S.W.2d 618 (Tex. 1996); In re: A.V., 113 S.W.3d 355 (Tex. 2003)).
129. *Id.* (citing *Barshop*, 925 S.W.2d at 624).
130. *Id.* (citing *Barshop*, 925 S.W.2d at 634).

ly impaired citizens' interests by establishing water access based on historic use, and without providing an opportunity for individuals to preserve their rights.[131]

Nonetheless, the court reasoned that the Texas constitution did not absolutely prohibit such laws.[132] The Legislature's authority to promote public safety (i.e., access to water) can often prevail over a claim that a law is unconstitutionally retroactive.[133] Moreover, the *Robinson* majority emphasized that the statute at issue in *Barshop* was supported by legislative findings that limitations on water access were necessary to protect aquatic life, domestic and municipal water supplies, the operation of existing industries, and Texas's economic development.[134]

In another case, *In re A.V.*, the court upheld a statute that allowed termination of parental rights if a parent knowingly engaged in criminal conduct and was incarcerated for two or more years.[135] It analyzed whether the law was unduly retroactive, as applied to a parent who was incarcerated before the law was enacted.[136] The Majority cited *Barshop*, and explained that the Legislature's authority to safeguard the public, such as by protecting children of incarcerated parents, justified the policy.[137] Further, the court explained that a retroactive law is not unconstitutional if it "does not upset a person's settled expectations in reasonable reliance upon [it]."[138] In other words, incarcerated parents cannot reasonably expect that the government would fail to protect their children while they are imprisoned.[139]

2. Review of Chapter 149

The court utilized this analysis in addressing whether Chapter 149 was unconstitutional solely because it impaired Robinson's vested right to sue Crown.[140] However, following such logic, Robinson's right to sue would receive protection, while the State's ability to regulate groundwater and protect children would not.[141] Such

131. *Robinson,* 335 S.W.3d at 143 (citing *Barshop*, 925 S.W.2d at 624).
132. *Id.* (citing *Barshop*, 925 S.W.2d at 633-34).
133. *Id.* (citing *Barshop*, 925 S.W.2d at 634).
134. *Id.* at 143–44. (citing *Barshop*, 925 S.W.2d at 634).
135. *Id.* at 144. (citing *In re A.V.*, 113 S.W.3d at 355).
136. *Id.* (citing *In re A.V.*, 113 S.W.3d at 360).
137. *Robinson,* 335 S.W.3d at 140 (citing *Barshop*, 925 S.W.2d at 361).
138. *Id.* (citing *In re A.V.*, 113 S.W.3d at 361).
139. *Id.*
140. *Id.* at 148-49.
141. *Id.* at 144-45.

a difficult proposition, the majority noted, established the fundamental failure of analyses that rely solely on whether a law impairs a vested right.[142]

On the other hand, affording heavy deference to the Legislature's police power is also a flawed framework.[143] While the Legislature deemed *Barshop*'s groundwater policy and *A.V.*'s child-care law necessary, "necessity alone cannot justify a retroactive law."[144] Instead, the majority explained that the statutes reviewed in *Barshop* and *A.V.* were upheld because they did not unduly affect citizens' settled expectations regarding water rights or child welfare.[145]

Given the difficulty of utilizing standards which prioritize either vested rights or legislative power, the Court found that an evaluation of retroactive laws must consider three factors: "[(1)] the nature and strength of the public interest served by the statute as evidenced by the Legislature's factual findings; [(2)] the nature of the prior right impaired by the retroactive statute; and [(3)] the extent of the impairment" of the right.[146] The court also cautioned that

> [t]here must be a compelling public interest to overcome the heavy presumption against retroactive laws. To be sure, courts must be mindful that statutes are not to be set aside lightly. . . . But courts must also be careful to enforce the constitutional prohibition [against retroactive laws] to safeguard its objectives.[147]

Under this framework, laws which "merely affect remedies or procedure, or that otherwise have little impact on prior rights, are usually not unconstitutionally retroactive."[148] Nonetheless, the court warned that a constitutional analysis of such laws must consider all three of the aforesaid factors.[149]

The majority first analyzed Chapter 149 by examining the nature of Ms. Robinson's impaired rights, as well as the law's impact on them.[150] The policy did not directly restrict Ms. Robinson's

142. *Id.* at 145.
143. *Robinson,* 335 S.W.3d at 145.
144. *Id.*
145. *Id.*
146. *Id.*
147. *Id.* at 146.
148. *Id.*
149. *Robsinon,* 335 S.W.3d at 146.
150. *Id.* at 147.

action regarding asbestos injuries.[151] Instead, it mandated that Texas courts apply Texas law to successor asbestos injury cases, and also limited a defendant's liability.[152] In sum, Chapter 149 prevented Ms. Robinson from suing Crown in Texas, a cause which she had a substantial basis for bringing.[153]

Crown asserted that the Robinsons could not have reasonably expected a company such as Mundet to pay all asbestos claims, or to merge with a larger company like Crown.[154] However, the majority rejected this argument, reasoning that the prohibition against retroactive laws does not seek to protect such expectations.[155] The Robinsons could have reasonably assumed that a law allowing their recovery would not be amended after they filed their initial lawsuit.[156]

The court also dismissed Crown's assertion that the Robinsons sued many defendants, and would likely recover all of their damages from such parties.[157] It refused to speculate as to other settlements, and noted that Chapter 149 "disturbs settled expectations" by either reducing Ms. Robinson's recovery, or forcing other defendants to absorb Crown's liability.[158] Therefore, the majority found that Chapter 149 substantially impacted Ms. Robinson's interest in her well-recognized cause of action.[159]

The court then analyzed whether Chapter 149 served a public interest, based on the Legislature's findings.[160] Crown claimed the law provided necessary relief to Texas companies that have been bankrupted by asbestos litigation.[161] However, the Legislature did not recognize such a benefit when it enacted Chapter 149.[162] The court found that lawmakers identified this advantage with regard to *other policies*; however, the legislative history surrounding Chapter 149 indicated that it was created to help Crown, and no other company.[163]

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151. *Id.*
152. *Id.*
153. *Id.* at 148. "[C]laims like the Robinsons' have become a mature tort, and recovery is more predictable, especially when the injury is mesothelioma, a uniquely asbestos-related disease. . . . Their right to assert them was real and important, and it was firmly vested in the Robinsons." *Id.*
154. *Id.*
155. *Robinson,* 335 S.W.3d at 148.
156. *Id.*
157. *Id.*
158. *Id.* at 148-49.
159. *Id.* at 149.
160. *Id.*
161. *Robinson,* 335 S.W.3d at 149.
162. *Id.*
163. *Id.*

The majority conceded that Texas would benefit from reduced employer liability in situations such as these.[164] However, it emphasized that the Legislature "made no findings to justify Chapter 149."[165] Even the statement by the statute's House sponsor "fails to show how the legislation serves a substantial public interest."[166] Moreover, the court reasoned that any benefit realized by Chapter 149 would not equate to the public interests addressed in *Barshop* and *A.V.*[167]

The court additionally noted that under Chapter 149, the burden faced by the Robinsons was light, as compared to the large financial benefit realized by Crown.[168] Under the law, asbestos victims could still seek retribution from a host of defendants, while Crown received protection from potentially debilitating lawsuits.[169] However, as the majority explained, "an important reason for the constitutional prohibition against retroactive laws is to preempt this weighing of interests absent compelling reasons."[170] Therefore, the Court found that the public interest served by Chapter 149 was slight.[171] Under its new framework, the majority held that Chapter 149, as applied to the Robinsons' common-law claims, was unconstitutionally retroactive.[172]

IV. ANALYSIS OF CHAPTER 66

At first glance, a retroactivity challenge to Chapter 66 seems daunting. The Texas Supreme Court has invalidated such laws in only four cases.[173] Further, any analysis of Chapter 66 will presume that the law is constitutional.[174] However, given the correct set of facts, a security interest holder may be able to demonstrate that Chapter 66 is an unconstitutionally retroactive law under *Robinson*.

Before we begin this analysis, it is important to note that many security interests include intricate terms.[175] Mortgages "have be-

164. *Id.*
165. *Id.*
166. *Id.*
167. *Robinson,* 335 S.W.3d at 149.
168. *Id.* at 150.
169. *See id.*
170. *Id.* ("Indeed, it is precisely because retroactive rectification of perceived injustice seems so reasonable and even necessary, especially when there are few to complain, that the constitution prohibits it.").
171. *Id.*
172. *Id.*
173. Tenet Hosps., Ltd. v. Rivera, 445 S.W.3d 698, 706-09 (Tex. 2014).
174. Union Carbide Corp. v. Synatzske, 438 S.W.3d 39, 55 (Tex. 2014).
175. *See* PHILLIP T. KOLBE, GAYLON E. GREER, & HENRY G. RUDNER, III, REAL ESTATE FINANCE 106-07 (2003) (listing examples of some common mortgage contract terms).

come complex documents whose legal import is camouflaged by archaic wording and by diverse statutory provisions."[176] Such provisions may, for instance, forbid property owners from executing leases, or require a lienholder's consent prior to the execution of a lease.[177] In these cases, Chapter 66 may have little, if any, effect on a foreclosure. Therefore, any possible challenge to the law will depend on the specific terms of the security instrument at issue.

A. Nature of the Right Affected by Chapter 66

Assuming a security instrument does not prohibit leasing, a constitutional challenge to Chapter 66, as applied to a security interest holder, would examine the nature of the right impaired by the law.[178] Chapter 66 has the potential to make a lien, which is a legally protected property interest,[179] significantly less valuable.[180] A lender who issued a mortgage prior to the creation of the law may argue that a junior lease diminished the value of mortgaged property, and prevented him from recovering his interest pursuant to a foreclosure, or a later sale.

Stated differently, lenders may assert that the retroactive impact of Chapter 66 on some liens is exactly the type of harm that courts have sought to protect against.[181] The law disturbed lenders' reasonable expectation that a foreclosure would terminate subsequently executed leases, and was an overreach of legislative authority.[182] Thus, a court may find that such an impact is worthy of review under *Robinson*.

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176. *Id*. at 106.

177. *See* DANIEL F. HINKEL, ESSENTIALS OF PRACTICAL REAL ESTATE LAW 178 (5th ed. 2011) (noting that a "mortgage may contain . . . numerous other provisions designed to protect the lender in every conceivable situation"); Roger E. Beecham, *Minerals, Transfers and Encumbrances*, SHANNON GRACEY (2009), http://www.shannongracey.com/component/content/article/102 (describing how many deeds of trust include provisions which prevent the leasing of mineral interests). For instance, a standard term in a Fannie Mae or Freddie Mac mortgage prohibits a borrower from leasing the mortgaged property without the prior approval of the lender. DAVID H. CARPENTER, CONG. RESEARCH SERV., 7-5700, HOW FANNIE MAE AND FREDDIE MAC TYPICALLY HANDLE REQUESTS TO CREATE OIL, GAS, OR MINERAL LEASES ON RESIDENTIAL PROPERTIES 2-3 (2011).

178. *Robinson*, 335 S.W.3d at 145.

179. Sec. State Bank & Trust v. Bexar Cnty., 397 S.W.3d 715, 721 (Tex. App. 2012), *pet. for rev. denied*; Nikmaram v. Sec. State Bank & Trust, 2013 Tex. LEXIS 668 (Tex. 2013), *reh'g for rev. denied*, 2014 Tex. LEXIS 72 (Tex. 2014) (citing Mennonite Bd. of Missions v. Adams, 462 U.S. 791, 798 (1983)); Sadeghian v. City of Denton, 49 S.W.3d 403, 406 (Tex. App. 2000), *rev. denied*, 2001.

180. *See infra* Part IV(B).

181. *See Robinson*, 335 S.W.3d at 139.

182. *See id.*

However, a roadblock for security interest holders is the *Robinson* majority's somewhat ambiguous discussion of vested rights and remedial laws. The court found that the right affected by an unconstitutionally retroactive law need not be a *vested* right.[183] It explained that a focus on vested rights is "too much in the eye of the beholder to serve as a test for unconstitutional retroactivity."[184] Nonetheless, the court did not specify which rights are worthy of protection from retroactivity.[185]

Moreover, the Majority frequently emphasized that Ms. Robinson's ability to sue Crown was a vested right.[186] The court described Ms. Robinson's "firmly vested" right to assert her "mature tort," which had a "substantial basis in fact," and provided for a "predictable" recovery.[187] Therefore, given the somewhat speculative nature of property values and foreclosure sales,[188] a court that reviews a Chapter 66 challenge may find that a lien interest in foreclosed property is not a right that *Robinson* was intended to defend.[189]

Furthermore, the *Robinson* court suggested that under its framework, "changes in the law that merely affect remedies or procedure . . . are usually not unconstitutionally retroactive."[190] Though the court reasoned that remedies and rights are often intertwined,[191] the court recognized that laws that merely regulate remedies do not necessarily impair rights.[192]

In this regard, Chapter 66 still allows security interest holders to receive funds from a foreclosure sale, albeit under different circumstances. Also, lenders have the option to file a deficiency judgment action against a homeowner if a foreclosure sale yields

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183. *Id.* at 143.

184. *Id.*; *see also* JANICE C. MAY, THE TEXAS STATE CONSTITUTION 73 (2011) ("[C]ourts have ruled that a retroactive law is invalid if it impairs or destroys a 'vested right.' But they have been unable to define 'vested right' as an objective or independent concept.").

185. Hyeongjoon David Choi, Robinson v. Crown: *Formulation of a New Test for Unconstitutional Retroactivity or Mere Restatement of Century-Old Texas Precedents?*, 64 BAYLOR L. REV. 309, 334 (2012).

186. *Id.*

187. *Robinson*, 335 S.W.3d at 148.

188. *See* Anthony Pennington-Cross, *The Value of Foreclosed Property*, 28 J. REAL EST. RES. 193, 197-99 (2006) (discussing various reasons why foreclosed property may sell at a discount).

189. *See* Garrett Operators, Inc. v. City of Houston, 461 S.W.3d 585, 597-98 (Tex. App. 2015) (denying a billboard operator's retroactivity challenge to Houston's sign code, partially because the operator failed to secure a necessary permit and thus did not have a "vested interest" in converting his sign).

190. *Robinson*, 335 S.W.3d at 146.

191. *Id.* at 140.

192. *Id.* ("[I]n applying the prohibition against retroactivity, a law that impairs a remedy does not impair a right, except sometimes.").

an amount lower than a landowner's outstanding debt,[193] though such suits often have a very low success rate.[194] Therefore, a court may find that Chapter 66 is primarily remedial, and immune from a retroactivity challenge.

Such analysis finds support in Texas case law. For instance, in *Rey v. Acosta*,[195] a case decided nine years prior to *Robinson*, the El Paso Court of Appeals reviewed a situation which is comparable to a foreclosure under Chapter 66. In 1985, the Reys purchased land from Acosta, a real estate broker who financed the transaction.[196] In connection with the purchase, the Reys executed a $45,000 lien note and agreed to make monthly payments to Acosta.[197] The note expressly waived notice of acceleration in the event of default.[198]

When the Reys failed to make several payments, Acosta immediately declared the note due, and successfully sued the Reys for breach of contract.[199] On appeal, the Reys argued that Texas Property Code Section 51.002, which became effective in 1988 (three years after they executed their lien note), entitled them to notice and a 20-day period to cure their default.[200] They claimed the statute voided the waiver of notice provision contained in their note.[201] Thus, the court analyzed whether the statute applied to a contract that was executed prior to the law's effective date.[202]

The court recognized the Texas Constitution's prohibition on retroactive laws.[203] However, it cautioned that remedial laws that do not disturb vested rights may be applied retroactively.[204] The court explained that litigants have no vested rights in remedies, and "[r]emedial legislation not entirely eliminating a preexisting remedy applies retroactively from the effective date of the statute and is not an infringement on vested rights."[205]

The court also reasoned that section 51.002 was permissible because it did not prevent Acosta from accelerating her note, but merely altered her procedural means of enforcing it.[206] There-

193. PlainsCapital Bank v. Martin, 459 S.W.3d 550, 555 (Tex. 2015).

194. Kimbriell Kelly, *Lenders Seek Court Actions Against Homeowners Years After Foreclosure*, WASH. POST (June 15, 2013), http://wpo.st/mbvD1.

195. 860 S.W.2d 654 (Tex. App. 1993).

196. *Id.* at 656.

197. *Id.*

198. *Id.*

199. *Id.*

200. *Id.* at 656-57.

201. *Rey*, 860 S.W.2d at 656-57.

202. *Id.* at 657.

203. *Id.*

204. *Id.*

205. *Id.*

206. *Id.* at 657-58.

fore, the law did not alter any substantive right, and Acosta was required to abide by the stature in her foreclosure proceeding.[207]

Nonetheless, while Chapter 66 may primarily affect a lender's remedy, a court that follows *Robinson* must balance this factor with the extent of the law's impairment, as well as its public benefit.[208] These factors have the potential to heavily favor security interest holders.

B. Extent of the Law's Impairment

If a subsequent purchaser considers a junior lease to be a benefit, any harm caused by Chapter 66 may be difficult, or impossible, to articulate.[209] A producing lease coupled with a lucrative energy market may bring much added value to the property it affects. If leased property is part of a pooled unit, landowners may receive royalty payments without having to endure drilling operations on their property.[210] Also, a lease may soon expire after a foreclosure sale, and thus a prospective purchaser may have little cause for concern.

On the contrary, a lease maintained under Chapter 66 could significantly decrease property value, and accordingly, the amount a potential purchaser would offer for the land.[211] Such a scenario would surely threaten a mortgagee's ability to recoup the value of their security instrument pursuant to a foreclosure sale.[212]

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207. *Rey*, 860 S.W.2d at 658.

208. Under the *Robinson* test, remedial statutes are "usually not unconstitutionally retroactive"; however, such consequence "cannot substitute for the test itself." Robinson v. Crown Cork & Seal Co., 335 S.W.3d 126, 146 (Tex. 2010); *see* Tenet Hosps., Ltd. v. Rivera, 445 S.W.3d 698, 708 (Tex. 2014) (noting that, despite finding that a statute provides a compelling public interest, the Court must balance such factor against the nature of the prior right and the extent to which the law impairs that right).

209. *See, e.g.*, Kratovil, *supra* note 8, at 10-11.

210. *See* JOSEPH SHADE, PRIMER ON THE TEX. LAW OF OIL AND GAS 117, 117-29 (14th ed. 2012) (defining "pooling," and explaining various instances where tracts may be included into a pooled unit).

211. *See* Nat. Gas Pipeline of Am. v. Pool, 124 S.W.3d 188, 192 (Tex. 2002) ("In Texas it has long been recognized that an oil and gas lease is not a "lease" in the traditional sense of a lease of the surface of real property. In a typical oil or gas lease, the lessor is a grantor and grants a fee simple determinable interest to the lessee, who is actually a grantee. Consequently, the lessee/grantee acquires ownership of all the minerals in place that the lessor/grantor owned and purported to lease, subject to the possibility of reverter in the lessor/grantor. The lessee's/grantee's interest is "determinable" because it may terminate and revert entirely to the lessor/grantor upon the occurrence of events that the lease specifies will cause termination of the estate."); Kimberly Luff Wakim & Justin C. Harding, *The Legal and Business Risks of Developing an Oil and Gas Leasehold Interest Without Obtaining Lien Subordination Agreements*, 19 E. MIN. L. INST. 37, 63-64 (1999) ("If . . . a parcel of land is subject to an existing oil and gas lease, the buyer of the land receives something less than the entire bundle of rights associated with the land, which is less valuable than the entire bundle of rights.").

212. Kimberly Luff Wakim & Justin C. Harding, *The Legal and Business Risks of De-*

Oil and gas operations can lower a property's appeal. Anyone familiar with drilling rigs is aware that they are large and noisy, as they operate "numerous pieces of enormous equipment."[213] Such activity often occurs 24 hours a day, in all types of weather.[214] Residents living near areas where mineral operations are common have complained of exposure to "toxic chemicals and noxious odors . . . constant traffic, dust, and noise" which "radically altered" the character of their property.[215] In relation to the equipment and manpower necessary for drilling operations,[216] individuals located in the vicinity of drill sites have complained about issues such as large trucks damaging nearby roads and endangering local residents.[217]

Recently, Texas plaintiffs have successfully proven that such operations can considerably lower property values. In April 2014, a Dallas jury awarded a family $3 million in damages, including $275,000 for decreased property value, regarding oil and gas operations near their 40-acre ranch.[218] Also, a 2010 study of residential property near Flower Mound, Tex., concluded that land normally valued at $250,000 or more could experience a three to fourteen percent decrease in value if it is located near an oil or gas well.[219] Moreover, in 2010, a Wise County, Tex., family saw the appraised value of their home and 10-acre property fall over seventy percent (from $257,330 to $75,240) as a result of drilling operations on the property.[220]

Given the current energy market, landowners may also receive paltry royalty payments, which would further affect the desirability of leased property.[221] New drilling advances have greatly in-

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veloping an Oil and Gas Leasehold Interest Without Obtaining Lien Subordination Agreements, 19 E. MIN. L. INST. 37, 62 (1999).

213. PAUL BOMMER, A PRIMER OF OILWELL DRILLING 1 (2008).

214. *Id.* at 37.

215. Cerny v. Marathon Oil Corp., 480 S.W.3d 612, 615 (Tex. App. 2015).

216. BOMMER, *supra* note 213, at 93 (explaining procedures for transporting and assembling rig components).

217. R.R. Comm'n of Tex. v. Tex. Citizens for a Safe Future & Clean Water, 336 S.W.3d 619, 622 (Tex. 2011).

218. Mica Rosenberg, *Texas Judge Upholds $3 Million Fracking Verdict*, REUTERS (July 15, 2014), http://reut.rs/W8goB2.

219. Integra Realty Resources, *Flower Mound Well Site Impact Study*, Aug. 17, 2010, at 9, http://www.flower-mound.com/DocumentCenter/View/1456.

220. Peggy Heinkel-Wolfe, *Drilling Can Dig into Land Value*, DALL. MORNING NEWS (Sept. 18, 2010), http://www.dallasnews.com/incoming/20100918-Drilling-can-dig-into-land-value-9345.ece.

221. James Osborne, *As Oil and Gas Prices Shrivel, Texans' Royalties are Drying Up Too*, DALL. MORNING NEWS (Sept. 11, 2015), http://www.dallasnews.com/business/energy/20150911-as-oil-gas-prices-shrivel-royalties-are-drying-up-too.ece; *see* Jennifer Hiller, *Oil Skewing Mineral Values; City, County Budgets Feel Pinch of Dropping Prices*, SAN ANTONIO EXPRESS NEWS (Feb. 8, 2015) (describing how property values in many Texas counties have

creased the availability of natural gas, which has decreased in value by about fifty percent since 2010.[222] Similarly, oil has consistently sold for less than $50 per barrel in 2015, whereas the five-year average in 2014 was about $93 per barrel.[223] Thus, if a lease provides for a three-sixteenths (18.75%) royalty, a landowner loses roughly $0.19 per barrel of oil produced, each time the price of oil falls by one dollar per barrel.[224] If an oil well produces 5,000 barrels a year, each $1 price decrease subjects a mineral owner to a $950 annual loss.[225] With some analysts predicting oil prices reaching $20 per barrel in 2016,[226] prospective purchasers may find that any royalty received under an existing lease is not worth the hassle of tolerating nearby drilling operations.

Chapter 66 may further encourage defaulting landowners to secure leases containing unfavorable terms.[227] Under Chapter 66, lessees and landowners know that oil and gas leases will survive foreclosure sales.[228] This knowledge may provide defaulting property owners with an opportunity to execute leases that provide for a high upfront bonus payment, but a low royalty.[229] The property owner (who has little incentive to bargain for favorable lease terms) would receive a substantial one-time payment, while a potential foreclosure sale purchaser will be bound by low royalty payments throughout the lease term.[230]

Additionally, Chapter 66 may impose future legal obligations on potential purchasers. As discussed previously in this article, the statute dictates that a foreclosure sale will terminate surface provisions under an existing lease, while the lease itself survives the sale.[231] Also, Chapter 66 does not address situations where mineral operations have begun prior to the foreclosure sale.[232] However, Texas law allows lessees to access the mineral estate underlying

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decreased due to the falling price of oil).

222. Osborne, *supra* note 221; *see* Clifford Krauss, *Low Oil Prices Pose Threat to Texas Fracking Bonanza*, N.Y. TIMES (Aug. 14, 2015), http://nyti.ms/1IQTfV6.

223. Osborne, *supra* note 221.

224. *Id.*

225. *See id.*

226. Jonathan Chew, *Oil Prices Could Drop to $20 a Barrel Next Year*, FORTUNE (Nov. 23, 2015), http://fortune.com/2015/11/23/oil-prices-20-barrel.

227. *See* Moore, *supra* note 13 ("The purchaser at the foreclosure sale—usually the foreclosing lender—must take the land subject to the lease, regardless of the terms of that lease.").

228. *See* TEX. PROP. CODE ANN. § 66.001 (West 2016).

229. *See* Moore, *supra* note 13 ("[T]he foreclosure purchaser will be stuck with the mineral lease, good or bad.").

230. *See id.*

231. *See* TEX. PROP. CODE ANN. § 66.001(c) (West 2016).

232. *See Id.* § 66.001.

leased property.[233] Thus, future surface use provisions may be the subject of negotiation, or litigation, between subsequent purchasers and lessees.

This reality poses a problem for security interest holders, as many potential foreclosure sale purchasers (often the lender itself, or other lenders) have little interest in negotiations regarding mineral leases.[234] Commentators have identified this issue as a "serious problem" under leases covering large tracts of land, or any tract where wells have been drilled. [235]

In sum, leases affected by Chapter 66 have the potential to dissuade purchasers from acquiring certain property. Thus, lenders who issued mortgages with the expectation that junior leases will be extinguished by a foreclosure may have a strong argument that Chapter 66 significantly affects their lien interests.

C. Public Benefit of Chapter 66

The *Robinson* court explained that, "[t]here must be a compelling public interest to overcome the heavy presumption against retroactive laws."[236] To that effect, a retroactivity analysis must consider "the nature and strength of the public interest served by the statute *as evidenced by the Legislature's factual findings*."[237]. Thus, the majority examined the Legislature's rationale, or lack thereof, regarding the public benefit of Chapter 149.[238] The Legislature's relative lack of support regarding the public interest served by Chapter 66 also suggests that the law may not provide a substantial public benefit.[239]

House Bill No. 2207 was placed on the local and uncontested calendar, which allowed it to progress through the House of Representatives without being debated on the House floor.[240] In addition

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233. Texas law has long recognized that under oil and gas leases, lessees have the right to reasonably use the surface estate for the purpose of developing minerals. JOSEPH SHADE, PRIMER ON THE TEX. LAW OF OIL AND GAS 28 (14th ed. 2012); *see* Charles Sartain, *Vetoed Foreclosure Bill Will Return*, ENERGY AND THE LAW (July 26, 2013), http://www.energyandthelaw.com/2013/07/26/vetoed-foreclosure-bill-will-return (indicating that in certain circumstances under the provisions in House Bill No. 2590, which was almost identical to Chapter 66 and was vetoed in 2013, the loss of a lessee's surface rights may run contrary to the mineral estate's dominance).

234. *See* Glaze et al., *supra* note 12.

235. *Id.*

236. *Robinson*, 335 S.W.3d at 146; *see also* Union Carbide Corp. v. Synatzske, 438 S.W.3d 39, 57 (Tex. 2014).

237. *Robinson*, 335 S.W.3d at 145 (emphasis added).

238. *Id.* at 149-50.

239. *See id.*

240. H.B. 2207, 84th Leg. Reg. Sess. (Tex. 2015) (indicating that House Bill No. 2207 was "placed on [the] local & uncontested calendar" on May 20, 2015); Tex. Legis. Council,

to the lack of debate regarding the legislation, both the House Energy Resources Committee and the Senate Natural Resource and Economic Development Committee provide the following vague rationale for Chapter 66:

> Interested parties note that while the mineral estate is generally dominant in state law, in certain instances where the surface estate is severed from the mineral estate a foreclosure on a surface property can cause surface estate interests to subjugate the mineral estate. The parties further note that in these instances the lien holder of the surface estate can act to terminate a legal oil and natural gas lease for the mineral estate.[241]

House Bill No. 2207 amends current law relating to the foreclosure sale of property subject to an oil or gas lease. The legislative reports do not provide any further evidence of the law's public purpose. Assuming such analysis was intended to indicate that foreclosure sale terminations negatively impact energy production, the proffered rationale for Chapter 66 does not specify how the policy will benefit mineral owners, producers, or the Texas economy. Therefore, a court that analyzes Chapter 66 under *Robinson* may find that such legislative evidence "fails to show how the legislation serves a substantial public interest."[242] A court may also determine that the absence of legislative support regarding Chapter 66 prevents it from weighing how the law affects various parties.[243]

It is interesting to note that the rationale surrounding House Bill No. 2590, which was similar to Chapter 66, but was vetoed in 2013, contained a much more detailed description of legislative intent.[244] The Bill Analysis from the House Committee on Energy Resources explained that parties involved in oil and gas leasing and production were concerned about a foreclosure's effect on certain land.[245] Lessees who attempted to operate on foreclosed prop-

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Guide to Texas Legislative Information (Revised), S. 84, at 7 (2015) (explaining the consideration of local and noncontroversial legislation, which is expedited because such legislation is usually not debated and floor amendments are prohibited).

241. Tex. H.R. Energy Res. Comm. Rep., C.S.H.B. 2207, S. 84-84R21670, Reg. Sess., at 1 (Tex. 2015).

242. *See Robinson*, 335 S.W.3d at 149 ("Even the statement by [Chapter 149's] principal House sponsor fails to show how the legislation serves a substantial public interest.").

243. *See id.* at 150.

244. Tex. H.R. Energy Res. Comm. Rep., C.S.H.B. 2590, S. 83-83R26599, Reg. Sess., at 1 (Tex. 2013).

245. *Id.*

erty often risked trespass actions.[246]

The committee's analysis also noted that wells proposed on mortgaged property may not be developed and produced because banks or federal agencies, which typically purchase property through foreclosure sales, are rarely interested in leasing land.[247] Because such entities can own foreclosed property for many years, Texas mineral producers faced growing uncertainty regarding their operations.[248] The analysis also explained that the law was necessary to protect neighboring mineral owners whose land may be included within the same pooled unit as the foreclosed property.[249]

Nonetheless, just as the *Robinson* court refused to consider the public benefit of Chapter 149, which the Legislature addressed in other contexts,[250] a review of Chapter 66 will likely refrain from considering the analysis of a vetoed law. Though the Texas economy, as well as mineral producers and landowners, may benefit from an increase in mineral production under Chapter 66, the Legislature's failure to articulate such advantages may persuade a court to ignore these matters.[251]

On the other hand, the *Robinson* majority frequently emphasized the fact that Chapter 149 was enacted solely to benefit Crown.[252] If a court broadly interprets the Legislature's findings regarding Chapter 66, it may find the law was enacted to improve the Texas economy by promoting mineral exploration and development. If so, it may find that such effect significantly distinguishes Chapter 66 from Chapter 149.[253]

For instance, in *Tenet Hospitals, Ltd. v. Rivera*, the Texas Supreme Court analyzed a retroactivity challenge to the statute of repose set forth in the 2003 Medical Liability Act. In reviewing the law's public benefit, the majority noted that it was enacted as part of comprehensive legislation that sought to make healthcare affordable and accessible for Texans, without unduly restricting a claimant's rights.[254] The court cited legislative hearings and evidence that a spike in healthcare lawsuits affected malpractice

246. *Id.*
247. *Id.*
248. *Id.*
249. *Id.*
250. *Robinson*, 335 S.W.3d at 149.
251. *See id.* at 150 ("[W]e think that an important reason for the constitutional prohibition against retroactive laws is to preempt [a] weighing of [public] interests absent compelling reasons.").
252. *Id.* at 131-32, 149.
253. *See* Tenet Hosps., Ltd. v. Rivera, 445 S.W.3d 698, 706-09 (Tex. 2014).
254. *Id.* at 707.

insurance coverage, which ultimately affected medical care statewide.[255] The majority found that, unlike Chapter 149, the law was not intended to benefit a particular company, but benefitted many citizens and industries by increasing healthcare access.[256] Therefore, in contrast to Chapter 149, the court found that the statute promoted a "compelling public interest."[257]

It appears that the rationale surrounding Chapter 66 is subject to wide interpretation. The Legislature failed to explain why it enacted the law, which may persuade a court to find that it serves little public benefit under *Robinson*. However, unlike Chapter 149, there is no evidence to suggest that Chapter 66 was drafted to benefit a particular entity. Thus, if a fact-finder broadly interprets the Legislature's proffered rationale in enacting the law, it may find that Chapter 66 serves a worthy public goal.

V. CONCLUSION

Retroactive laws have been mistrusted throughout history. Traditional presumptions against such policies seek to defend the public's expectations regarding laws and safeguard against legislative abuses. However, these matters must be scrutinized, as many laws that affect past matters are necessary for an effective society. Chapter 66 has the potential to harm security interest holders who issued mortgages prior to the law's creation, and who expected that a foreclosure would terminate subsequently executed mineral leases. Nonetheless, the statute may not be considered an unconstitutionally retroactive law under the framework established by *Robinson*.

A successful constitutional attack of Chapter 66 will largely depend on the facts a security interest holder can demonstrate. One may be able to conclusively prove (i) that her impaired right to the value of her security interest is worthy of review, (ii) that a subsequently executed mineral lease has significantly lowered the value of mortgaged property, and (iii) that the legislative reasoning behind Chapter 66 fails to articulate a legitimate public benefit. If so, a Texas court may find that Chapter 66 is unconstitutionally retroactive.

On the other hand, a court may determine (i) that Chapter 66 is a primarily remedial statute, (ii) that a junior lease's effect on property value was minimal, or unable to be fully realized, or (iii)

255. *Id.*
256. *Id.*
257. *Id.*

that the Legislature's sparse findings supporting the law were nonetheless more persuasive than the reasoning examined in *Robinson*. In that event, security interest holders may have no choice but to accept Chapter 66 as settled law, and seek other methods of protecting their property rights.

THREE STEPS TO A GREENER TOMORROW: ENCOURAGING SOLAR ENERGY DEVELOPMENT IN THE SUNSHINE STATE

RYANN WHITE*

I. INTRODUCTION

The majority of electricity in the United States is produced using fossil fuels.[1] Burning these fuels emits greenhouse gases and other conventional pollutants that are harmful to human health and the environment.[2] Additionally, the extraction of these fuels can produce environmental and economic harms.[3] The impacts of fossil fuels and renewable alternative fuels are particularly important in Florida, where national and international choices of fuels can contribute to or lessen climate change impacts, and thus influence the pace of climate change and associated sea level rise.

Fuel choice is a substantial driver of climate change because burning fuels to generate electricity emits large quantities of greenhouse gases, such as carbon dioxide, methane, and nitrous oxide.[4] In 2014, 84% of U.S. greenhouse gases were energy related

* J.D., Florida State University College of Law, May 2016.

1. Adam Sieminski, *Fuels Used in Electricity Generation*, U.S. NUCLEAR INFRASTRUCTURE COUNCIL 2 (June 5, 2013), www.eia.gov/pressroom/presentations/sieminski_06052013.pdf.

2. U.S. ENERGY INFO. ADMIN., WHAT ARE GREENHOUSE GASES AND HOW MUCH ARE EMITTED BY THE UNITED STATES?, http://www.eia.gov/energy_in_brief/article/greenhouse_gas.cfm (last visited June 21, 2016) [hereinafter EIA Greenhouse Gases].

3. Bernadette Del Chiaro & Rachel Gison, *Government's Role in Creating a Vibrant Solar Power Market in California*, 36 GOLDEN GATE U. L. REV. 347, 349 (2006).

4. EIA Greenhouse Gases, *supra* note 2.

and 92% of those emissions were carbon dioxide released from fossil fuels.[5] The buildup of these gases "trap[s] heat from the sun and warm[s] the planet's surface" causing climate change.[6] Climate change can result in warmer temperatures, longer droughts, and more severe storms as well as rising seas.[7] Addressing the climate change problem is difficult for two reasons: first, the global nature of the problem creates a tragedy of the commons scenario, where we are "locked into a system of fouling our nest;"[8] and second, it is difficult for scientists to pinpoint specific events that are the result of climate change, leading many to write off climate change as a future problem. However, it is important to recognize that climate change is affecting us currently; shifting climate conditions are creating dangers for humans and the environment.[9] For example, ten of the hottest years on record since the systematic recording of U.S. temperatures began in the 1880s, have occurred since 1998.[10] Warmer temperatures can lead to an increase in frequency of destructive forces such as wildfires and tornadoes; while warmer ocean temperatures have been cited as a contributing factor to the creation of superstorms, like the recent Superstorm Sandy that caused losses of more than fifty billion dollars in 2012.[11]

In addition to greenhouse gases, burning fossil fuels also emits air pollutants, such as fine particulate matter and sulfur dioxide (a precursor of acid rain), which are dangerous to humans and the environment alike.[12] These pollutants are harmful to humans because they are linked to asthma, lung damage, and an increased risk of cancer.[13] The environment suffers as a result of acid rain, which is harmful to trees, vegetation, and aquatic life.[14]

Lastly, the continued need for fossil fuels and the pursuit of ever dwindling reserves can lead to the destruction of pristine wilderness, crucial wildlife habitat, and delicate ecosystems.[15]

The burning and extraction of fossil fuels could have particularly large impacts on Florida, which has a population of nearly twenty million people and is the third most populated state in the

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5. *Id.*
6. *Id.*
7. U.S. ENVTL. PROT. AGENCY, CLIMATE CHANGE INDICATORS IN THE UNITED STATES (2014), www.epa.gov/climatechange/indicators.
8. Garrett Hardin, *The Tragedy of the Commons*, 162 SCI. 1243, 1245 (1968).
9. Howard A. Latin, *Climate Change Mitigation and Decarbonizaiton*, 25 VILL. ENVTL. L.J. 1, 4 (2014).
10. *Id.* at 3.
11. *Id.*
12. ROBERT L. GLICKSMAN ET AL., ENVIRONMENTAL PROTECTION LAW AND POLICY 392 (Vicki Been et al. eds., 6th ed. 2011).
13. *Id.*
14. *Id.*
15. *See* Chiaro & Gison, *supra* note 3.

United States.[16] Florida also contributes to climate change because it relies heavily on fossil fuels to provide electricity to its populace; 62% of its net generation of electricity is provided by natural gas and another 21% is provided by coal.[17] One problem with Florida's reliance on natural gas is the way in which it is produced. Natural gas is mined using a process called hydraulic fracturing.[18] This process is performed by injecting water, sand, and chemicals underground at high pressure; the pressure fractures the shale rock formation and releases trapped natural gas.[19] In Florida, natural gas exploration of the Sunniland Trend, a geological formation stretching from Fort Myers to Miami, may require fracturing, and many Floridians are concerned.[20] Fracturing poses risks, including "well blowouts, surface leaks, and insufficient wastewater recycling."[21] The land covering the Sunniland Trend is composed of the sensitive Everglades, which is home to more than sixty threatened and endangered species, and the targeted rock provides drinking water for millions of Florida residents.[22] In addition to this onshore formation, scientists believe that large oil and gas deposits are located off Florida's western coast.[23] Tapping into these resources could lead to the use of large, unsightly drilling rigs, which could harm Florida's tourism-based economy and degrade the marine environment.

The problems surrounding natural gas support environmental groups' descriptions of "natural gas as [a] bridge fuel to a cleaner energy future with an increasing use of renewable wind and solar energy."[24] The idea behind renewable energy is to be able to produce electricity from a sustainable, nonfinite source of energy.[25] Wind turbines and solar panels use sustainable, nonfinite resources such as wind and sunlight to create electricity.[26] Unlike

16. U.S. CENSUS BUREAU, FLORIDA QUICKFACTS (July 2014), http://quickfacts.census.gov/qfd/states/12000.html (last visited May 11, 2016).

17. U.S. ENERGY INFO. ADMIN., STATE PROFILE AND ENERGY ESTIMATES: FLORIDA, http://www.eia.gov/state/?sid=FL (last visited May 11, 2016) [hereinafter EIA Florida Profile].

18. Terry W. Roberson, *Environmental Concerns of Hydraulically Fracturing a Natural Gas Well*, 32 UTAH ENVTL. L. REV. 67, 67 (2012).

19. *Id.*

20. Victoria Bekiempis, *Oil Prospectors Seek Their Next Big Strike in South Florida's Everglades*, NEWSWEEK, Feb. 27, 2014, http://www.newsweek.com/2014/02/28/oil-prospectors-seek-their-next-big-strike-south-floridas-everglades-245596.html.

21. Roberson, *supra* note 18, at 68.

22. Bekiempis, *supra* note 20.

23. EIA Greenhouse Gases, *supra* note 2.

24. Roberson, *supra* note 18, at 68.

25. Nat. Res. Def. Council, *Increase Renewable Energy*, http://www.nrdc.org/energy/renewables/ (last visited Feb. 10, 2016) [hereinafter NRDC *Renewable Energy*].

26. *Id.*

traditional fossil fuels, these fuel sources are free[27] and their use does not emit greenhouse gases or other air pollutants.[28] According to the U.S. Energy Information Administration, renewable electricity markets are expected to grow consistently over the next several years.[29] In fact, in his second inaugural address President Obama called for the United States to lead the transition to sustainable energy.[30]

Florida policymakers have recognized that "it is in the public interest to promote the development of renewable energy resources."[31] One promising form of renewable energy available in Florida is solar power.[32] However, despite being called the 'Sunshine State', Florida has yet to harness its abundance of solar energy.[33] Florida ranks third in the nation for solar potential but lags behind at fourteenth for cumulative solar capacity installed.[34] Solar installations can generate electricity on two different scales: large-scale, through the use of solar farms; or on a distributed-scale, using small rooftop systems on homes, businesses, and government buildings.[35] In 2009 and 2010, Florida Power & Light launched three solar power plants, making Florida the second largest producer of utility-scale solar power in the nation.[36] However, utility-scale power is very land intensive and requires new infrastructure to be built.[37] Also, the siting of plants can raise many issues, such as impacts on the environment and aesthetic concerns, which must be considered by the Public Service Commission when deciding whether to approve an installation and how to regulate it as a utility.[38] Rooftop solar installations, however, avoid many of these problems and create benefits in addition to reducing

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27. *See generally infra* Part III. Although wind and sunlight cost nothing, entities who wish to capture renewable energy must invest in infrastructure like solar panels or wind turbines, which despite rapidly decreasing costs, still present a non-negligible expense.

28. NRDC *Renewable Energy*, *supra* note 25.

29. U.S. ENERGY INFO. ADMIN., ANNUAL ENERGY OUTLOOK 2015 (2015), http://www.eia.gov/forecasts/aeo/.

30. Latin, *supra* note 9, at 4.

31. FLA. STAT. § 366.91 (2014).

32. SOLAR ENERGY INDUS. ASS'N, FLORIDA SOLAR, http://www.seia.org/state-solar-policy/florida (last visited May 6, 2016).

33. *Id.*

34. *Id.*

35. *See* U.S. DEP'T OF ENERGY, GLOSSARY OF ENERGY-RELATED TERMS: DISTRIBUTED GENERATION U.S. DEP'T OF ENERGY, http://energy.gov/eere/energybasics/articles/glossary-energy-related-terms#D (last visited May 6, 2016); U.S. DEP'T OF ENERGY, PHOTOVOLTAIC SYSTEM PRICING TRENDS 13 (2014), https://emp.lbl.gov/sites/all/files/presentation_1.pdf [hereinafter DOE Pricing Trends] (defining utility-scale PV systems).

36. Nat. Res. Def. Council, *Renewable Energy for America – Florida*, http://www.nrdc.org/energy/renewables/florida.asp (last visited Apr. 1, 2015).

37. *See generally* Uma Outka, *Siting Renewable Energy: Land Use and Regulatory Context*, 37 ECOLOGY L.Q. 1041, 1070-72 (2010) (discussing the legal framework for siting large-scale PV facilities).

38. *Id.* at 1058-60.

greenhouse gas emissions, air pollution, and the destruction of sensitive environmental areas.

Despite the benefits of distributed solar generation, large-scale utilities that enjoy a regulated monopoly status in Florida tend to oppose this type of generation — in part because they view it as competing with their business — whereas Florida policymakers note the importance of distributed resources.

This note analyzes the Florida energy market and suggests ways in which Florida can better stimulate the growth of distributed solar power. Part II discusses distributed solar energy generation. Part III analyzes different methods of overcoming the costs of solar generation. Part IV examines various obstacles to installation and implementation that solar power faces, including variable permitting requirements and local zoning codes. Finally, Part V suggests a three-step comprehensive approach to amend Florida's solar energy policy in order to encourage the development of distributed solar power.

II. DISTRIBUTED SOLAR ENERGY GENERATION

A. Benefits of Distributed Solar Resources

Distributed rooftop solar installations provide a range of benefits. First, these installations do not require a developer to acquire a large amount of land. Large utility-scale renewable installations often must acquire land from many different entities including the federal government, local governments, private landowners, and tribal landowners. The negotiation of these contracts, possible use of eminent domain proceedings, and the objections of nearby residents often draw out the land acquisition process and can put off an installation for years.[39] However, rooftop solar installations are much simpler because they only require one party, the private owner, to consent to the installation. Therefore, distributed solar electric systems can be installed quickly, without lengthy negotiations or court battles.

Secondly, unlike large-scale solar farms, rooftop solar electric systems do not require the installation of supporting infrastructure like transformers and transmission lines.[40] When solar panels

39. *See, e.g.,* Ten Taxpayer Citizens Grp. v. Sec'y Office of Envtl. Affairs, 24 Mass. L. Rptr. 539, 1 (Mass. Super. Ct. 2008) (challenging issuance of a Final Environmental Impact Report Certificate for proposed commercial wind energy facility); Pub. Emps. for Envtl. Responsibility v. Beaudreau, 25 F. Supp. 3d 67, 77 (D.D.C. 2014) (challenging administrative decisions approving various aspects of offshore wind energy project).

40. Troy A. Rule, *Renewable Energy and the Neighbors*, 2010 UTAH L. REV. 1223, 1237 (2010).

are added to existing buildings currently powered by local utilities, the infrastructure is already there to connect to the grid, and the solar developer need only conduct some rewiring and install an inverter within the building. Also, communities installing rooftop solar electric systems are spared the disruption associated with construction crews installing unsightly above-ground lines or expensive below-ground lines. Therefore, distributed solar power has the benefit of not requiring the costly construction of new infrastructure, which also faces many of the same land acquisition problems and objections from nearby residents faced by the plant itself.

When the point is reached that solar power systems become so popular that they are on the majority of buildings, the grid may require new infrastructure to accommodate the flow of excess electricity from buildings back into the grid. When this time comes, it is likely that residents will have fully recognized the benefits of solar energy and will be less likely to object to the siting of the infrastructure. Additionally, because the solar industry will have time to develop its associated technology, it is likely that the necessary infrastructure will be smaller, more efficient, and less objectionable then the infrastructure of today.

Third, distributed rooftop solar power systems have the ability to increase reliability of the electric grid. The transmission system in operation today is outdated — it is prone to black outs and shortages.[41] The system is even more prone to problems during peak demand. At peak times, transmission lines may lack adequate capacity to handle the increased demand, forcing grid managers to curtail electricity deliveries to certain sources.[42]

Distributed rooftop solar energy installations are able to reduce peak demand,[43] decrease transmission line congestion, and increase efficiency. Solar energy is most prevalent during midday, which is the time when solar electric systems produce the most electricity. In Florida at midday, temperatures are highest and air conditioners demand high quantities of electricity from local utilities.[44] Energy produced by solar electric systems at midday can offset the increase in demand for electricity, reducing the need for curtailment to meet peak demand needs. Solar power systems can

41. Melissa Powers, *Small is (Still) Beautiful: Designing U.S. Energy Policies to Increase Localized Renewable Energy Generation*, 30 WIS. INT'L L.J. 595, 617 (2012).

42. *Id.*; Curtailment, in the electricity context, means the temporary reduction in the amount of electricity delivered to customers or the temporary stopping of the flow of electricity to certain customers.

43. However, it should be noted that peak demand does not perfectly coincide with peak solar generation. Solar generation is limited by the availability of sunlight, whereas peak demand is not.

44. Rule, *supra* note 40, at 241.

also prevent the need for "peaker" power plants to be turned on, which are typically less efficient than non-peak plants.[45] Solar power systems can also increase efficiency from onsite generation. Onsite generation can reduce the need for electricity to travel from a centralized utility, which will decrease congestion in the transmission lines, and also prevent the need for curtailment.[46]

Next, rooftop solar electric systems can increase reliability of the electric grid by making it less susceptible to grid outages as a result of severe weather or terrorist attack.[47] If solar panels are properly "islanded" from the grid, meaning that they can keep operating even if the rest of the grid is disabled, consumers will still be able to have electricity.[48] This means that schools, businesses, government offices, and homeowners with solar power systems will continue to have power in the event of an emergency.

Finally, electricity provided by solar electric systems gives consumers more control over their power bill. Consumers can choose to carry out energy intensive activities during periods when their solar panels are most productive, thereby reducing their reliance on electricity produced by their local utility and lowering their bill.[49] Also, through the use of their solar electric systems, solar energy consumers can better avoid the volatile costs of fossil fuels by increasing their reliance on solar energy.[50]

B. Opposition to Distributed Solar Energy Generation and Resulting Barriers

Despite their many benefits, distributed solar installations are strongly opposed by Florida's utilities who fear any change to the monopoly that they currently enjoy. Under Florida's monopolistic system, each utility receives its own service area free from competition.[51] The industry is closely regulated, and rates are set by

45. Suedeen G. Kelly, *Chapter Twelve: Electricity*, *in* ENERGY LAW AND POLICY FOR THE 21ST CENTURY 1 (2000). Electric utilities have "base load plants" which are operated at a constant output to serve the minimum demand on the system. Electric utilities also maintain "peaker plants" to meet the maximum demand on its system. Utilities use their most efficient and least expensive power plants first to meet base load and their more expensive plants to meet peak load.

46. *See generally* John V. Barraco, *Distributed Energy and Net Metering: Adopting Rules to Promote a Bright Future*, 29 J. LAND USE & ENVTL. L. 365, 385-86 (2014).

47. *Id.* at 385.

48. *Id.* at 386.

49. *See generally infra* Part III. Net metering laws allow existing utility customers to lower their overall electricity bills, and, in some states earn a profit by selling electricity back to the utility for credit towards their bill.

50. FLA. STAT. § 366.91 (2014).

51. *See* FLA. STAT. § 366.03 (2014) ("Each public utility shall furnish to each person applying therefor reasonably sufficient, adequate, and efficient service.").

Florida's Public Service Commission ("PSC").[52] The rates allow for utility recovery of all costs involved in generating, transmitting, and distributing electricity, as well as a reasonable return on the utility's investments. [53] Utility arguments against distributed generation generally arise out of their concern for their bottom line and feigned concern for low-income ratepayers.[54] Vertically integrated utilities fear the loss of their monopolistic powers and argue that they must bear the cost of policies such as net metering.[55] Utilities claim that the end result of distributed generation and its accompanying policies is that low income ratepayers are forced to subsidize the renewable energy systems purchased by wealthier ratepayers.[56]

However, these arguments are flawed, especially with reference to rooftop solar power. Due to the limited nature of sunlight, solar power is unable to completely replace local utilities.[57] Actually, solar power is able to supplement utility power during periods of peak demand. This ability not only prevents utilities from having to fire up their more expensive and less efficient "peaker" plants but can actually save ratepayers money that they would lose as a result of blackouts and electricity shortages.[58] Net metering policies and power purchase agreements, discussed in more detail below, can be tailored in a way to ensure that a utility is not overly burdened by costs. Indeed, the Iowa Supreme Court considering the economic health of utilities in *Iowa Board of Utilities*[59] found no evidence that regulated utilities were adversely affected in states where the use of power purchase agreements was prevalent.[60] Finally, while the cost-shifting concern may be legitimate, it can be overcome with properly designed programs that require net metered customers to cover the slightly higher distribution costs associated with their activities.

Despite opposition by incumbent utilities, Florida policymakers have recognized that "it is in the public interest to promote the

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52. *Id.*; FLA. STAT. § 366.04 (2014).

53. *See generally* Sam D. Bolstad, *Your Local Solar Panel Store: Developing State Laws to Encourage Third-Party Power Purchase Agreements and Distributed Generation*, 99 MINN. L. REV. 705, 709-12 (2014) (discussing the monopolistic nature of most modern utility regulation).

54. Powers, *supra* note 41, at 646-47.

55. *Id.* at 647.

56. *Id.*

57. *Id.*

58. *See generally* William H. Lawrence & John H. Minan, *Financing Solar Energy Development through Public Utilities*, 50 GEO. WASH. L. REV. 371, 379 (1982) (discussing a utility's ability to benefit financially from integrating solar energy applications with their service).

59. SZ Enters., LLC. v. Iowa Utils. Bd., 850 N.W.2d 441, 468 (Iowa 2014).

60. Bolstad, *supra* note 53, at 723.

development of renewable energy resources in this state."[61] They have also recognized that solar power has great potential for success and have committed to creating incentives for solar development while identifying and removing obstacles in its path.[62]

However, Florida's current monopolistic power system still creates problems for distributed solar and has severely stunted its growth. In 2014 distributed solar power accounted for less than 2.3% of Florida's total net electricity generation.[63]

III. OVERCOMING THE COSTS OF SOLAR GENERATION

Despite utility opposition, a small but growing number of customers are installing rooftop solar power systems in Florida. To further expand distributed solar, utility customers will need to take advantage of financial benefits for solar power provided by local, state, and national policies, and certain laws must change to make installation less difficult. This Part discusses how customers can use certain financing mechanisms and policy benefits to lower the costs of installing distributed solar technologies, and Part IV explores how policies might need to change in order to further support distributed solar.

The most common type of distributed solar power system is a photovoltaic ("PV") system. Groups of photovoltaics (solar cells) convert sunlight into electricity, which can power appliances and operate interconnected to the utility grid, with proper power conversion equipment.[64] Consumers hoping to add solar power to their home or business must first decide what size system is needed based on the rooftop space available, amount of sunlight per day, and daily energy consumption.[65] The high upfront cost of a PV system is an obstacle that must be overcome if solar development is to thrive. There are a number of ways to obtain a PV system with varying costs and degrees of consumer involvement.

First, the consumer can simply buy the system outright. According to the U.S. Department of Energy, the price of residential and commercial PV systems has fallen on average 6-8% per year since 1998.[66] Prices are expected to continue to decline as solar energy grows in popularity and solar energy technology continues

61. FLA. STAT. § 366.91 (2014).

62. FLA. STAT. § 377.705 (2014); FLA. STAT. § 288.0415 (2014).

63. EIA Florida State Profile, *supra* note 17.

64. Florida Solar Energy Ctr., *Current PV Technology*, http://www.fsec.ucf.edu/en/consumer/solar_electricity/basics/current_technology.htm (last visited May 7, 2016).

65. *See* Adam L. Massaro, *Solar Power for Commercial Buildings*, 24 PROB. & PROP. MAG. 12, 13 (2010).

66. DOE Pricing Trends, *supra* note 35, at 8.

to develop.[67] Despite this trend, the cost of a PV system is still a problem for many consumers, especially when savings are only seen in small increments over time.[68] In addition to the high up-front cost, consumers electing to purchase a system outright must also assume the responsibility of obtaining permits to install the system, have the system inspected before it becomes operational, negotiate an interconnection agreement with the local utility to connect to the grid, and maintain the system.[69]

The benefits of owning a system outright include: a quicker return on investment when no third-party is involved, exemption from regulation as a utility, and the freedom to sell either the building, the system, or both. Consumers that purchase their system outright can mitigate their costs by electing to install a small system and then adding panels in the future, in addition to taking advantage of federal and state tax incentives.[70]

Building owners are encouraged to acquire and install PV systems through federal and state tax credits, tax deductions, and grants.[71] These government programs are meant to create more instances where benefits of a solar power system to the building owner will exceed its costs.[72] While these programs do provide some benefits there have been administration issues and problems estimating how people will respond to the incentives.[73] Tax credits are especially beneficial to corporations because they are in the highest tax bracket, but they have greatly reduced benefits to individuals in low tax brackets.[74] Also, interest rate deductions do not reach those who do not require debt to purchase the systems and the over subscriptions for grants have led to lotteries and other inefficient methods of allocating resources.[75]

For those who cannot purchase a system outright, funding is available through the Property Assessed Clean Energy ("PACE") program which is designed to provide financing to building owners

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67. *See id.*

68. *See generally* Massaro, *supra* note 65, at 13-17. Electricity provided by a PV system lessens the amount of electricity that must be purchased from the local utility. However, the savings on a building owner's electric bill each month can be small when compared with the cost of purchasing a PV system, therefore it may take several months or years to recover a building owner's original investment.

69. CALIFORNIA ENERGY COMM'N, BUYING A PHOTOVOLTAIC SOLAR ELECTRIC SYSTEM: A CONSUMER GUIDE 10-13 (2003), http://www.energy.ca.gov/publications/displayOneReport.php?pubNum=P500-03-014F.

70. Massaro, *supra* note 65, at 15.

71. Warren G. Lavey, *Overcoming Conceptual and Practical Hurdles to Market-Based Discovery of Prices for Utility Procurements from Rooftop Solar Systems*, 25 TU. ENVTL. L.J. 289, 298 (2012).

72. *Id.*

73. *Id.* at 302.

74. *Id.*

75. *Id.* at 303.

who want to make their buildings more energy efficient.[76] PACE will fund many programs, including solar panels, and allow building owners to pay back the loan over a period of up to twenty years through an assessment added to their property taxes.[77] The assessment is transferable to a new owner if the building is sold and can be shared with tenants under most leases.[78] Additionally, PACE programs do not require the building owner to have a specific credit rating to qualify and interest paid on the loan is deductible.[79] The program is especially beneficial because municipal and county bonds enjoy a tax-free status that allows governments to obtain low interest rates which can be passed on to property owners.[80] However, the program is currently not very beneficial to residential property owners due to push back from Fannie Mae and Freddie Mac, two federal home financing agencies, who have refused to purchase mortgage loans for homes that carry first priority PACE debt.[81] The agencies' issues stem from the priority given to PACE loans over mortgages.[82]

Florida passed its PACE enabling statute in 2010.[83] So far, five PACE programs have been formed: Florida Green Energy Works program, Florida PACE Funding Agency Program, Clean Energy Green Corridor, St. Lucie County's Commercial PACE Program, and Leon County Commercial PACE Program.[84] However, progress has been slow and in some cases stalled due Fannie Mae's and Freddie Mac's position taken only several months after Florida enacted its PACE statute.[85] In spite of this setback, PACE programs

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76. PACENation, *What is PACE?*, http://www.pacenation.us/about-pace/ (last visited Mar. 18, 2016).

77. *Id.*

78. *Id.*

79. *Id.*

80. Jason R. Wiener & Christian Alexander, *On-Site Renewable Energy and Public Finance: How and Why Municipal Bond Financing is the Key to Propagating Access to On-Site Renewable Energy and Energy Efficiency*, 26 SANTA CLARA COMPUTER & HIGH TECH. L.J. 559, 574-82 (2010).

81. Lilly Rockwell, *Florida's Energy Efficiency PACE Program Remains Stalled*, TAMPA BAY TIMES, Nov. 22, 2013, http://www.tampabay.com/news/business/energy/floridas-energy-efficiency-pace-program-remains-stalled/2153783.

82. Doreen Hemlock, *PACE Loan Program for Home Energy Improvements Stalled*, SUN SENTINEL, Jan. 9, 2015, http://www.sun-sentinel.com/business/personal-finance/fl-pace-financing-update-20150109-story.html; FANNIE MAE, SELLING GUIDE: B5-3.4-01 PROPERTY ASSESSED CLEAN ENERGY LOANS (Mar. 31, 2015), https://www.fanniemae.com/content/guide/selling/b5/3.4/01.html. PACE loans share senior lien status with other property taxes and assessments. This means that a PACE loan will be repaid before a mortgage. The Federal Housing Finance Agency ("FHFA") advised Fannie Mae and Freddie Mac to avoid buying mortgages with PACE assessments because it makes investment riskier.

83. FLA. STAT. § 163.08 (2014).

84. PACENation, *List of PACE Programs*, http://www.pacenation.us/resources/all-programs/ (last visited Mar. 5, 2016).

85. Patricia Salkin, *The Key to Unlocking the Power of Small Scale Renewable Energy: Local Land Use Regulation*, 27 J. LAND USE & ENVTL. L. 339, 350 (2012).

have continued forward focusing on the commercial building side to avoid entanglement with Freddie Mac and Fannie Mae.

Building owners wishing to obtain a PV system, but wanting to limit their involvement with the system, may elect to enlist a third-party solar power developer. Third-party solar power developers can provide PV systems to consumers through two mechanisms: a solar lease, and a power purchase agreement ("PPA").

Under a solar lease, the third-party owns the equipment and is responsible for owning and maintaining the system.[86] The lessee, or building owner, owns all electricity generated by the system.[87] If state law allows, the lessee may sell excess electricity to the local utility in return for a credit on their electric bill.[88] The solar lease benefits the building owner because it shifts the costs of obtaining, maintaining, and operating the system to the third-party developer.[89] However, lessees must be vigilant and read leases carefully for terms that may increase their payment or terminate their lease.[90] Also, building owners should note that they are still responsible for negotiating with the local utility for the surplus sale of electricity.

Similar to a solar lease, a PPA is an agreement between a building owner and a third-party solar developer.[91] The developer owns, finances, and maintains the PV system and is able to obtain tax credits for these activities.[92] Unlike a solar lease, a PPA grants ownership of the electricity generated by the PV system to the solar developer. The PPA requires the building owner to purchase all of the electricity produced by the system, which the developer sells at a discounted rate for a period of years, usually no more than twenty. It is only at the end of the contract that the consumer becomes the sole owner of the rights to the electricity.[93] Like with a solar lease, the building owner remains connected to the grid. This connection allows the consumer to purchase electricity from their local utility when their PV system does not generate enough electricity to meet their needs, as well as sell excess electricity to the utility through net metering. Also, unlike with a solar lease, the building owner does not have to negotiate the agreement for the sale of electricity to the utility, this is done by the third-party solar developer. One downside to the PPA is that energy savings are generally less than if the PV system was owned outright.

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86. Massaro, *supra* note 65, at 15.
87. *Id.*
88. *Id.* at 15-16.
89. Wiener & Alexander, *supra* note 80, at 566-67.
90. *Id.* at 567.
91. *Id.*
92. Bolstad, *supra* note 53, at 716-17.
93. *Id.* at 718.

As a result of the landmark decision by the Florida Supreme Court in *PW Ventures*, Florida regulates generators that provide electricity through PPAs as utilities. This effectively prohibits PPAs due to the high costs associated with being regulated in this way.[94] PW Ventures proposed to own and operate a cogeneration project and sell the electricity to an industrial complex through a long-term contract. [95] Prior to construction, PW Ventures sought a declaratory judgment from the PSC that it would not be a public utility subject to PSC regulation. The PSC found that the proposed transaction was within its regulatory jurisdiction, and PW Ventures appealed.[96] The court examined the definition of "public utility" and found that the phrase "to the public" means to any member of the public.[97] The court also found persuasive the lack of a specific statutory exemption for small electricity providers from classification as a utility that existed for small providers of natural gas, water, and sewer.[98] Based on the language of the statute and the *expressio unius* canon of statutory construction (the express mention of one thing implies the exclusion of another) the court concluded that the PSC was correct in finding that the transaction between PW Ventures and the industrial complex fell within its jurisdiction.[99]

The holding in *PW Ventures* has been praised by utilities who seek to guard their monopoly.[100] The holding serves as a barrier to solar development because it removes a mechanism by which building owners can obtain a PV system without the high upfront costs or financing issues involved with an outright purchase. Legal scholarship has both praised the PPA as a way of unleashing solar potential[101] and called for the overruling of *PW Ventures* by statutory amendment.[102] Also, a group of Florida citizens has come together in a grassroots effort to advocate for legislation to overturn the court's *PW Ventures* decision.[103] The group seeks signatures for a petition that will place a constitutional amendment on the ballot which will exclude local solar electricity suppliers from the defini-

94. *See* PW Ventures, Inc. v. Nichols, 533 So. 2d 281, 282 (Fla. 1988).

95. *Id.*

96. *Id.*

97. *Id.* at 283; Fla. Stat. § 366.02(1) (1985).

98. *PW Ventures*, 533 So. 2d at 283; Fla. Stat. § 366.02(1) (1985); Fla. Stat. § 367.021 (1985).

99. *PW Ventures*, 533 So. 2d at 283.

100. *See* Sanford Schneider, *It's Time to Revisit PW Ventures, Inc.*, FLA. B.J., Oct. 1992 at 67.

101. Samuel Farkas, *Third-Party PPAs: Unleashing America's Solar Potential*, 28 J. LAND USE & ENVTL. 91 (2012).

102. Schneider, *supra* note 100, at 71.

103. FLORIDIANS FOR SOLAR CHOICE, http://www.flsolarchoice.org (last visited Mar. 15, 2016).

tion of public utility.[104] Additionally, other states have rejected the notion that third-party providers are utilities.[105]

In addition to being able to benefit directly from the electricity produced by a PV system, a building owner can also benefit from selling electricity generated by the PV system to the local utility. There are two main ways in which a state can facilitate the sale between the generator and the utility: net metering and feed-in tariffs. These mechanisms can increase grid reliability and eliminate the possibility of double payment[106] or the need for expensive battery storage systems.

Net metering is a process by which utilities compensate customers for the excess electricity that they generate from rooftop solar panels (electricity not used by the building on which the panels sit) by giving them a credit towards their electricity consumption on their utility bill.[107] The process is beneficial because it pays distributed energy producers retail electricity rates for wholesale power.[108] Many states have net metering programs and the requirements for each vary accordingly.[109] Some states' net metering laws are very limiting, restricting the types and size of eligible facilities in addition to capping the amount of eligible energy.[110]

Net metering is authorized in Florida.[111] The PSC adopted rules for net metering and the interconnection for renewable energy systems up to two megawatts in capacity.[112] PSC rules only apply to investor owned utilities, but require electric cooperatives and municipal utilities to offer their own net metering standards.[113] Different rules for different types of utilities can further complicate the negotiation of an interconnection agreement between the unsophisticated building owner and the utility. The rules also require that net metered customers are not charged any

104. *Id.*

105. SZ Enters., LLC. v. Iowa Utils. Bd., 850 N.W.2d 441, 468 (Iowa 2014) (holding that a company may enter into a long term financing agreement to construct a solar energy system and to sell all electricity generated to the city and not be a public utility subject to regulation by the utilities board.); Farkas, *supra* note 101, at 111.

106. PPA customers must buy all the electricity that their solar power systems produce, but due to the limited availability of sunlight they must also purchase electricity from their local utility. Therefore, without the ability to sell excess electricity back to the utility, building owners would be stuck in a situation where they were paying for more electricity than they actually used, or to say it another way, double paying for the electricity they do use.

107. Powers, *supra* note 41, at 635.

108. *Id.* at 636.

109. *Id.* at 635.

110. *Id.* at 635-36.

111. FLA. STAT. § 366.91 (2014).

112. U.S. ENVTL. PROT. AGENCY, FLORIDA NET-METERING RULES (Aug. 12, 2014), http://www.epa.gov/chp/policies/policies/flfloridanetmeteringrules.html.

113. *Id.*

additional fees and that net excess generation is credited on the customer's utility bill at a retail rate for up to twelve months, at which point remaining net excess generation is paid for at the utility's avoided cost rate.[114] The prohibition against net metered customers paying additional fees can be problematic because it can support the utilities' argument that net metering does not allow them to recover their costs associated with enhancing the operating distribution infrastructure that carries net metered electricity through the grid. Finally, there is no aggregate capacity limit for net metered systems.[115] This is a favorable rule because it allows all qualified generators to net meter and incentivizes the installation of PV systems.

The other option to encourage solar development is the feed-in tariff ("FIT"). This system enacts legislation which requires utilities to accept energy produced by renewable sources first before purchasing the remainder needed from non-renewable sources, and to pay renewable energy generators a fixed rate for electricity.[116] There are two main types of FITs: Gross FITs and Net FITs.[117] Under a Gross FIT, all electricity produced by a PV system is purchased by the utility at a predetermined price and all consumers purchase their electricity from the local utility at market rates.[118] Under a Net FIT, only excess electricity generated by system is purchased by the local utility at the tariff rate.[119] The rate, or tariff, paid by the utility is set high enough that a renewable energy producer is guaranteed a reasonable return on its investment, thereby encouraging further research and development of solar technology.[120] The slightly higher cost of renewable energy is then spread across all consumers of electricity in the area.[121] The cost from the feed-in tariff is generally a small increment and electricity use responds very little to price increase, thereby a feed-in tariff avoids both the spending of tax money and substantial effects on the consumption of electricity.[122]

Despite the fact that, as of 2010, forty-four countries have had success with feed-in tariffs, states in the United States have been slow to adopt them.[123] The problem largely stems from regulatory

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114. *Id.*
115. *Id.*
116. David Grinlinton & LeRoy Paddock, *The Role of Feed-in Tariffs in Supporting the Expansion of Solar Energy Production*, 41 U. TOL. L. REV. 943, 943-44 (2010).
117. *Id.* at 944.
118. *Id.*
119. *Id.*
120. *Id.*
121. *Id.*
122. Michael Dorsi, *Clean Energy Pricing and Federalism: Legal Obstacles and Options for Feed-in Tariffs*, 35 ENVIRONS ENVTL. L. & POL'Y J. 173, 180 (2012).
123. Grinlinton & Paddock, *supra* note 116, at 945.

uncertainty stemming from the fact that federal energy laws may preempt state legislation providing for FITs.[124] This uncertainty scares off potential investors in solar generation technology because the risk of investment is too high, if the Federal Energy Regulatory Commission acts, preempting state FITs, investors could lose everything.[125] However, some states and local governments have risked preemption and enacted FITs.[126]

In 2009, Gainesville, Florida enacted a FIT program modeled after Germany's FIT program, wherein utilities purchased electricity from residential and commercial solar generators at predetermined rates for a period of twenty years.[127] By 2014, the program had encouraged more than eighteen megawatts of solar projects, however, the FIT program had also increased electric bills by $3/month for the average home and, as a result, additions of new systems were suspended in December 2014.[128] Despite business being down locally, Gainesville solar installers are exploring new business avenues. For example, installers have to pursue customers in Gainesville through net metering, they have expanded into new construction sales, and they have looked outside of Gainesville to large-scale solar installations.[129] A solar company executive expressed that he "wish[ed] [the FIT program] had lasted longer and ended more smoothly" but also reported that "we've got enough solar out there, that it's no longer a weird, exotic thing."[130]

Gainesville's program demonstrates that FIT programs can be successful in encouraging investment in solar technology. The increase in production of solar electric systems encourages research and development which makes the cost of production less expensive overtime. However, Gainesville's suspension of the program after a short time shows the limited ability for a small community to sustain a FIT program. Also, it is important to note that in the

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124. *Id.* at 966 (noting that state feed-in tariffs are limited by the Public Utility Regulatory Policy Act (PURPA), which mandates that rates do not exceed avoided cost).

125. Dorsi, *supra* note 122, at 179; *but see* Grinlinton & Paddock, *supra* note 116, at 966 (recognizing that under recent FERC decisions, states appear to have the ability to calculate avoided costs in a way that will likely allow higher rates (matching that of a FIT), especially in states with high renewable portfolio standards, like California).

126. Dorsi, *supra* note 122, at 183-85.

127. U.S. ENERGY INFO. ADMIN., FEED-IN TARIFFS AND SIMILAR PROGRAMS (2013), https://www.eia.gov/electricity/policies/provider_programs.cfm; *see* Stephen Lacey, *Gainesville, Florida is a Bigger Per Capita Solar Producer Than California – Thanks to Feed-in Tariffs*, CLIMATE PROGRESS, Nov. 21, 2011, http://thinkprogress.org/romm/2011/11/21/373478/gainesville-florida-solarproducer-german-style-feed.html (relating the Gainesville program to the German model).

128. Anthony Clark, *As Feed-in Tariff Takes a Backseat Solar Industry Adjusts*, THE GAINESVILLE SUN, Apr. 26, 2014, http://www.gainesville.com/article/20140426/ARTICLES/140429694.

129. *Id.*

130. *Id.*

face of FIT suspension the solar industry has been able to make adjustments and accomplish a presence and demand within the community.

IV. OVERCOMING OBSTACLES TO INSTALLATION AND IMPLEMENTATION

Great! You have decided to purchase a solar power system and have secured the financing to do so. It is now smooth sailing to cleaner less expensive energy, right? Wrong. This section discusses various problems that those who desire a PV system must overcome in addition to financial restraints, such as: variable permitting requirements and lack of permission to install panels under local zoning codes and homeowner association's rules.

A. Permitting Requirements

The installation of most solar electric systems requires local permits such as a building permit, an electrical permit, or both.[131] Permitting can be an expensive and frustrating process for the building owner. Inexperienced planners and building inspectors, complex permitting requirements, and lengthy review processes can increase costs and drag out installation.[132] Additionally, the permitting process is further complicated because permitting requirements vary across jurisdictions and are sometimes inconsistent.[133] For example, some municipalities require renewable energy systems to obtain special use permits.[134] These permits authorize use in the zoning area but require additional criteria to be reviewed and considered in determining whether the installation is compatible with the community.[135] The need for uniform standards, streamlined permitting, and quicker review processes has been recognized and some local governments have acted.[136]

In Florida, one such local government is Broward County. Broward used a federal grant to develop a simplified process for permitting rooftop solar power systems for homeowners and businesses.[137] The program is receiving local support, and the county reports that applying for a permit can be accomplished electroni-

131. U.S. DEPT. OF ENERGY, PLANNING A HOME SOLAR ELECTRIC SYSTEM, http://energy.gov/energysaver/articles/planning-home-solar-electric-system (last visited Apr. 14, 2016).

132. Salkin, *supra* note 85, at 345.

133. *Id.*

134. *Id.* at 361.

135. *Id.*

136. *Id.* at 345-46.

137. GO SOLAR BROWARD ROOFTOP SOLAR CHALLENGE, http://www.broward.org/GoGreen/GoSOLAR/Pages/Default.aspx (last visited Apr. 14, 2016).

cally and that the simplified process will continue to drive the cost of solar electric systems down.[138] Also, county officials believe that more cities will join the Broward program and other Florida counties are planning to use Broward's program as a model for their own.[139]

B. Zoning Codes & Homeowner Associations (HOAs)

Additional troublesome channels that building owners desiring a PV system must navigate are local zoning codes and homeowner associations ("HOAs"). Local governments sometimes try to control the visual impacts of renewable energy installations by requiring compliance with height, set back, historical preservation, and minimum yard regulations.[140] Fortunately, rooftop PV systems are immune from many of these regulations with the exception of the historical preservation limitations. Local governments may also seek to regulate solar electric systems as unspecified accessory uses, which is problematic because, typically, these uses are required to be screened, which could interfere with sunlight.[141]

Fortunately, Florida has recognized that "it is in the public interest to promote the development of renewable energy resources"[142] and has emphasized renewable energy in its comprehensive plan.[143] Florida has preempted local government regulation that has the effect of prohibiting the installation of solar electric systems.[144] Proponents of the preemption approach have emphasized the benefits of a state being able to bring regulatory uniformity and consistency to local jurisdictions.[145] However, critics have found the "one-size-fits-all approach" to be costly and difficult to enforce due to their inability to take into account local issues and concerns.[146] Additionally, despite legislation preempting local ordinances, homeowners commonly find themselves in a situation where their HOA does not outright ban solar installations, but so restricts them as to effectively prohibit solar power systems

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138. Doreen Hemlock, *Broward Encourages Solar Energy with Easier Permits*, SUN SENTINEL, Jan. 25, 2013, http://articles.sun-sentinel.com/2013-01-25/business/fl-go-solar-conference-20130123_1_solar-energy-solar-panels-solar-systems.html.

139. *Id.*

140. Salkin, *supra* note 85, at 356-59.

141. *Id.* at 357.

142. FLA. STAT. § 366.91 (2014).

143. FLA. STAT. § 163.3177 (2014).

144. FLA. STAT. § 163.04(1) (2014) ("the adoption of an ordinance by a governing body . . . which prohibits or has the effect of prohibiting the installation of solar collectors . . . is *expressly prohibited*.") (emphasis added).

145. Rule, *supra* note 40, at 1251.

146. *Id.* at 1251-55.

or deprive them of any beneficial use. While the law on its face would seem to prohibit exactly these kinds of restrictions, homeowners are often deterred from challenging their HOA by the high costs of litigation.

V. A THREE STEP COMPREHENSIVE APPROACH TO FLORIDA'S SOLAR ENERGY POLICY

As demonstrated by the cost-based, permitting, and land use obstacles discussed in Parts III and IV, the road to Florida's greener tomorrow powered by sustainable energy is not going to be a short one. In order to reduce emissions, mitigate harms to the environment, and increase the state's solar energy market, policymakers must address obstacles in the following steps: (1) work within Florida's existing regulatory framework, encouraging commercial solar use and the development of solar ready communities; (2) focus on attracting third-party developers and encourage the growth of residential solar; and (3) develop a self-sustaining solar market which requires little government assistance. Each step described here advocates for a policy change that Florida can make in order to encourage solar power development. This incremental approach prevents Florida's solar energy future from hinging on the success or failure of one policy and instead encourages an attack on multiple fronts.

Former Secretary of Defense Donald Rumsfeld once said, "you go to war with the army you have."[147] In step one, Florida should concentrate on developing solar generation within its existing regulatory framework. Based on Florida's Supreme Court decision in *PW Ventures* and existing net metering laws, Florida should encourage investor owned PV systems. As a result of the current policies discouraging third-party solar developers, acquiring a PV system may be beyond financial possibility for many, especially individual homeowners who wish to install a system on their existing structure. However, hope is not lost. Even under the existing laws, commercial solar power has great potential for success. First, businesses, universities, and government entities generally have the resources to make an investment in a solar power system and benefit by capitalizing on the investment overtime. Commercial entities financial means make them more likely to be in high tax

147. William Kristol, *The Defense Secretary We Have*, WASH. POST, Dec. 15, 2004, http://www.washingtonpost.com/wp-dyn/articles/A132-2004Dec14.html.

brackets,[148] thus making tax credits and interest deductions very valuable. Also, commercial building owners who finance through PACE programs are not impacted by Fannie Mae's and Freddie Mac's refusal to purchase mortgages encumbered by first priority PACE debt. Second, commercial buildings generally have an abundance of rooftop space available to dedicate to solar installations. The larger the system, the more electricity it can generate, the greater the reduction that is seen on utility bills, and the more the business is insulated from rising fuel costs. Third, businesses may be able to cultivate their use of solar power into a marketable quality in their products they produce. Lastly, commercial entities are less likely to run into trouble from local government zoning boards or HOAs because they generally do not exist in residential zones, which tend to have more restrictive limits on the uses of property. Also, aesthetic concerns are downplayed with commercial buildings because many roofs are out of eyesight.

Additionally, residential solar can be encouraged through the building of solar-ready communities. When building a home in these communities, homeowners can select a solar option, whereby their house will be built, wired, and equipped with solar panels. This option allows homeowners to incorporate a solar electric system's price into their mortgage and cuts back costs of retrofitting an existing structure.[149] Solar-ready communities can ensure that homeowners receive the maximum benefit from their renewable system and developers need not "impose new institutions on residents ex post."[150] The community developer's design ensures that solar panels are placed in areas where sunlight is most abundant; and streets, lots, and buildings are laid out in a way that does not block the sun.[151]

Encouraging development within Florida's existing regulatory framework will ensure that development is not stalled while Floridians wait for Congress to act. The continued development of the solar power market will benefit Florida as it proceeds into steps two and three because development of the solar market will drive PV system providers to continue to innovate, thereby driving down the cost of solar electric systems. Also, the initial restraints on the market will encourage steady growth instead of a balloon-like expansion which will allow policymakers and regulators to study the

148. Generally, the more money an individual or business makes, the greater their rate of tax.

149. For examples of solar ready communities in Florida, see ECOVILLAGE TARPON SPRINGS, http://www.planetgreenergy.com/tarponsprings/ (last visited Apr. 18, 2016), and ECOVILLAGE DUNEDIN, http://www.ecovillagedunedin.com/ (last visited Apr. 18, 2016).

150. Hannah J. Wiseman & Sara C. Bronin, *Community-Scale Renewable Energy*, 4 SAN DIEGO J. CLIMATE & ENERGY L. 165, 179 (2013).

151. *Id.* at 188.

market and respond with appropriate solutions to stabilize the market in anticipation of rapid expansion. Lastly, the presence of PV systems in more communities will make consumers familiar and comfortable with solar power thereby increasing both demand and community acceptance.

In step two, Florida should focus on attracting third-party developers and encouraging the growth of residential solar power. The most challenging part of step two will be the development and enactment of legislation that will overrule *PW Ventures* and amend the net metering rules to allow all generators of solar power to net meter. Nearly half the states have encouraged the use of PPAs through legislation.[152] For example, California amended its statute to exclude third-party PPAs from the definition of public utility. New Jersey also excluded third-party PPAs from regulation as public utilities but also allowed developers to install PV systems away from the site of consumption.[153] However, exempting third-party PPAs from regulation as utilities does not mean the state should allow these third-party providers free rein. The state can and should maintain some authority over the provider.[154] For example, California requires that PPA providers provide information such as: power delivery estimates, power pricing, contract responsibilities, and provisions regarding transfer of the contract in the event of transfer of ownership of the residence, to customers, as well as record the existence of the PPA with the county recorder.[155] California also requires distributed solar power generators to register with the Public Utilities Commission.[156] Florida should similarly regulate providers and distributed generators, to both protect the unsophisticated consumer from unscrupulous providers, ensure that the benefits of solar power are captured by the homeowner, and allow electricity system operators to identify and address power problems.

In addition to the PPA, homeowners are encouraged to invest in solar power by net metering. Florida should amend its net metering policy to allow all solar generators to net meter regardless of who owns the PV system. However, Florida should be careful that it does not "leave the electric utility at the mercy of the consumer"[157] and should take action to ensure that its utilities are not bearing an inequitable amount of the costs.[158] Currently, the

152. Bolstad, *supra* note 53, at 723.
153. Farkas, *supra* note 101, at 111-14.
154. *Id.* at 115.
155. *Id.*
156. *Id.*
157. Bolstad, *supra* note 53, at 724.
158. *Id.*

Florida PSC rules have no stated aggregate capacity limit for net metered systems and they do not allow the utility to charge net metered customers any fees different than those of non-metered customers. One possible solution is for Florida to cap the amount of credit that consumers can earn on their next power bill.[159] Another possible solution is to amend the PSC's rules and allow utilities to include a cost-shifting provision in their interconnection agreements in order to allow utilities to recover non-operating costs.[160]

The final step toward ensuring that homeowners can reap the benefits of their solar electric systems is to ensure that these benefits are not hampered or restricted by HOA shading or local zoning rules. Florida has taken action and preempted local zoning laws that prohibit solar development and has forbidden HOA regulations with the same effect.[161] However, in practice, local ordinances and HOA regulations can restrict solar development in a way that constructively prohibits it and homeowners typically lack the sophistication or resources to challenge these types of prohibitions in court. For this reason, it is especially important that the state educate consumers, HOAs, and local governments on the benefits of solar power. Solar power initiatives should be supported by the community, not because they are forced, but because they embrace the benefits that solar power can bring to homeowners, businesses, and communities alike. The primary goals of solar education programs should be to encourage continued growth of distributed solar power by overcoming "homevoter fear."[162] Homevoter fear associated with distributed renewable energy devices stems from the belief that these land uses can "diminish neighborhood aesthetics, disturb nearby landowners, or threaten property values."[163] Solar power systems fortunately, do not emit odors, light, or noise, as do other renewable energy installations. Also, as solar panel technology develops, the panels tend to get smaller and more aesthetically pleasing. Education can serve to dispel myths associated with property value and aesthetics. As the benefits of solar power become known and the savings on electric bills are demonstrated, people may pay a premium to live in a home equipped with a PV system. The government can further encourage this trend by providing "green communities" with tax credits.[164] The use of this

159. *Id.*
160. *Id.*
161. FLA. STAT. § 163.04(1) (2014).
162. Rule, *supra* note 40, at 1235.
163. *Id.* at 1235-36.
164. *Id.*

credit system could allow communities to benefit from distributed renewables and not feel forced into doing so.

Lastly, in step three, Florida should continue to develop its solar market so that it becomes self-sustaining. One possible way to encourage a successful market is for Florida to advocate for clarification of Federal law. Once it is clear that state FIT programs will not be preempted, Florida can design a FIT program encouraging small-scale facilities, as well as guaranteeing profits and easy connection to the grid. The small facilities can be located in areas where they can connect to the existing grid to ensure that progress is not slowed by the need to site transmission lines.[165] The guaranteed profits will attract many different investors and create stable economic conditions facilitating long-term research and development and the continued reduction of the cost of solar power.[166] Finally, uniform interconnection requirements will allow distributed power producers access to the grid without high transaction costs.

VI. CONCLUSION

While the discussion here focuses on Florida's solar energy policy, the implications apply to other states looking to develop their own renewable energy sources. The growing concern over climate change and the reliability of the electric grid ensures the continued growth of the renewable energy market.

This note urges Florida to capitalize on its abundance of sunshine and promote solar energy development by removing financial and regulatory hurdles. Reducing the high upfront costs of PV systems and ensuring that Floridians can maximize the benefits from their PV systems will increase demand. Increased demand and a properly structured solar energy policy will attract solar energy investors, and developers, causing an increase in research and development and a decrease in costs.

By implementing three steps that (1) work within Florida's existing regulatory framework to encourage solar development; (2) focus on attracting third-party developers and encourage residential solar; and, (3) develop a self-sustaining solar market, Florida can overcome utility concerns and grow its solar energy markets. Implementation of these steps can help ensure that developers feel secure in their investments, and provide Florida with a sustainable energy source and a greener future.

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165. Grinlinton & Paddock, *supra* note 116, at 972.
166. *Id.* at 973.

CLEARING UP PERCEIVED PROBLEMS WITH THE SUE-AND-SETTLE ISSUE IN ENVIRONMENTAL LITIGATION

TRAVIS A. VOYLES*

I. INTRODUCTION

Advocacy groups and associations representing industries, regulated entities, and environmental causes have a long history of using citizen suits in environmental litigation. Citizen suit provisions of certain environmental laws[1] allow private citizen plaintiffs

* J.D. Candidate 2017, Florida State University College of Law; M.C.R.P., City and Regional Planning, Georgia Institute of Technology; B.S.E.S., Environmental Economics and Management, University of Georgia. I would like to thank my friends and family for support and Professor Erin Ryan for her helpful guidance and thoughtful comments throughout the writing process.

access to federal courts to force agencies to perform non-discretionary duties[2], including the area of analysis highlighted within this paper, informal rulemaking. Recently, there has been focused attention on the citizen suit practice of "sue-and-settle" in environmental litigation. Sue-and-settle is a process whereby an advocacy group sues a regulatory agency, charging the agency with violation of a non-discretionary statutory duty.[3] The agency, rather than defend itself at trial, settles with the advocacy group. The resulting settlement agreement or consent decree[4] binds the agency to take action to resolve the plaintiffs' claims.[5]

While the impact of sue-and-settle on the regulatory process is under continued study and evolution, the issue of its role in the rulemaking process is the center of a reignited discussion, taking on national significance. Legislation to reform the process has been introduced in the U.S. House and Senate over the past two sessions and political debate on the issue has made national headlines.[6] The debate regarding the current use and proliferation of the sue-and-settle practice suggests a potential misunderstanding of the legality and mechanism of the practice. This misunderstanding and critique may be resolved by an analysis of the legislative intent and an explanation of changes to the rulemaking process, which could improve the directness of the mechanism and its potential elements. Additionally, sue-and-settle within environmental litigation has, in recent years, undergone much scrutiny for perceived misuse of rulemaking authority. However, the sue-and-

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1. Provisions of these suits are included in the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9659 (2012), Clean Air Act, 42 U.S.C. § 7604(a)(2) (2012), the Clean Water Act, 33 U.S.C. § 1365(a)(2) (2012), and the Endangered Species Act, 16 U.S.C. § 1540(g)(1)(C) (2012), Resource Conservation and Recovery Act, 42 U.S.C. § 6972 (2012) [hereinafter Environmental Citizen Suit Provisions].

2. *See* Matthew D. Zinn, *Policing Environmental Regulatory Enforcement: Cooperation, Capture, and Citizen Suits*, 21 STAN. ENVTL. L.J. 81, 119 (2002) (discussing the role of citizen suits in regulatory enforcement).

3. Ben Tyson, *An Empirical Analysis of Sue-and-Settle in Environmental Litigation*, 100 VA. L. REV. 1545 (2014).

4. Hereinafter both types of resolution (settlement agreement or consent decree) are referred to as "consent decrees" and are functionally the same, unless otherwise noted. The principal difference between consent decrees and settlement agreements is the court reviews consent decrees for validity before entry and can force compliance by the parties, while settlement agreements take their force from the law of contracts and require no ex-ante court approval. *See* Peter M. Shane, *Federal Policy Making by Consent Decree: An Analysis of Agency and Judicial Discretion*, 1987 U. CHI. LEGAL F. 241, 266 n.98 (2015) (describing the primary practical difference between settlement agreements and consent decrees).

5. William Kovacs, Keith Holman, & Jonathan Jackson, U.S. Chamber of Commerce, *Sue-to-Settle: Regulating Behind Closed Doors* 3-4 (2013) [hereinafter Chamber Report].

6. *See, e.g.*, Sunshine for Regulatory Decrees and Settlements Act of 2015, H.R. 712, 114th Cong. (2015) (proposed legislation to change the sue-and-settle process); *see also* Stephen Moore, Editorial, *Cross Country: Using 'Sue and Settle' to Thwart Oil and Gas Drillers*, WALL ST. J., Oct. 5–6, 2013, at A11 (example of national news coverage).

settle mechanism is actually a useful part of the democratic process due to the issues surrounding environmental regulation and the lack of resources allocated to implement the available programs for successful environmental protection.

This paper intends to better inform the ongoing discussion over the sue-and-settle process and provide further insight into the potential courses of action that can be taken in the future to refine and reshape the process. One specific recommendation is potential legislative actions to increase public involvement and transparency of the process, result, and agency actions. Part I will provide an overview of the citizen suit and sue-and-settle history and process, noting the current trends in litigation present today, causing much of the debate about the practice. A description of arguments against the practice will explain some of the negative reaction creating the political hot topic regarding the perceived undermining of executive rulemakings or legislative policymaking. Part II will provide an analysis of the legislative history of citizen suit provisions within environmental statutes and their use within the scope of agency authority. Part III will include a specific analysis of the mechanisms of the sue-and-settle process within rulemaking, including comment and agency decisions. Part IV provides proposed targeted remedies to residual concerns identified as significant factors in the process and other issues, which have not been settled, including process remedies to promote transparency, consistency, and review.

II. SUE-AND-SETTLE IN ENVIRONMENTAL LITIGATION

A. Sue-and-Settle Defined

Sue-and-settle is not a legal term, but rather a descriptive term commentators employ to describe a particular administrative law litigation practice.[7] To initiate the process, an outside group sues a federal agency through a citizen suit arguing the agency neglected its statutory obligation to issue a regulation or otherwise perform a non-discretionary act.[8] To avoid further litigation, the outside group and the regulatory agency agree on a settlement and take the settlement to the court where the suit is pending.[9] The court subsequently makes a judgment on the consent decree, approving or disapproving it, on the basis of whether it is "fair, reasonable,

7. Tyson, *supra* note 33, at 1548.
8. Chamber Report, *supra* note 5, at 4.
9. *Id.*

adequate, and consistent with applicable law."[10] Specifically, "the underlying purpose of this review is to determine whether the decree adequately protects and is consistent with the public interest."[11] To agree to entry of a consent decree, the presiding judge must determine the consent decree is not "illegal, a product of collusion, inequitable, or contrary to the public good."[12] The sue-and-settle process is common under three environmental statutes: the Clean Air Act ("CAA"), the Clean Water Act ("CWA"), and the Endangered Species Act ("ESA").[13]

The citizen suit provisions in environmental statutes, such as the CAA, provide advocacy groups with the most direct and straightforward path to obtain judicial review of an agency's failure to meet a statutory deadline or perform such other duty a plaintiff group believes to be necessary and desirable.[14] The CAA incorporated the first modern civil suit provision in 1970.[15] Since then, almost all major environmental statutes have included citizen suit provisions, which closely model those in the CAA.[16] Congress thereby created a cause of action for private citizens to argue the agency neglected its statutory obligation to issue a regulation or otherwise perform a non-discretionary act. Citizen suits have contributed to the U.S. Environmental Protection Agency's ("EPA") ultimate goal of increasing compliance in the regulated community and, in many ways, have acted as sustenance to a starving agency.[17] The EPA historically has, to some extent, welcomed citizen suits to alleviate the tension created by demand, which outstrips the agency's supply in arenas such as enforcement.[18]

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10. *Id.*; United States v. BP Exploration & Oil Co., 167 F. Supp. 2d 1045, 1049 (N.D. Ind. 2001) (citing, *inter alia*, United States v. Union Elec. Co., 132 F.3d 422, 430 (8th Cir. 1997)).

11. *Id.* (citing United States v. Seymour Recycling Corp., 554 F. Supp. 1334, 1337 (S.D. Ind. 1982)).

12. Tyson, *supra* note 3, at 1548 (citing, *inter alia*, United States v. City of Jackson, 519 F.2d 1147, 1151 (5th Cir. 1975)).

13. Clean Air Act, 42 U.S.C. §§ 7401-7671q (2012); Clean Water Act, 33 U.S.C. §§ 1251-1387 (2012); Endangered Species Act, 16 U.S.C. §§ 1531-44 (2012).

14. Chamber Report, *supra* note 5, at 10.

15. *See* Clean Air Act, 42 U.S.C. § 7604(a)(1) (2012) (any person may commence a civil action on his own behalf against any person who is alleged to have violated an emission standard or limitation).

16. Envtl. Citizen Suit Provisions, *supra* note 1.

17. Mark Seidenfeld & Janna Satz Nugent, *The Friendship of the People: Citizen Participation in Environmental Enforcement*, 73 GEO. WASH. L. REV. 269, 283 (2005).

18. *See* ENVTL. LAW INST., CITIZEN SUITS: AN ANALYSIS OF CITIZEN ENFORCEMENT ACTIONS UNDER EPA-ADMINISTERED STATUTES ix (1984) (citizen suits were meant by Congress to operate independently of EPA activities and to allow citizens to set their own priorities); *see* Michael S. Greve, *Private Enforcement, Private Rewards: How Environmental Citizen Suits Became an Entitlement Program*, *in* ENVIRONMENTAL POLITICS: PUBLIC COSTS, PRIVATE REWARDS 105, 114-17 (Greve & Smith, Jr. eds., 1992) (arguing that Congress never planned on universal enforcement and that citizen suits augment the enforcement program beyond Congress's intent).

Citizen suit provisions contain notice requirements designed to protect the government's position as regulator.[19] At least sixty days prior to initiating a citizen suit, a person must notify the EPA, the violator, and under some statutes, the state where the violation occurred.[20] This "built-in grace period" gives the EPA time to analyze the complaint and decide whether action is necessary.[21] If the government can show it is already "diligently prosecuting" the allegation, the citizen suit is barred, but EPA cannot stop a citizen suit merely by commencing an administrative enforcement proceeding.[22] However, EPA can bar such a suit by commencing an administrative proceeding prior to notice of the citizen suit or if a citizen group fails to file suit within 120 days of the notice.[23] Additionally, once the citizen suit has commenced, a consent order may not be entered until the U.S. Department of Justice ("DOJ")[24] and EPA receive a forty-five day notice.[25]

B. Growth of Sue-and-Settle

In 1982, a substantial change in the dynamic of citizen suits was initiated, specifically under the CWA.[26] This change was primarily due to the emergence of well funded and staffed national and regional environmental groups.[27] Currently, environmental advocacy groups such as the Sierra Club, Natural Resources Defense Council, and the Atlantic States Legal Foundation are responsible for filing a substantial number of citizen suits.[28] The groups seek settlement agreements as plaintiffs that could provide compliance orders, monetary penalties, and attorneys' fees.[29] It is argued "even if the monetary rewards are aimed at self-

19. *See, e.g.*, Clean Air Act, 42 U.S.C. § 7604(b)(1)(A) (2012).

20. *See, e.g.*, *id.* (not allowing action prior to 60 days after the plaintiff has given notice of the violation (i) to the Administrator, (ii) to the State in which the violation occurs, and (iii) to any alleged violator of the standard, limitation, or order).

21. Seidenfeld & Nugent, *supra* note 17, at 284; *see also* Clean Water Act, 33 U.S.C. § 1365(b)(1)(B) (2012) (if the government can show it is already "diligently prosecuting" the allegation, the citizen suit is barred, but EPA cannot stop a citizen suit merely by commencing an administrative enforcement proceeding); Clean Water Act, 33 U.S.C. § 1319(g)(6) (2012) (EPA can bar such a suit by commencing an administrative proceeding prior to notice of the citizen suit or if a citizen group fails to file suit within 120 days of the notice).

22. *See, e.g.*, Clean Water Act, 33 U.S.C. § 1365(b)(1)(B) (2012).

23. *Id.* § 1319(g)(6).

24. The DOJ is the agency responsible for filing civil judicial action cases on behalf of the EPA. U.S. ENVTL. PROTECTION AGENCY, ENFORCEMENT BASIC INFORMATION, https://www.epa.gov/enforcement/enforcement-basic-information (last visited May 31, 2016).

25. 33 U.S.C. § 1365(c)(3) (2012).

26. Envtl. Law Inst., *supra* note 18, at viii.

27. *Id.*

28. *See* Greve, *supra* note 18, at 107-08.

29. *Id.* at 109-10 (arguing that substantial portions of citizen suit settlements constitute direct transfer payments to environmental groups).

preservation of the interest groups' business of private enforcement, long-term funding for these groups may greatly benefit the environment."[30] While environmental advocacy groups have used sue-and-settle more frequently in recent years, business groups have also historically taken advantage of the approach to influence the outcome of agency action.[31]

As to the extent to which this process has increased under President Barack Obama's administration, in its report *Sue and Settle: Regulating Behind Closed Doors*, the U.S. Chamber of Commerce identified more than 100 new major rules arising from this tactic, with estimated compliance costs over $100 million annually.[32] In comparison with previous administrations, the process is currently more prevalent than at any point under the two previous presidencies.[33] An example frequently used is from the 2011 fiscal year, when the U.S. Fish and Wildlife Service ("FWS") was allocated $20.9 million for endangered species listing and critical habitat designation.[34] The agency spent more than 75% of this allocation ($15.8 million) on substantive actions required by court orders or settlement agreements resulting from litigation.[35] The Chamber Report interpreted this as sue-and-settle cases and other lawsuits "effectively driving the regulatory agenda of the ESA program at FWS."[36]

C. Arguments Against the Practice and Negative Reaction

The use of sue-and-settle can dictate the policy and budgetary agendas of an agency by influencing action to be taken on specific regulatory programs.[37] The Chamber Report argues that instead of agencies being able to use their discretion in utilizing their limited resources, these resources are being shifted away from critical duties in order to satisfy the narrow demands of outside groups.[38] Additionally, with unrealistic deadlines, there will be collateral

30. Seidenfeld & Nugent, *supra* note 17, at 287.

31. Chamber Report, *supra* note 5, at 14.

32. *Id.* at 12 (citing Moore, *supra* note 6).

33. *Id.* (data from figure: President Bill Clinton (second term only) – 27 CAA rules; President George W. Bush (hereinafter Bush) – 66 CAA rules; President Obama (through May 2013) – 60 CAA rules)

34. *Id.* at 22 (citing Testimony of Hon. Dan Ashe, Director, U.S. Fish and Wildlife Service before the House Natural Resources Committee, Dec. 6, 2011).

35. *Id.*

36. *Id.* Further (unbiased) analysis would need to be taken to determine if this allocation is understandable and/or the claims are right within the frame of the entire obligations by the agency.

37. *Id.*

38. *Id.*

damage on other rules, inviting the same advocacy groups to reset EPA's priorities further by suing to enforce those deadlines.[39]

Typical arguments against sue-and-settle have a basis in the broader public interest of the right of the public to notice-and-comment[40] proceedings before the promulgation of regulations. The main thrust of the assault on sue-and-settle is that the process "avoids the normal protections built into the rulemaking process."[41] This leads to "rulemaking in secret,"[42] because settlements provide "no opportunity"[43] for "state and industry officials directly affected by the settlements"[44] to weigh in before "the outcome of the rulemaking is essentially set."[45] The following key assertion is made in a typical argument against the process:

> Environmental groups use the sue-and-settle process to engage in secret, backroom rulemaking away from the protections of public notice-and-comment processes to bind regulated entities in ways favorable to the environmental agenda — an end-run around public notice-and-comment. Through sue-and-settle, advocacy groups also significantly affect the regulatory environment by getting agencies to issue substantive requirements not required by law. Even when a regulation is required, agencies can use the terms of a sue-and-settle agreement as a legal basis for allowing special interests to dictate the discretionary terms of the regulations. Third parties have a very difficult time challenging the agency's surrender of its discretionary power because they typically cannot intervene, and the courts often simply want the case to be settled quickly.[46]

1. Skirting Procedural Safeguards in the Rulemaking Process

The Administrative Procedure Act ("APA") is designed to promote transparency and public participation in the rulemaking process. Claims of the sue-and-settle process skirting procedural safeguards in the rulemaking process derive from when the substance of an agreement is fully negotiated between the agency

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39. *Id.* at 24.

40. "Notice-and-comment" refers to rulemaking following the procedures dictated in 5 U.S.C. § 553, also known as "informal rulemaking." *See* United States v. Mead Corp., 533 U.S. 218, 243-44 (2001) (Scalia, J., dissenting) (describing the informal rulemaking process).

41. Chamber Report, *supra* note 5, at 3.

42. *Id.* at 7.

43. Moore, *supra* note 6.

44. *Id.*

45. Chamber Report, *supra* note 5, at 6.

46. Moore, *supra* note 6; Chamber Report, *supra* note 5, at 22.

and the advocacy group, resulting in the rulemaking outcome essentially being set before the public has any opportunity to see it.[47] Furthermore, there are claims sue-and-settle allows agencies to avoid the normal protections built into the rulemaking process, such as reviews under several executive orders, reviews by the public, and reviews by the regulated community.[48] The example of the EPA Regional Haze program is further used to show that principles of federalism are also flagrantly ignored when EPA uses the conditions in sue-and-settle agreements to set aside state-administered programs.[49] Another example of this practice is the out-of-court settlement agreement with the Chesapeake Bay Foundation regarding the Chesapeake Bay, which the EPA has relied on as a basis for its establishment of a federal total maximum daily load ("TMDL") program for the entire 64,000 square-mile Chesapeake Bay watershed and EPA's usurpation of state authority to implement TMDLs in the watershed.[50]

Dates for regulatory action are often specified in statutes, requiring agencies to use their discretion to set resource priorities in order to meet their many competing obligations and sometimes resulting in the inability to meet deadlines.[51] By negotiating unrealistic and often unachievable deadlines and schedules, agencies lay the foundation for rushed, sloppy rulemaking, resulting in further time and resources required to be spent on technical corrections, subsequent reconsiderations, or court-ordered remands to the agency, defeating the advocacy group's objective of forcing a rulemaking on a tight schedule.[52] A regulated entity's immediate obligation to comply with the rule is not changed with the potential of additional necessary fixes. By setting accelerated deadlines, agencies very often give themselves insufficient time to comply with the important analytic requirements Congress enacted to ensure sound policymaking.[53] In addition to undermining the protections of these statutory requirements, rushed deadlines can limit review of regulations under the OMB's regulatory review under

47. Chamber Report, supra *note* 5, at 6.

48. *Id.*

49. *Id.*

50. *Id.* at 18; This federal takeover of the Chesapeake Bay program is an example how the process can deny the public rights in regulatory process to weigh in on a proposed regulatory decision before agency action occurs. The EPA did not have to seek public input, explain the statutory basis for its actions in the CWA, or give stakeholders an opportunity to evaluate the science upon which the agency relies.

51. *Id.* at 23.

52. *Id.*

53. *Id.* at 6; Requirements include the Regulatory Flexibility Act of 1980, as amended by the Small Business Regulatory Enforcement Fairness Act of 1996, 5 U.S.C. §§ 601-12; Unfunded Mandates Reform Act of 1995, 2 U.S.C. § 1501 et seq.

executive orders,[54] depriving the public, and the agency itself, of critical information about the true impact of the rule.[55]

2. State and Congressional Reaction

With an increasingly ambitious and contentious environmental agenda, the Obama Administration invited blame for the current perceived trend of sue-and-settle in environmental litigation.[56] In 2012, at least twelve state attorneys general ("AG") presented a Freedom of Information Act ("FOIA") request to investigate the communications between the Obama Administration agencies and environmental litigants, based on a suspicion of influence within the process of regulating industries.[57] Many of the AGs believe sue-and-settle "is an end run around the Administrative Procedures Act," and cite newly announced EPA regional haze rules — which came into being because of sue-and-settle, and which could raise electricity costs in their states by as much as 20% — as an example of the lack of transparency and a reliance on science to justify new rules within the administration.[58]

Despite the fact that the sole purpose of citizen suits is to grant access to the federal courts, Congress placed jurisdiction and oversight of citizen suits with congressional authorizing committees rather than with the House and Senate Judiciary Committees.[59] Jurisdiction is within committees with limited expertise in the subject matter, and therefore, many argue no meaningful oversight has been conducted in more than four decades over the use and abuse of citizen suit activity.[60] Several lawmakers, in a 2012 letter, argued EPA was taking this substantive action even though

54. *See, e.g.*, Exec. Order 12,866, "Regulatory Planning and Review" (Sept. 30, 1993), Exec. Order 13,132, "Federalism" (Aug. 4, 1999), Exec. Order 13,211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use" (May 18, 2001), Exec. Order 13,563, "Improving Regulation and Regulatory Review" (Jan. 18, 2011), among other laws.

55. Chamber Report, *supra* note 5, at 23.

56. *See* Moore, *supra* note 6 ("The Obama administration didn't invent sue-and-settle, but the pace has increased dramatically since 2009 — an era that Oklahoma Attorney General Scott Pruitt calls "sue-and-settle on steroids.").

57. *Id.*

58. *Id.*

59. *Id.*

60. *Id.*

it was not authorized to do so under law,[61] and was improperly using settlements as the regulatory authority for other CWA actions stating:

> We are concerned that EPA has demonstrated a disturbing trend recently, whereby EPA has been entering into settlement agreements that purport to expand Federal regulatory authority far beyond the reach of the Clean Water Act and has then been citing these settlement agreements as a source of regulatory authority in other matters of a similar nature.[62]

Proposed reform legislation has become the next step for those who believe the Obama Administration has opened the door to pro-regulation environmental interest groups through the use of sue-and-settle agreements to impose rules behind closed doors with little or no public input.[63] Senator Chuck Grassley (R-IA) and Representative Doug Collins (R-GA) introduced the Sunshine for Regulatory Decrees and Settlements Act of 2015,[64] requiring all proposed consent decrees to be posted for sixty days for public comment before being filed with a court, allowing affected parties to challenge them and intervene prior to the filing of the consent decree or settlement.[65] Under the proposed legislation, the agency would also have to inform the court of its other mandatory duties and explain how the consent decree would benefit the public interest.[66] This legislation stems from a 2012 House Judiciary Committee study into the abuses of the sue-and-settle process, and the passage of this legislation is considered by many of those against sue-and-settle to be the key to close the massive loophole in our regulatory process.[67]

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61. *See* Letter from House Transportation & Infrastructure Committee Chairman, John L. Mica, House Water Resources & Environment Subcommittee Chairman, Bob Gibbs, Senate Environment & Public Works Committee Ranking Member, James Inhofe, and Senate Water & Wildlife Subcommittee Ranking Member, Jeff Sessions, to EPA Administrator Lisa Jackson (Jan. 20, 2012), http://archives.republicans.transportation.house.gov/Media/file/112th/Water/2012-01-19--Letter_to_EPA_re_Buzzards_Bay-CLF_Litigation.pdf.

62. U. S. SENATE COMMITTEE ON ENVIRONMENT & PUBLIC WORKS, MINORITY OFFICE: HOUSE, SENATE LAWMAKERS HIGHLIGHT CONCERNS WITH EPA SUE & SETTLE TACTIC FOR BACKDOOR REGULATION (2012).

63. Ben Quayle, *Legislation to Fight Excessive Regulations*, W. FREE PRESS (Mar. 28, 2012), http://www.westernfreepress.com/2012/03/28/ben-quayle-legislation-to-fight-excessive-regulations/ (quoting a press release issued by former Congressman Ben Quayle).

64. Sunshine for Regulations and Regulatory Decrees and Settlements Act of 2016, H.R. 712, 114th Cong. (2015); Sunshine for Regulatory Decrees and Settlements Act of 2015, S. 378, 114th Cong. (2015) [hereinafter H.R. 712 and S. 378].

65. Chamber Report, *supra* note 5, at 8.

66. *Id.*

67. *Id.*

III. ACTING WITHIN THE SCOPE OF AGENCY AUTHORITY

The sue-and-settle actions are within the scope of agency allowance when analyzing the citizen suit provisions and why they were implemented. Citizen suits all trace their origin to Section 304 of the CAA. Congress exhibited a tendency to lift Section 304 of the CAA and included it in all new federal environmental statutes and major statutory amendments.[68] Subsequently, several courts have used the case law between statutes interchangeably.[69]

A. Legislative History Analysis

In regards to citizen suit provisions generally, the legislative history of the CAA supports the theory that Congress's intent was to push government regulators to greater enforcement action and to supplement their thinly stretched resources.[70] Comments by legislators involved in the passage of the various citizen suit provisions suggest Congress viewed citizen suits as an inexpensive alternative to government enforcement. Therefore, the provisions were included in an effort to encourage agencies, or relevant state agencies, to act when appropriate. Citizen suits were designed to "expand the scope of enforcement without burdening public funds and encourage public authorities to enforce environmental laws."[71] It appears clear Congress, at least in part, believed the provisions would allow citizens to act as private attorneys general and enforce the laws directly.[72] Implicit in this approach is the view that individual citizens, because they would be directly affected by the pollution, would be especially motivated and be effective advocates, while the EPA was understaffed and its resources inadequate.[73]

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68. Jeffrey G. Miller, *Private Enforcement of Federal Pollution Control Laws Part I*, 13 ENVTL. L. REP. 10309, 10311 (1983) [hereinafter Miller, Part I].

69. Hallstrom v. Tillamook Cnty., 844 F.2d 600 (9th Cir. 1987) (at least eight environmental statutes contain identical or similar provisions, which courts have construed identically despite slight differences in wording); Roe v. Wert, 706 F. Supp. 788, 792 (W.D. Okla. 1989) (no circuit has addressed the sixty days' notice provision of § 9659, however, it is informative that some circuits have addressed the notice requirements of various other environmental statutes).

70. Robert D. Snook, *Environmental Citizen Suits and Judicial Interpretation: First Time Tragedy, Second Time Farce*, 20 W. NEW ENG. L. REV. 311, 317 (1998).

71. L. Ward Wagstaff, *Citizen Suits and the Clean Water Act: The Supreme Court Decision in* Gwaltney of Smithfield v. Chesapeake Bay Foundation, 1988 UTAH L. REV. 891, 894 (1988).

72. *See* Baughman v. Bradford Coal Co., 592 F.2d 215, 218 (3d Cir. 1979) (citing S. REP. No. 91-1196, at 35-36 (1970)).

73. *See* 116 Cong. Rec. 32,925 (1970) (remarks of Senator Hruska).

During the legislative debates surrounding passage of the CAA, some in Congress said suits were permitted in order "to both goad the responsible agencies to more vigorous enforcement of anti-pollution standards and, if the agencies remained inert, to provide an alternative enforcement mechanism."[74] Senator Muskie stated, "[s]tate and local governments have not responded adequately to the need for enforcement. It is clear enforcement must be toughened . . . . More tools are needed, and the Federal presence and backup authority must be increased."[75] There was a belief that government initiative in seeking enforcement under the CAA had been restrained, and authorizing citizens to bring suits for violations should motivate governmental enforcement and abatement proceedings.[76] Therefore, allowing recovery of the costs of litigation, including attorneys and expert witness fees, and extending intervention as of right in related cases were methods used as encouragement to promote citizen initiative to enforce pollution laws.[77]

1. Questioning Support of Citizen Suits

An entirely different view of the role of private parties is seen with regard to the inclusion of the notice and diligent prosecution provisions.[78] The very existence of these sections implies Congress was hesitant to allow unfettered citizen access to the courts.[79] For example, Senator Hruska remarked "the functioning of the department could be interfered with, and its time and resources frittered away by responding to these suits."[80] Consequently, these two restrictions were placed on citizen suits to assure they would complement and not interfere with federal regulatory and enforcement programs.[81] This is confirmed by the preclusion of citizen suits if a compliance action is being diligently prosecuted.[82] As one court noted, these two sections combined suggest "Congress intended to provide for citizens' suits in a manner that would be

74. Baughman, *supra* note 72.
75. A LEGISLATIVE HISTORY OF THE CLEAN AIR ACT AMENDMENTS OF 1970 226 (1974).
76. S. Rep. No. 91-1196, at 36-37; *see also* Jeffrey G. Miller, *Private Enforcement of Federal Pollution Control Laws Part II*, 14 ENVTL. L. REP. 10063, 10064 (1984) [hereinafter Miller, Part II].
77. WILLIAM H. RODGERS, JR., ENVIRONMENTAL LAW 63 (1986).
78. Snook, *supra* note 70, at 318.
79. *See* Walls v. Waste Res. Corp., 761 F.2d 311, 317 (6th Cir. 1985).
80. Hruska, *supra* note 73.
81. Snook, *supra* note 70, at 318.
82. Rodgers, *supra* note 77, at 63.

least likely to clog already burdened federal courts and most likely to trigger governmental action which would alleviate any need for judicial relief."[83]

2. Legislative History Implications

During passage of the CWA, what little is found in the legislative history with respect to citizen suits reiterates the point that "if the agency had not initiated abatement proceedings following notice or if the citizen believed efforts initiated by the agency to be inadequate," a citizen had the ability to file a citizen suit.[84] Courts would then examine the agency's actions to determine if they were adequate and would then permit, consolidate, or dismiss the citizen action as required.[85] Citizen actions were clearly deemed supplementary to agency proceedings, and further, the courts were to act as arbiters of whether such private efforts could continue in the face of some form of government enforcement.[86] Not to say citizen participation was to be discouraged, but in two adjacent paragraphs, the legislative history refers to its "concern" about "frivolous and harassing citizen actions," and on the other hand, to "legitimate citizen actions" as "a public service."[87] Even in the brief references to citizen suits in the CWA, there is evidence Congress viewed such actions as both a valuable public service and a potential threat to environmental enforcement at the same time.[88]

B. Remaining Notice Problem

Congress's efforts to hammer out a compromise to allow citizens to sue, while preserving the overall authority of government regulators, resulted in badly fractured legislative history, providing judges abundant opportunity to justify expanding or restricting the citizen suit provisions as they see fit.[89] The primary case of interest with respect to the notice requirement is *Hallstrom v. Tillamook County*,[90] which concluded, consistent with the Supreme

83. Baughman, *supra* note 72 (quoting City of Highland Park v. Train, 519 F.2d 681, 690-91 (7th Cir. 1975)).

84. S. Rep. No. 92-414, at 80 (1971), reprinted in 1972 U.S.C.C.A.N. 3668, 3746.

85. *See id*., reprinted in 1972 U.S.C.C.A.N. at 3746.

86. *Id*.

87. *Id*. at 81, reprinted in 1972 U.S.C.C.A.N. at 3747.

88. Snook, *supra* note 70, at 319.

89. *Id*. at 320.

90. Hallstrom v. Tillamook Cnty., 493 U.S. 20 (1989) (e.g., RCRA's requirement for citizens to notify EPA, the state in which alleged violation of Act occurred, and the alleged violator of intent to sue at least sixty days before commencing suit is a mandatory condition precedent to commencing suit under the citizen suit provision).

Court's generally strict view of citizen suits, notice is a mandatory jurisdictional prerequisite, the absence of which unequivocally bars a suit.

Several post-*Hallstrom* courts have found ways to avoid a literal interpretation of the Supreme Court's holding. For example, in *Friends of the Earth, Inc. v. Chevron Chemical Co*., the district court judge held a "strict application of the notice requirement can be procedurally unwieldy for litigants and courts."[91] "A strict application would require a plaintiff to send an additional notice to the EPA, state administrator, and permittee for every subsequent permit violation occurring after the suit was filed."[92] The court went further and relaxed the element of the notice requirement mandating listing the character of the violation, thus informing plaintiffs they need only "illuminate the parameters that have been exceeded."[93]

However, this generous treatment by some courts should not be heavily relied on, and "under no circumstances, should citizen plaintiffs believe they can count on generous treatment for technical notice deficiencies."[94] Many, such as Snook, believe there is nothing ambiguous about the Supreme Court's holding in *Hallstrom* and that "notice is a jurisdictional prerequisite to suit and not a procedural nicety."[95] Snook further details the interpretation of the Supreme Court's holding, stating:

> Although some courts have been willing to stretch matters somewhat, others have been willing to bar citizen suits for failings of the notice requirement that appear minor.[96] Ultimately, the best advice that can be given to citizen plaintiffs with regard to the notice requirement is to abide by the terms of the statute precisely and to provide the agency and the putative defendant with timely notice of the fact a suit is contemplated, who the defendants are, the violations complained of, and the statutes under which suit will be brought. Even if a court might be willing to overlook deficiencies in notice, it may be a waste of resources fighting the issue, and the *Hallstrom* decision gives defendants a powerful weapon to delay or derail citizen suits at their onset.[97]

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91. Friends of the Earth, Inc. v. Chevron Chem. Co., 900 F. Supp. 67, 77 (E.D. Tex. 1995).
92. *Id.*
93. *Id.*
94. Snook, *supra* note 70, at 323.
95. *Id.*; *see* Hallstrom, *supra* note 90, at 33.
96. Snook, *supra* note 70, at 323.
97. *Id.*

However, the issue of preclusion of citizen suits if a compliance action is being diligently prosecuted "has not benefitted from efforts at clarification by the Supreme Court."[98] The lack of statutory definition and the hazy legislative history have created contradictory opinions. This has served to confuse practitioners and offer judges with any set of partialities an array of precedent to support any conclusion they so choose. The First Circuit made the following statement:

> The focus of the statutory bar to citizen's suits is not on state statutory construction, but on whether corrective action already taken and diligently pursued by the government seeks to remedy the same violations as duplicative civilian action. . . . . Duplicative enforcement actions add little or nothing to compliance actions already underway, but do divert State resources away from remedying violations in order to focus on the duplicative effort. [99]

Under the CWA, the Tenth Circuit concluded that the "issue of whether a state was diligently prosecuting a manufacturer for its alleged environmental abuses was not appropriate for interlocutory review," since the issue had not been directly adjudicated.[100] Citizen plaintiffs have had numerous successes after *Baughman*[101] to demonstrate that government administrative actions are not sufficiently diligent to forestall private actions. Typically, citizen plaintiffs prevail when there has been (i) a history of noncompliance,[102] (ii) the imposition of trivial penalties,[103] and (iii) no citizen participation.[104]

C. Logical Outcome

The sue-and-settle process could simply be a logical outcome of passing legislation, and the legislative intent of the citizen suit

98. *Id.* at 324.

99. N. & S. Rivers Watershed Ass'n, Inc. v. Town of Scituate, 949 F.2d 552, 556 (1st Cir. 1991).

100. Paper, Allied-Indus., Chem. & Energy Workers Int'l Union v. Cont'l Carbon Co., 428 F.3d 1285 (10th Cir. 2005).

101. Baughman v. Bradford Coal Co., 592 F.2d 215 (3d Cir. 1979).

102. *See* New York Coastal Fishermen's Ass'n v. New York City Dep't of Sanitation, 772 F. Supp. 162, 169 (S.D.N.Y. 1991).

103. *See* Friends of the Earth, Inc. v. Laidlaw Envtl. Servs. (TOC), Inc., 890 F. Supp. 470, 491 (D.S.C. 1995).

104. *See* Frilling v. Vill. of Anna, 924 F. Supp. 821, 841 (S.D. Ohio 1996); Friends of the Earth, *supra* note 103.

provisions were meant to expedite the process in order to prevent the types of potential environmental harms that are the subject of the litigation. However, a main contention to this view directs its focus on the consequences of allowing unlimited citizen suits compelling agency action under environmental statutes. Congress has expressed concern of "the potential to severely disrupt agencies' ability to meet their most pressing statutory responsibilities."[105]

Supporters note that evidence of this statutory responsibility argument was present when the Court of Appeals for the District of Columbia detailed the legislative history of the Clean Air Act Amendments, revealing "the citizen suits provision reflected a deliberate choice by Congress to widen citizen access to the courts, as a supplemental and effective assurance that the Act would be implemented and enforced."[106] Congress made "particular efforts to draft a provision that would not reduce the effectiveness of administrative enforcement" or "cause abuse of the courts, while at the same time preserving the right of citizens" to enforcement.[107]

IV. SUE-AND-SETTLE PROCESS ROLE WITHIN RULEMAKING

A. Comment and Agency Decision

Some critics argue that the "opportunity to comment on the product of sue-and-settle agreements, either when the agency takes comment on a draft settlement agreement or through notice and comment on the subsequent rulemaking," is not "sufficient to compensate for the lack of transparency and participation in the settlement process itself."[108] The U.S. Chamber Report contends that in cases where the agency allows public comment on draft consent decrees, rarely is the consent agreement altered, even after adverse comments are received.[109] Since the settlement agreement directs the timetable, following structure, and sometimes even the actual substance of the agency rulemaking, "interested parties usually have a very limited ability to alter the design of the subsequent rulemaking through their comments."[110] This per-

105. Chamber Report, *supra* note 5, at 25.

106. Nat. Res. Def. Council, Inc. v. Train, 510 F.2d 692, 700 (D.C. Cir. 1974).

107. A LEGISLATIVE HISTORY OF THE CLEAN AIR ACT AMENDMENTS OF 1970, VOL. I. at 387 (1974) (remarks of Senator Cooper); *see* Friends of the Earth v. Potomac Elec. Power Co., 546 F. Supp. 1357 (D.D.C. 1982).

108. Chamber Report, *supra* note 5, at 24.

109. *Id.*

110. *Id.* (EPA overwhelmingly rejected the comments and recommendations submitted by the business community on the major rules that resulted from sue-and-settle agreements. These rules were ultimately promulgated largely as they had been proposed).

ceived limitation to alter the design of the rulemaking has been analogized to the "cement of the agency action" being "considered to be set" and "already hardened," making it difficult for groups not involved in the process to change the substance of the rule.[111] Claims of restrictions on how much an agencies can change the rule before it becomes final[112] and differences in the fluidity of proposed regulation, compared to proposed legislation,[113] all help support this concept that change to proposed regulations is not likely or almost impossible. The U.S. Chamber Report summarized the view of this limitation by stating: When an agency proposes a regulation, they are not saying, "let's have a conversation about this issue," they are saying, "this is what we intend to put into effect unless there is some very good reason we have overlooked why we cannot."[114] Those making this argument contend that providing an agency with feedback "during the early development stage about how a regulation will affect those covered by it," creates an opportunity for the agency to learn "from all stakeholders about problems before they get locked into the regulation."[115]

However, this action of taking comments, but not altering the subsequent rulemaking, is within the scope of the powers of the agency. While anyone may comment, the ultimate decision has to be reasonable pursuant to the APA, and the agency has to provide a basis for their decision and show how the rule would achieve its purpose. Under hard look review,[116] a court determines whether an agency considered all relevant factors and whether an agency developed a rational connection between the evidence in the administrative record and a decision to settle.[117] Hard look review requires the agency to explain why it acted as it did and to explain why it chose to settle the case in the face of arguments by intervenors.[118]

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111. *Id*. at 25.

112. *Id*. *See* South Terminal Corp. v. EPA, 504 F.2d 646, 658-59 (1st Cir. 1974) ("logical outgrowth doctrine" requires additional notice and comment if final rule differs too greatly from proposal).

113. Chamber Report, *supra* note 5, at 25.

114. *Id*.

115. *Id*.

116. *See* Greater Boston Television Corp. v. FCC, 444 F.2d 841 (D.C. Cir. 1970) (Judge Leventhal's explanation of the doctrine of hard look review of ensuring the agency is engaged in reasoned decision-making); *see also* Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 52 (1983) (adopting the "reasoned decision-making" approach to judicial review).

117. Citizens to Pres. Overton Park, Inc. v. Volpe, 401 U.S. 402, 416 (1971) ("Although this inquiry into the facts is to be searching and careful, the ultimate standard of review is a narrow one.").

118. For discussion of what the hard look doctrine requires, see Jim Rossi, *Redeeming Judicial Review: The Hard Look Doctrine and Federal Regulatory Efforts to Restructure the Electric Utility Industry*, 1994 WIS. L. REV. 763, 774 (1994); Mark Seidenfeld, *A Syncopated Chevron: Emphasizing Reasoned Decision-Making in Reviewing Agency Interpretations of Statutes*, 73 TEX. L. REV. 83, 128-29 (1994) (hereinafter Seidenfeld, *A Syncopated Chevron*);

In similar situations concerning environmental enforcement proceedings, federal courts applying this standard of review evaluate "the entire settlement process to ensure the agency has kept itself and intervenors informed about factual matters, as well as the likelihood the settlement will cure the violation and deter future violations."[119] Finding the proposed consent decree is arbitrary and capricious will result in the court refraining from imposing its own solution on the conflict and send the parties off to either try the case or return to negotiations.[120] By refraining from ruling, the judge avoids transferring the primary decision-making responsibility to the courts.[121]

The "logical outgrowth test" is used through all rulemaking proceedings as a standard in which the court holds the agency to, not just in sue-and-settle cases.[122] On many of these rules, the agency already has feedback from potential stakeholders, and in cases where they do not have sufficient information or resources to complete the process in a timely manner, the agencies have frequently requested more time to develop the rule.

B. Time Sensitive Rulemaking

A remaining problem exists when courts do not allow the agency substantial time to properly develop the rule. Those against the outcomes of the sue-and-settle process argue dates for regulatory action are often specified in statutes, and agencies are typically unable to meet the majority of those deadlines. To a great extent, these agencies must use their discretion to set resource priorities in order to meet their many competing obligations. By agreeing to unrealistic, and often unachievable deadlines, the agency lays the foundation for rushed and potentially sloppy rulemaking, which often delays or defeats the objective the agency is seeking to achieve.[123] These hurried rulemakings typically require adjustment through technical corrections, subsequent reconsiderations, or court-ordered remands to the agency.[124] Ironically, the process of issuing rushed, poorly developed rules, and then having to

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Mark Seidenfeld, *Cognitive Loafing, Social Conformity, and Judicial Review of Agency Rulemaking*, 87 CORNELL L. REV. 486, 518 n.163 (2002).

119. Seidenfeld & Nugent, *supra* note 17, at 312.

120. *See id*.

121. *See e.g.*, Seidenfeld, *A Syncopated Chevron*, *supra* note 118, at 126-27 (discussing potential of the administrative state to implement the "deliberative democratic ideal" of government decision-making); *see also* Mark Seidenfeld, *A Civic Republican Justification for the Bureaucratic State*, 105 Harv. L. Rev. 1511, 1571 (1992) (discussing the role of judicial review in the administrative state).

122. *See South Terminal Corp*., 504 F.2d at 659.

123. Chamber Report, *supra* note 5, at 23.

124. *Id*.

spend months or years to correct them, could defeat the advocacy group's objective of forcing a rulemaking on a tight schedule.[125] However, the time it takes to make these fixes does not change a regulated entity's immediate obligation to comply with the constructed rule.[126]

A counter argument presents the position that immediate obligation to comply is the key objective of the practice, and while it may cause some harm to the regulated entity, the immediate action is needed due to the potential environmental harm taking place. Having to weigh time with rushed, possible sloppy rulemaking is a substantial risk the agency takes on with consent decrees. These agreements are generally quick and efficient mechanisms for resolving an issue. "The courts have long recognized that public policy favors settlements as a cost-efficient means of resolving disputes and conserving judicial resources."[127] This is especially true in environmental actions, because consent agreements "relieve the government of considerable burdens on its limited resources."[128] Even if successful, a lawsuit takes years, particularly if appeals are involved. Consent agreements can be finalized in a few months and allow the remedial action to initiate before the damage or problem spreads further.[129] This results in time being a "critical factor in remediation efforts,"[130] which are an essential element in overall environmental litigation. The court is making a calculated decision, weighing the time versus the rulemaking process, and deciding in cases of limited time frames that the environmental issue is too significant, ultimately denying the full time allocation requested by the regulated entities.

However, a thorough weighing of the issues would provide the agency with a realistic sense of the implications placed on the regulated entities. If regulated parties have not been represented when deadlines are set, an agency will not have a realistic sense of the entirety of the issues involved in the rulemaking and the agency could be considered ill-suited to make such decisions without significant feedback from those who actually will have to comply with a regulation.[131]

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125. *Id.*

126. *Id.*

127. United States v. Bliss, 133 F.R.D. 559, 567 (E.D. Mo. 1990) (citing Kiefer Oil & Gas Co. v. McDougal, 229 F. 933 (8th Cir. 1915)).

128. *Id.*

129. Snook, *supra* note 70, at 325.

130. *Id.*

131. *Id.*

V. TARGETED REMEDIES OF SIGNIFICANT CONCERNS

A main goal for the judiciary in this process should be achieving consistency and efficiency among the courts in applying the law. Years after the initial enactment of the relevant environmental statutes, the federal courts have failed to fashion a consistent and coherent body of law to guide public and private parties with respect to when and how citizen suits may be applied to protect human health, safety, and the environment. The primary areas of concern have involved the notice issue, ability to comment, and overall transparency in the process.

A. Increased Agency Discretion

1. Negotiated Schedule for Regulation Issuing

The concern that the practice is spreading to include other complex statutes that have statutorily imposed dates for issuing regulations is another major concern. The U.S. District Court for the Northern District of California, which has been very active in sue-and-settle cases, issued an order in a Food Safety Modernization Act case and set in motion a new process to bring sue-and-settle actions under Section 706 of the APA.[132] The court recognized a statutorily imposed deadline, but also made an important note that "the FDA is correct that the purpose of ensuring food safety will not be served by the issuance of regulations that are insufficiently considered, based on a timetable that is unconnected to the magnitude of the task set by Congress."[133] The court ordered the agreement of a mutually acceptable schedule setting forth proposed deadlines, in detail sufficient to form the basis of an injunction, in order to force the parties to attempt to cooperate, while also avoiding an arbitrary decision by the court.[134] However, the Ninth Circuit ruled ESA consultation duty is triggered "only when the agency has authority to take action and discretion to decide what action to take."[135] While there is no point in consulting if the agency has no choices, "with a new possible structure in place using the APA as a basis for citizen suits, private interest groups and agencies, without use of any other citizen suit provision, could negotiate private arrangements for how an agency will proceed with

132. Ctr. for Food Safety v. Hamburg, 954 F. Supp. 2d 965 (N.D. Cal. 2013).
133. *Id*. at 972.
134. *Id*
135. Ctr. for Food Safety v. Vilsack, 718 F.3d 829, 842 (9th Cir. 2013).

a new regulation."[136] If this negotiated schedule could take place within the sue-and-settle process, there would be more agency discretion in the determination of implementation dates and consideration for agency resources.

2. Agency Discretion after Settlement

There may be numerous reasons why advocacy groups favor these type of sue-and-settle agreements, for instance, the fact that the approval by the court allows the court to retain jurisdiction over the settlement.[137] Those opposed to these sue-and-settle agreements contend this allows the plaintiff group the ability to "readily enforce perceived noncompliance with the agreement by the agency."[138] Many argue that the agency cannot change "any of the terms of the settlement (e.g., an agreed deadline for a rulemaking) without the consent of the advocacy group."[139] Therefore, even if problems are identified and there are problems with agency compliance of a settlement agreement, "the advocacy group typically can force the agency to fulfill its promise, regardless of the consequences for the agency or regulated parties."[140] There is a need for agency ability to make necessary changes to prevent unreasonable burden on the agency or regulated entities. The determination of whether this is an unreasonable burden should be made by the courts, because each case will be different and the burden on the agency and the regulated entitles will change over time. The court will also be able to take into account the potential harm facing the public and factor into the determination.

B. Jurisdictional Consistency

Clarification of the law can begin with the repetition of the terms of the statutes on the state and federal level, with additional clarifying language explaining what a state statute must include in order to be sufficiently similar to a federal law and bar a citizen suit. One proposed standard that could be possible and offer advantages over the current state of the law details:

> Citizens suits provisions under the relevant environmental statutes (CWA, CAA, CERCLA and section 7001(a)(1)(A) of RCRA) should be prohibited if a state or federal administra-

136. Chamber Report, *supra* note 5, at 7.
137. *Id.* at 24.
138. *Id.*
139. *Id.*
140. *Id.*

> tive agency has: (1) filed suit in state or federal court under one of the above-referenced federal laws or an analogous state statute offering substantially similar penalties and citizen participation provisions, (2) entered into a consent order, filed in a state or federal court, addressing substantially the same violations advanced in the citizen suit, or (3) filed with a state or federal court an executed memorandum of understanding describing, in detail, the terms to be included in the eventual consent order. It is stressed any consent order or memorandum of understanding under either options (2) or (3) should include clear and specific procedures to ensure citizen participation and review, fixed time schedules for compliance, and effective civil remedies and default provisions.[141]

A stated advantage offered by this additional language is the removal of "ambiguity as to when an action brought under a state law will bar a citizen suit under a federal law."[142] Defendants and plaintiffs would also see benefits because with the removal of ambiguity, there would be significantly less uncertainty in this "complex and expensive process."[143] Additionally, process clarification could be provided by requiring Congress to amend the citizen suit provisions to expressly state a suit will be barred unless the relevant regulatory agency and those bringing suit commit (if applicable) to producing a consent order which includes mandatory deadlines in a timeline produced through a process that must have mandatory provisions for regulated entities or other involved parties participation as a right.

A potential change made to the sue-and-settle process through additional legislation could be based on the tracking of settlements that impose significant new rules and requirements, including notification to the public in a systematic fashion. With a statutory requirement to disclose (e.g., on the agency website), the notice of intent to sue that is received from outside parties would be accessible and not just a voluntary measure. Additionally, a statutory requirement providing public notice of the filing of a complaint and/or petitions for rulemaking would assist in making the process more transparent and open to the regulated entities. These measures would also bring the provisions in the environmental statutes in conformity with the CAA. Unlike other environmental

141. Snook, *supra* note 70, at 339.
142. *Id.*
143. *Id.*

laws, the CAA specifically requires EPA to publish notices of draft consent decrees in the Federal Register, providing:

> At least 30 days before a consent decree or settlement agreement of any kind under the this chapter to which the United States is a party (other than enforcement actions under this section, section 7420 of this title, or subchapter II of this chapter, whether or not involving civil or criminal penalties, or judgments subject to Department of Justice policy on public participation) is final or filed with a court, the Administrator shall provide a reasonable opportunity by notice in the Federal Register to persons who are not named as parties or intervenors to the action or matter to comment in writing.[144]

Of all the other major environmental statutes, only a specific section of CERCLA requires an equivalent public notice of a settlement agreement.[145]

C. Analysis of Current Proposed Legislation

In the most current legislative session (2015-16), Senator Chuck Grassley (R-IA) and Representative Doug Collins (R-GA) introduced the Sunshine for Regulatory Decrees and Settlements Act,[146] requiring all proposed consent decrees to be posted for sixty days for public comment before being filed with a court, allowing affected parties to challenge them and intervene prior to the filing of the consent decree or settlement.[147] Under the proposed legislation, the agency would also have to inform the court of its other mandatory duties and explain how the agreement would be in the public interest.[148] This legislation stems from a 2012 House Judiciary Committee study into the abuses of the sue-and-settle process, and the passage of this legislation is considered key to close the

144. Clean Air Act, 42 U.S.C. § 7413(g) (2012).

145. Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9622(i) (2012) ("At least 30 days before any settlement . . . may become final in the case of a settlement embodied in an administrative order, the head of the department or agency which has jurisdiction over the proposed settlement shall publish in the Federal Register notice of the proposed settlement. The notice shall identify the facility concerned and the parties to the proposed settlement.").

146. H.R. 712 and S. 378, *supra* note 64.

147. *Id.* § 103(c)(1) of H.R. 712, and § 3(d)(1) of S. 378; Chamber Report, *supra* note 5, at 8.

148. *Id.* § 103(d)(4) of H.R. 712, and § 3(d)(4) of S. 378; Chamber Report, *supra* note 5, at 28.

massive loophole in our regulatory process.[149] The proposed legislation defines a "covered civil action" as a civil action seeking to compel agency action and alleging an agency is unlawfully withholding or unreasonably delaying an agency action relating to a regulatory action that would affect: (1) the rights of private persons other than the person bringing the action; or (2) a state, local, or tribal government.[150] It also defines a "covered consent decree" or a "covered settlement agreement" as: (1) a consent decree or settlement agreement entered into in a covered civil action, and (2) any other consent decree or settlement agreement that requires agency action relating to such a regulatory action that affects the rights of such persons or a state, local, or tribal government.[151] There is a question of what exactly is meant by "private person" in the text of the statute. This is an important distinction to raise since it would be assumed most regulated entities are businesses and industries, which are many times represented by interest groups. Limiting the application of relating a regulatory action to the rights of a private person is a necessary distinction to have present and understood within the text.

In terms of publication, the proposed legislation requires an agency to publish the notice of intent to sue and the complaint in a readily accessible manner, including making it available online within fifteen days of receipt.[152] Additionally, it allows parties affected by agency actions to intervene and provides procedures and requirements for a court in considering a motion to intervene.[153] This legislation requires the agency seeking to enter the consent decree to publish it in the Federal Register and online sixty days before it is filed with the court, and additionally provides for public comment and public hearings on the decree.[154]

The legislation also requires each agency to submit to Congress an annual report including "the number, identity, and content of covered civil actions brought against, and covered consent decrees or settlement agreements entered against or into, by the agency."[155] The House and Senate versions also mandate the inclusion in the report of any award of attorneys' fees or costs in the civil action, with the Senate version additionally requiring a description of the statutory basis for each consent decree and any award of attorneys' fees or costs.[156] This portion of the proposed legislation

149. Chamber Report, supra note 5, at 27-28.
150. H.R. 712 and S. 378, supra note 64, at § 102(2) of H.R. 712, and § 2(2) of S.378.
151. *Id.* § 102(3)-(5) of H.R. 712, and § 2(3)-(5) of S. 378.
152. *Id.* § 103(a)(1) of H.R. 712, and § 3(a)(1) of S. 378.
153. *Id.* § 103(b) of H.R. 712, and § 3(b) of S. 378.
154. *Id.* § 103(c)(1) of H.R. 712, and § 3(d)(1) of S. 378.
155. *Id.* § 103(g) of H.R. 712, and § 3(g) of S. 378.
156. *Id.*

could be beneficial for all parties going forward, potentially as a mechanism for further understanding the impact of these civil actions and the related agreements made with the agency. While submitting a report to Congress may be excessive, publishing the information in an organized report online would be substantially better for transparency and still allow Congress the opportunity to have the information if needed. Inclusion of the provisions of the Senate version, which would require inclusion of the description of the statutory basis, would allow the report to provide a complete overview of the civil actions. Knowing the full extent of the awarding of attorney fees will additionally assist in determining the potential benefit the agency receives from entering into these agreements in terms of savings from preventing costly and potentially lengthy litigation. Another significant portion of the proposed legislation requires a court to grant de novo review of a covered consent decree or settlement agreement if an agency files a motion to modify such decree or agreement under certain circumstances.[157] This de novo review is granted on the basis that the decree or agreement terms are no longer fully in the public interest due to the agency's obligations to fulfill other duties or changed facts and circumstances.[158]

The remaining problem is the possibility that the agency, once leadership has changed, could go back and file a motion to modify a decree or agreement on the basis that the terms of the decree or agreement are no longer fully in the public interest. This public interest determination, which is based on the agency's obligations to fulfill other duties or due to changed facts and circumstances, could be highly susceptible to political influence. This consideration of modification could include agency budgetary concerns or just the general direction and leadership of the agency. If it was deemed to be in the public interest at the point of decision, there should only be selective reasons why there could be a reevaluation. If it was deemed to be the agency's obligation to enforce a standard through a rule, obligations to other duties should not be a valid reason for significant modification of the agreement. Even the possibility of de novo review should be approached with care because a complete change of policy occurring does not give substantial deference to the previous finding and determination of being in the public interest.

157. *Id.*
158. *Id.* § 104 of H.R. 712, and § 4 of S. 378.

VI. CONCLUSION

Through identifying and further understanding the mechanism from which the sue-and-settle litigation is based, and being able to propose targeted remedies to residual concerns identified as significant factors in the process, many of the problems and misunderstandings of the process could be alleviated or recognized for the process in government they actually provide. Understanding the evolving impact of sue-and-settle on the regulatory process and being able to identify the weaknesses in the current system allows the public to become more involved and respectful of the process as well as willing to contribute to the discussion that has taken on national significance. This analysis dealing with the issues surrounding environmental regulation can prove to be a useful part of the democratic process and better inform this ongoing discussion over sue-and-settle and provide further insight into the potential courses of action that could be taken in the future to further understand, refine, and reshape the sue-and-settle process.

RECENT DEVELOPMENTS

IAN E. WALDICK*

I. NOTABLE FEDERAL CASES

A. Yates v. United States

In 2007 John Yates ("Yates"), a commercial fisherman, was caught with several undersized red grouper on his vessel in federal waters in the Gulf of Mexico by a Florida Fish and Wildlife Conservation Commission officer ("the Officer"), who was deputized as a federal agent by the National Marine Fisheries Service to enforce

* B.A., University of Central Florida, 2013; J.D., Florida State University College of Law, May 2016.

federal fishing laws.[1] Before issuing Yates a citation for the violation, the Officer measured and recorded the length of the fish that appeared to be smaller than the allowable catch size and instructed Yates to keep the undersized fish on his vessel in a crate until he returned to port; several days later at port, the Officer again measured the fish in the crate and found that the measurements did not match those that he had previously recorded.[2] Upon questioning the other crew-members, the Officer discovered that Yates had instructed one of them to toss the undersized fish into the water and to refill the crate with larger, albeit still undersized, fish.[3] Ultimately, Yates was charged with and convicted of "destroying property to prevent a federal seizure, in violation of section 2232(a), and for destroying, concealing, and covering up undersized fish to impede a federal investigation, in violation of section 1519."[4] Yates challenged the conviction under section 1519, which provides that "[w]hoever knowingly alters, destroys, mutilates, conceals, covers up, falsifies, or makes a false entry in any record, document, or tangible object" with the intent to interfere with any government investigation or case "shall be fined . . . imprisoned not more than 20 years, or both."[5] He argued that it "sets forth 'a documents offense' and that its reference to 'tangible object[s]' subsumes 'computer hard drives, logbooks, [and] things of that nature,' not fish."[6] The United States Court of Appeals for the Eleventh Circuit affirmed the conviction, finding the text of section 1519 "plain" in meaning.[7]

In a plurality opinion, the United States Supreme Court reversed the decisions below, and found that section 1519, properly read, encompasses only "objects one can use to record or preserve information."[8] The lead opinion began by examining the history that led up to the passing of section 1519, highlighting that it was passed as part of the Sarbanes-Oxley Act that "was prompted by the exposure of Enron's massive accounting fraud and revelations that the company's outside auditor, Arthur Andersen LLP, had systematically destroyed potentially incriminating evidence."[9]

The Government argued that section 1519 extended beyond the specific actions that led to its passage and that the language supports "a general ban on the spoliation of evidence, covering all

1. Yates v. United States, 135 S. Ct. 1074, 1079 (2015).
2. *Id.* at 1079-80.
3. *Id.* at 1080.
4. *Id.*
5. *Id.*
6. *Id.*
7. *Id.* at 1081.
8. *Id.*
9. *Id.*

physical items that might be relevant to any matter under federal investigation."[10] Yates countered that the statute, read in context, was limited only to "records, documents, and tangible objects used to preserve them, *e.g.*, computers, servers, and other media on which information is stored."[11]

In its analysis, the Court first turned to an examination of the context in which the language of section 1519 is found, rejecting the Government's argument that the phrase "tangible objects" appears in a similar context in Federal Rule of Criminal Procedure 16 to require prosecutors to grant a defendant's request to turn over any evidence material to the charges brought against him or her.[12] The Court started by examining section 1519's title: "Destruction, alteration, or falsification of records in Federal investigations and bankruptcy," concluding that the narrow nature of the title "suppl[ies] cues that Congress did not intend 'tangible object' . . . to sweep within its reach physical objects of every kind."[13] To demonstrate its intended narrow reach the Court then noted section 1519's position within the United States Code, along with other sections at the end of the chapter, "each of which prohibiting obstructive acts in specific contexts."[14] Next turning to the legislative history, the Court observed that section 1512(c)(1) was drafted and proposed after section 1519 and provided punishments for anyone who corruptly "alters, destroys, mutilates, or conceals a record, document, or other object . . . with the intent to impair the object's integrity or availability for use in an official proceeding," holding that the Government's proposed reading of section 1519 would render section 1512(c)(1) superfluous because it would reach exactly the same conduct.[15] Finally, applying the *noscitur a sociis* and *ejusdem generis* canons of statutory construction, the Court held that when read in conjunction with the phrase "any record [or] document" and the verbs "falsif[y] and mak[e] a false entry in," it would not make sense to interpret "tangible objects" to encompass anything other than things used for record-keeping.[16]

At this point, the Government argued that the Court should take into account the origins of the phrase "tangible objects" from a 1962 Model Penal Code provision which was read in line with the Government's broad interpretation; however, the Court found that section 1519 could not be read that broadly because it did not have

10. *Id.*
11. *Id.*
12. *Id.* at 1082-83.
13. *Id.* at 1083.
14. *Id.* at 1083-84.
15. *Id.* at 1084-85.
16. *Id.* at 1085-87.

in place protections built into the 1962 provision – namely that violation of section 1519 constitutes a felony whereas the 1962 provision constitutes only a misdemeanor and section 1519 encompasses actions touching on any aspect of a government investigations whereas the 1962 provision was much narrower in scope in that regard.[17] The plurality opinion concluded by stating that even if there is any doubt remaining about the meaning of "tangible object," that the rule of lenity demands a narrow interpretation, because Yates could not have been on notice of such a broad application.[18]

Justice Alito filed a concurring opinion in which he stated that he would resolve the case "on narrow grounds" and based his opinion solely on examination of the *noscitur a sociis* and *ejusdem generis* canons, as well as the title of the section.[19] The dissenting Justices criticized the lead opinion's resort to unconventional tools of statutory construction such as examination of the section's title,[20] its placement within the United States Code,[21] its inconsistent use of the surplusage canon,[22] requiring that all of the verbs in the statute aligned perfectly with all of the nouns in the statute,[23] and its invocation of the rule of lenity because it "only kicks in when there remains ambiguity after all legitimate tools of interpretation have been exhausted.[24] The dissent further criticized the concurring opinion for many of the same issues, particularly the use of the *noscitur a sociis* and *ejusdem generis* canons, and concluded that the concurring opinion is "a shorter, vaguer version of the plurality's."[25] The dissenting opinion ultimately posited that the only thing that can account for the plurality and concurring opinion are "overcriminalization and excessive punishment in the U.S. Code" because of the plurality's reliance on the disproportionate penalties present for violations of section 1519 and the provision of the 1962 Model Penal Code on which it was partially based.[26]

17. *Id.* at 1087-88.
18. *Id.* at 1088-89.
19. *Id.* at 1089-90 (Alito, J. concurring).
20. *Id.* at 1094 (Kagan, J. dissenting).
21. *Id.* at 1094-95 (Kagan, J. dissenting).
22. *Id.* at 1095-96 (Kagan, J. dissenting).
23. *Id.* at 1097-98 (Kagan, J. dissenting).
24. *Id.* at 1098-99 (Kagan, J. dissenting).
25. *Id.* at 1099-1100 (Kagan, J. dissenting).
26. *Id.* at 1100 (Kagan, J. dissenting).

B. Michigan v. Environmental Protection Agency

The Environmental Protection Agency ("EPA") decided to begin regulating emissions from power plants in 2000, and reaffirmed the finding in 2012, pursuant to the Clean Air Act Amendments of 1990. The Amendments required the Agency to "perform a study of the hazards to public health reasonably anticipated to occur as a result of emissions by [power plants] of [hazardous air pollutants] after imposition of" the Acid Rain Program, and to regulate power plants if the Agency "finds . . . regulation is appropriate and necessary after considering the results of the study," which was concluded in 1998.[27] Several states, as well as several industry groups, challenged the "appropriate and necessary" finding and the EPA's decision to begin regulating power plants in the United States Court of Appeals for the D.C. Circuit as unreasonable because the EPA did not explicitly take into account the costs, which were estimated to be $9.6 billion per year, and benefits, which were estimated to be $4 to $6 million per year ($37 to $90 billion per year if including ancillary benefits), of regulation in its decision to regulate.[28] The D.C. Circuit affirmed the EPA's decision and this appeal ensued.[29] It is important to note that although these costs were not explicitly taken into account in the EPA's "appropriate and necessary" finding, costs would have been taken into account at several steps in developing regulations, including the determination of "floor standards" and "beyond-the-floor standards."[30]

The majority began its analysis by invoking *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984): "*Chevron* directs courts to accept an agency's reasonable resolution of an ambiguity in a statute that the agency administers."[31] The Court held that "the phrase 'appropriate and necessary' requires at least some attention to cost because it is '"the classic broad and all-encompassing term that naturally and traditionally includes consideration of all the relevant factors."'[32] The Court held that the EPA's interpretation of the congressional directive as not requiring any consideration of costs actually precluded it from considering any types of costs whatsoever, and the EPA conceded as much.[33] The Court noted that although there are

27. Michigan v. EPA, 135 S. Ct. 2699, 2704-05 (2015).
28. *Id.* at 2705-06.
29. *Id.* at 2706.
30. *Id.* at 2705.
31. *Id.* at 2707.
32. *Id.* (quoting White Stallion Energy Ctr., LLC v. EPA, 748 F.3d 1222 (2014)).
33. *Id.*

circumstances in which "appropriate and necessary" would not encompass costs, a determination of whether regulation is necessary is not one of them, particularly when consideration of costs is imposed in other subsections of the statute, one of which requires a study into mercury emissions from power plants to determine "the health and environmental effects of such emissions, technologies which are available to control such emissions, and the costs of such technologies."[34] In other words, Justice Scalia wrote that "[a]gainst the backdrop of this established administrative practice, it is unreasonable to read an instruction to an administrative agency to determine whether 'regulation is appropriate and necessary' as an invitation to ignore cost."[35]

The EPA argued that it was not required to consider the mercury study before making the determination to regulate power plants. The Court, however, dispelled this argument and pointed to several places where the EPA stated that it would rely on several studies, including the mercury study, in making its decision.[36] The Court also rejected the EPA's argument that the "appropriate and necessary" finding cannot require a cost analysis since it was silent as to whether cost must be considered and other Clean Air Act provisions expressly require a consideration of cost.[37] The Court determined that "[i]t is unreasonable to infer that, by expressly making cost relevant to other decisions, the Act implicitly makes cost irrelevant to the appropriateness of regulating power plants."[38] The Court then went on to distinguish its decision in *Whitman v. American Trucking Associations, Inc.*, 531 U.S. 457 (2001), which the EPA urged was controlling, because the phrase "requisite to protect public health," which does not require any consideration of cost, is much narrower than "appropriate and necessary."[39]

The EPA further argued that it need not consider cost when making the decision to regulate, because if it decided to regulate power plants, costs would be taken into account at multiple stages throughout the regulatory process.[40] The EPA continued that the Clean Air Act makes cost irrelevant to the decision to regulate sources other than power plants, so it should not require costs to be taken into account with regard to power plants unless explicitly stated and that power plants are treated differently "because of

34. *Id.* at 2708.
35. *Id.*
36. *Id.*
37. *Id.* a 2708-09.
38. *Id.* at 2709.
39. *Id.*
40. *Id.*

uncertainty about whether regulation of power plants would still be needed after the application of the rest of the [Clean Air] Act's requirements."[41] The Court dispensed with these arguments by pointing out that the scope of the inquiry before it was much narrower than the entire regulatory scheme pertaining to power plants: it was simply whether "appropriate and necessary" requires some consideration of costs to the industry.[42] It further pointed out that the fact that the Clean Air Act does not require costs to be taken into account for the decision to regulate other sources actually cuts against the EPA's argument because the Clean Air Act treats power plants differently, which is the same approach that the Court took, and that if Congress had been concerned only with the uncertainty of whether further regulation would be necessary, it should have made that the required determination rather than "appropriate and necessary."[43]

Justice Thomas filed a concurring opinion in which he questioned the constitutionality of affording an agency's interpretation of ambiguous statutory language deference.[44] He cited separation of powers concerns and highlighted the fact that allowing a politically motivated arm of the government to "interpret" what a statutory provision means undermines the judiciary's role as envisioned by *Marbury v. Madison*, 5 U.S. 137 (1803).[45]

Four justices dissented in an opinion written by Justice Kagan; their main criticism of the majority's opinion being that it completely ignored that the EPA has extensively taken cost into account in nearly every step of the regulatory process after making the initial decision that it was "appropriate and necessary" to regulate power plants.[46] The dissent also faulted the majority for not taking into account the costs and benefits of the decision to regulate that were determined by the EPA after having made the decision to regulate power plants[47] – a point to which the majority responded by citing that the EPA conceded that it took no costs into account when making the decision.[48]

C. Horne v. Department of Agriculture

The Hornes, who are raisin growers and handlers, challenged under the Takings Clause of the Fifth Amendment the constitu-

41. *Id.* at 2709-10.
42. *Id.* at 2709.
43. *Id.* at 2709-10.
44. *See id.* at 2712-14 (Thomas, J. concurring).
45. *Id.* at 2712 (Thomas, J. concurring).
46. *Id.* at 2714-26 (Kagan, J. dissenting).
47. *Id.* at 2714 (Kagan, J. dissenting).
48. *Id.* at 2711.

tionality of a "marketing order" promulgated by the Secretary of Agriculture pursuant to the Agricultural Marketing Agreement Act of 1937 that required raisin growers to turn over a portion of their crop to the government each year to be disposed of as the government wished, with some compensation provided to the grower if the government made enough of a profit to offset the price-benefit conferred by the market manipulation.[49] In 2002, when the Raisin Administrative Committee, the entity in charge of collecting the government's portion of raisins, required raisin growers to turn over 47 percent of their crop, the Hornes refused to turn any over; they were subsequently fined the market value of the raisins, $480,000, along with a civil penalty of approximately $200,000.[50] After the Supreme Court had determined that the District Court of Appeals for the Ninth Circuit had jurisdiction to consider the Hornes' constitutional defense to the fine, the Ninth Circuit determined that the regulation was constitutional and compared it to "a government condition on the grant of a land use permit."[51] The Hornes appealed.[52]

The Supreme Court first considered "[w]hether the government's 'categorical duty' under the Fifth Amendment to pay just compensation when it 'physically takes possession of an interest in property' . . . applies only to real property and not to personal property."[53] Turning to the history of the Takings Clause, the Court concluded that there is no reason to treat personal property and real property any differently, noting that "[t]he principle reflected in the Clause goes back at least 800 years to Magna Carta, which specifically protected agricultural crops from uncompensated takings."[54] The Court further held that the government's requirement to turn over raisins is clearly a physical taking because the raisins "are transferred from the growers to the Government."[55] The Government argued that it was "strange" that the Hornes would object to the reserve requirement while conceding that the government could prohibit a sale of raisins altogether without effecting a taking; however, the Court rejected this argument because the Constitution is not solely concerned with the ends that a regulation seeks, but also the means employed to reach them.[56]

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49. Horne v. Dep't of Agric., 135 S. Ct. 2419, 2424-25 (2015).
50. *Id.*
51. *Id.* at 2425.
52. *Id.*
53. *Id.*
54. *Id.* at 2426.
55. *Id.* at 2428.
56. *Id.*

The Court next considered "[w]hether the government may avoid the categorical duty to pay just compensation for a physical taking of property by reserving to the property owner a contingent interest in a portion of the value of the property, set at the government's discretion."[57] The Government argued that because "raisins are fungible goods whose only value is in the revenue from their sale" and that the marketing order "leaves that interest with the raisin growers" since after subsidies are deducted from the revenue made on the raisins by the Government any net proceeds are returned to the grower, that the requirement to turn over raisins did not constitute a taking.[58] The Court concluded, however, that simply the retention of a contingent interest in the raisins by the grower "does not mean there has been no physical taking, particularly since the value of the interest depends on the discretion of the taker" and because at least occasionally, that interest has been worthless because there were no net proceeds to return to the growers.[59]

Last, the majority considered "[w]hether a governmental mandate to relinquish specific, identifiable property as a 'condition' on permission to engage in commerce effects a per se taking."[60] In reaching the conclusion that it did, the Court distinguished *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986 (1984), a case in which the government required pesticide manufacturers to disclose health and safety information about its products in order to sell them, and *Leonard & Leonard v. Earle*, 279 U.S. 392 (1929), a case in which the government required oyster packers to remit ten percent of the marketable detached oyster shells to the State for the privilege of harvesting the oysters.[61] The Court distinguished the former due to the risk to public safety if the hazards of the products were not disclosed,[62] and the latter because the oysters were found in state-owned water – meaning that they originally did not belong to the oyster packers as the raisins only ever belonged to the Hornes.[63]

The last argument that the Government made was that a taking does not violate the Fifth Amendment unless there is no just compensation and that "the Hornes are free to seek compensation for any taking by bringing a damages action under the Tucker Act in the Court of Federal Claims."[64] The Court dismissed this argu-

57. *Id.*
58. *Id.* at 2428-29.
59. *Id.* at 2429.
60. *Id.* at 2430.
61. *Id.* at 2430-31.
62. *Id.* at 2430.
63. *Id.* at 2431.
64. *Id.*

ment by pointing out that it had already decided that the Hornes do not have to pay the fine then seek redress for it in previous litigation: they may raise a takings defense to the fine itself.[65] The Government argued that if the Court determined that the marketing order constituted a taking, it should remand for the Ninth Circuit to calculate what compensation would have been due if the Hornes had complied with the requirement to turn over the raisins.[66] The Court concluded by stating that a remand would be unnecessary because the "just compensation" has traditionally been interpreted as the fair market value.[67]

Justice Thomas, joining the majority's opinion in its entirety, filed a brief concurring opinion arguing that the government's taking of raisins may not be permissible even if just compensation is paid because it is not "for public use."[68] Justice Breyer concurred with the majority that the regulation constituted a taking, but would have remanded the case for a determination of what would constitute "just compensation."[69] Specifically, Justice Breyer observed that "the relevant precedent indicates that the Takings Clause requires compensation in an amount equal to the value of the reserve raisins *adjusted to account for the benefits received*," particularly the overall increase in raisin prices as a result of this practice.[70]

Justice Sotomayor dissented, concluding that, in order for a governmental action to be considered a per se taking in this case the governmental action must "destroy" each of the owners' rights to "possess, use and dispose" of the property.[71] Justice Sotomayor pointed out that the Hornes maintained at least one meaningful property interest even after turning over the raisins to the Government: "the right to receive some money for their disposition."[72] Although perhaps the Hornes' property rights were "damaged" or even "substantially damaged" by this action, Justice Sotomayor remained unconvinced that their property rights were "destroyed."[73] The dissent would also find that the regulation did not effect a taking because it was a lawful condition of entry into a regulated market. Justice Sotomayor found the majority's distin-

65. *Id.*
66. *Id.* at 2431-32.
67. *Id.*
68. *Id.* at 2433 (Thomas, J. concurring).
69. *Id.* at 2433 (Breyer, J. concurring in part, dissenting in part).
70. *Id.* at 2436 (Breyer, J. concurring in part, dissenting in part) (emphasis added).
71. *Id.* at 2437-38 (Sotomayor, J. dissenting).
72. *Id.* at 2438-39 (Sotomayor, J. dissenting).
73. *Id.* at 2439 (Sotomayor, J. dissenting).

guishing of *Ruckelshaus* arbitrary because nowhere in the opinion did the Court discuss the danger of the products at issue.[74]

D. Energy and Environmental Legal Institute v. Epel

The Energy and Environment Legal Institute ("EELI"), an organization whose members contain at least one coal producer that sells coal to Colorado electricity generators, challenged under the Dormant Commerce Clause ("the Clause") Colorado's law that requires electricity generators to ensure that 20% of the electricity they sell to Colorado consumers comes from renewable sources.[75] The United States District Court for the District of Colorado held that the law did not violate the Dormant Commerce Clause, and so did the United States Court of Appeals for the Tenth Circuit.[76]

EELI argued that the law was unconstitutional under the test set forth in *Baldwin v. G.A.F. Seelig, Inc.*, 294 U.S. 511 (1935), which held that "certain price control and price affirmation laws that control 'extraterritorial' conduct" violated the Clause.[77] EELI relied on language from *Healy v. Beer Institute, Inc.*, 491 U.S. 324 (1989), a case in which the Supreme Court struck down a price affirmation scheme that required shippers of beer to affirm that their posted prices for products sold in-state were no higher than in bordering states and had the effect of inhibiting out-of-state price competition.[78] It argued that this case stood for the assertion that the Supreme Court's jurisprudence required the Tenth Circuit to "declare 'automatically' unconstitutional any state regulation with the practical effect of 'control[ing] conduct beyond the boundaries of the State.'"[79]

The Tenth Circuit dismissed EELI's arguments, stating that EELI read precedent as standing for "a (far) grander proposition than we do."[80] The Court ultimately held that the *Baldwin* line of cases all shared three characteristics in common: "1) a price control or price affirmation regulation, 2) linking in-state prices to those charged elsewhere, with 3) the effect of raising costs for out-of-state consumers or rival businesses."[81] Although the Court recognized that Colorado's law might have the effect of raising prices for some types of electricity on the grid to which Colorado is

74. *Id.* at 2440-41 (Sotomayor, J. dissenting).
75. Energy & Envtl. Legal Inst. v. Epel, 793 F.3d 1169, 1170-71 (10th Cir. 2015).
76. *Id.* at 1171.
77. *Id.* at 1171-72.
78. *Id.*
79. *Id.* at 1174.
80. *Id.*
81. *Id.* at 1173.

connected, both in- and out-of-state,[82] the Court concluded that the law "isn't a price control statute, it doesn't link prices paid in Colorado with those paid out of state, and it does not discriminate against out-of-staters."[83] Ultimately, the Court rejected EELI's position because it would "risk serious problems of overinclusion" because it would likely require the striking down of state health and safety regulations that require out-of-state manufacturers to alter designs or labels for sale in-state because those laws would also "control conduct" out of state.[84] The Court also rejected EELI's alternative procedural complaint that the district court improperly granted Colorado's motion for summary judgment because EELI failed to follow a local rule that requires filing of a "motion" requesting deferral of decision on the summary judgment motion to grant more time for discovery, rather than filing an affidavit pursuant to Federal Rule of Civil Procedure 56(d).[85] The Court concluded that although EELI was correct that this was improper, the district court nevertheless correctly granted the motion for summary judgment because it did not rule on it until after discovery was concluded, and EELI never sought to supplement its summary judgment opposition papers with the new evidence or ask for additional discovery.[86]

E. Sierra Club v. Environmental Protection Agency

In 2011 the Environmental Protection Agency ("EPA") determined that the Cincinnati-Hamilton metropolitan area had attained national air quality standards for fine particulate matter due in part to utilization of regional cap-and-trade programs that reduced the flow of interstate pollution.[87] One of the cap-and-trade programs covered twenty-two states and the District of Columbia, and targeted precursor emissions to ozone and particulate matter; another was the Clean Air Interstate Rule that was promulgated by the EPA and subsequently declared illegal by the D.C. Circuit; and the third was the Cross-State Air Pollution Rule promulgated by the EPA, which was upheld by the Supreme Court.[88] The Sierra Club ("the Club") challenged Cincinnati's redesignation because it did not meet the Clean Air Act's requirement that the "improve-

82. *Id.* at 1173-74.
83. *Id.* at 1173.
84. *Id.* at 1175.
85. *Id.* at 1175-76.
86. *Id.* at 1176.
87. Sierra Club v. EPA, 793 F.3d 656, 659 (6th Cir. 2015).
88. *Id.* at 660.

ment in air quality is due to permanent and enforceable reductions in emissions."[89] It challenged the redesignation by first commenting on the proposed agency action, then, after the redesignation occurred, challenging the redesignation in the United States Court of Appeals for the Sixth Circuit.[90]

The Sixth Circuit first considered whether the Sierra Club had standing to bring the claim in the first place and ultimately concluded that it did.[91] The court noted at the outset that an organization has standing to pursue a claim on behalf of its members if "its members would otherwise have standing to sue in their own right, the interests at stake are germane to the organization's purpose, and neither the claim asserted nor the relief requested requires the participation of individual members in the lawsuit."[92] The court decided as a matter of first impression that in the context of a petition for direct appellate review of final agency action, the plaintiff must demonstrate standing by a burden of production similar to that required at summary judgment: through supporting "affidavit or other evidence specific facts."[93] The court found that the Club adequately alleged two distinct injuries in fact – aesthetic and recreational injury from "regional haze" and reduced outdoor activities, and "potential physical injury in the form of 'respiratory symptoms' caused by increased particulate matter."[94] After finding that the Club had adequately alleged injury in fact, the court concluded that surely the EPA's redesignation would have at least a marginal effect on the air quality in Cincinnati; thus, the Club adequately alleged the redressability and causation requirements, which the court noted "often run together."[95]

The court then addressed the merits of the Sierra Club's arguments.[96] First, the Sierra Club challenged the EPA's compliance with 42 U.S.C. § 7407 (d)(3)(E)(iii) of the Clean Air Act, "which bars redesignation to attainment unless 'the Administrator determines that the improvement in air quality is due to permanent and enforceable reductions in emissions . . . .'"[97] Specifically, the Club argued that reductions from cap-and-trade programs are not "permanent and enforceable reductions" because on any given year the emissions could "increase . . . through purchase of credits from other sources or from 'spending' stored reduction credits from

89. *Id.* at 665-68.
90. *Id.* at 661.
91. *Id.*
92. *Id.*
93. *Id.* at 662.
94. *Id.* at 663.
95. *Id.* at 665.
96. *Id.* at 665-70.
97. *Id.* at 665-66.

previous years."[98] The EPA responded to this implicitly regionally-focused argument[99] by highlighting that the Clean Air Act provision was "silent on the location of the reductions" and that a regionally-focused approach was unnecessary to attain the air quality standards.[100] The court, after having concluded that the statutory language was ambiguous under the first step of the *Chevron* analysis, held that redesignation based upon the cap-and-trade program was a reasonable interpretation of the statute.[101] In particular, the court was persuaded that the EPA reasonably interpreted "permanent" due to the influence that "upwind" States' pollution could have on particulate matter concentrations in the Cincinnati area as well as the long-term enforcement of the cap-and-trade program.[102] Further, it rejected the Sierra Club's argument that the reductions due to the cap-and-trade program were not enforceable because Congress did not define "enforceable" measures to exclude cap-and-trade programs, as these are apparently an effective means by which to reduce pollution.[103]

The Sierra Club next argued that the EPA's redesignation of Cincinnati was illegal because it was predicated on approval of the implementation plans of the states subject to the cap-and-trade programs without including any "reasonably available control measures" ("RACM") that were specifically tailored towards fine particulate matter, as required by section 7502 (c) of the statute.[104] In approving Cincinnati's redesignation, the EPA decided that use of RACMs was only necessary to achieve the air quality standards, but not required for redesignation once the standards were achieved.[105] The court agreed with the Sierra Club, based largely on its prior decision in *Wall v. Environmental Protection Agency*, 265 F.3d 426 (6th Cir. 2001), in which it found that an almost identical provision governing redesignation for attainment of ozone air quality standards required states' adoption of RACT[106] measures.[107] The court ultimately rejected the EPA's arguments that "the phrase 'applicable implementation plan' in section 7407 (d)(3)(E)(ii) could conceivably refer to something other than the

98. *Id.*

99. *Id.* at 666 ("Sierra Club implicitly asks this court to read § 7407 (d)(3)(E)(iii) as requiring 'permanent and enforceable reductions in emissions *from sources in the nonattainment area*'" (emphasis in original.)

100. *Id.*

101. *Id.* at 666-68.

102. *Id.* at 666-67.

103. *Id.* at 667-68.

104. *Id.* at 668.

105. *Id.*

106. "RACT" means "reasonably available control technology," and is, for purposes of this case, the same as "RACM." *Id.* at 659.

107. *Id.* at 668.

pre-attainment [state implementation plan]," and that it only needed to approve a plan containing RACMs to meet the air quality standards, not to redesignate an area to attainment.[108] The court rejected this argument based on its reading of *Wall* as "unambiguously requir[ing] RACT in the area's [implementation plan] as a prerequisite to redesignation."[109]

II. NOTABLE FEDERAL LEGISLATION AND REGULATION

A. Microbead-Free Waters Act of 2015

This law amended 21 U.S.C. § 331 to ban the sale of cosmetics, including toothpastes, that contain intentionally-added plastic microbeads.[110] The Act also expressly preempts state law.[111]

B. Clean Water Rule

The Clean Water Rule ("CWR" or "the Rule"), whose implementation has been stayed by the United States Court of Appeals for the Sixth Circuit pending judicial review of its validity,[112] set out to define "the scope of waters protected under the Clean Water Act" ("CWA") in light of the statute, science, Supreme Court opinions, and the expertise of the Environmental Protection Agency ("EPA") and the Army Corps of Engineers ("Corps").[113] The Rule set out to define "waters of the United States" and did so by defining "traditional navigable waters," "interstate waters," "territorial seas," "impoundments," "tributaries," "adjacent waters," "case specific 'waters of the United States,'" and by setting forth "waters and features that are not 'waters of the United States.'"[114]

The EPA and Corps defined "traditional navigable waters" as "all waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide," in accordance with existing regulations.[115] Additionally, the Rule added those that 1) are subject to section 9 or 10 of the Rivers

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108. *Id.* at 669.
109. *Id.*
110. Microbead-Free Waters Act of 2015, Pub. L. No. 114-114, § 2 (2015).
111. *Id.*
112. *In re* EPA, 803 F.3d 804 (6th Cir. 2015).
113. Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. 37,054, 37,054 (June 29, 2015) (to be codified at 33 C.F.R. pt. 328 and 40 C.F.R. pts. 110, 112, 116, 117, 122, 230, 232, 300, and 401) [hereafter "Clean Water Rule"].
114. *Id.*
115. *Id.* at 37,074.

and Harbors Appropriations Act of 1899, 2) have been determined to be "navigable-in-fact" under Federal law by a Federal court, 3) are currently being used for commercial navigation, including commercial waterborne recreation, 4) have historically been used for commercial navigation and waterborne recreation, and 5) are susceptible to being used in the future for commercial navigation and commercial waterborne recreation.[116]

The Rule defined "interstate waters" in accordance with previous regulations as including interstate wetlands, even if they are not navigable themselves, while adding "impoundments of interstate waters, tributaries to interstate waters, waters adjacent to interstate waters, and waters adjacent to covered tributaries of interstate waters" because "[p]rotection of these waters is . . . critical to protecting interstate waters."[117] The Rule defined "territorial seas" in accordance with previous regulations, without making any substantive changes.[118] It then defined "impoundments" as "waters of the United States" in accordance with prior regulations because "scientific literature demonstrates that impoundments continue to significantly affect the chemical, physical, or biological integrity of downstream traditional navigable waters, interstate waters, and the territorial seas."[119] The Rule also noted that "an impoundment of a water that is not a 'water of the United States' can become jurisdictional if, for example, the impounded waters become navigable-in-fact and covered under paragraph (a)(1) of the rule."[120]

The Rule narrowed the previous definition of "tributaries" which "regulate[d] all tributaries without qualification. The final rule protects only waters that have a significant effect on the integrity of traditional navigable waters, interstate waters, or the territorial seas."[121] Specifically, a tributary will be determined by "emphasizing the physical characteristics created by sufficient volume, frequency and duration of flow, and that the water contributes flow, either directly or through another water, to a traditional navigable water, interstate water, or the territorial seas."[122] First, the water "must flow directly or through another water or waters to a traditional navigable water, interstate water, or the territorial seas."[123] Second, the Rule examines two indicators of flow: "[t]here must be a bed and banks and an indicator of ordinary

116. *Id.*
117. *Id.*
118. *Id.* at 37,075.
119. *Id.*
120. *Id.*
121. *Id.*
122. *Id.* at 37,076.
123. *Id.*

high water mark."[124] Significantly, the "definition of tributary includes natural, undisturbed waters and those that have been man-altered or constructed, but which science shows function as a tributary;" this can include many man-made ditches.[125]

"Adjacent waters" were defined by the Rule as "bordering, contiguous, or neighboring, including waters separated from other 'waters of the United States' by constructed dikes or barriers, natural river berms, beach dunes, and the like."[126] These also include "wetlands within or abutting its ordinary high water mark" and are not limited to "waters located laterally to a traditional navigable water, interstate water, the territorial seas, an impoundment, or a tributary."[127] They can include "wetlands, ponds, lakes, oxbows, impoundments, and similar water features."[128] For purposes of the "adjacency" inquiry, "neighboring" means that "any part of the water is bordering, contiguous, or neighboring"; this includes all waters that are 1) within 100 feet of the ordinary high water mark of a traditional navigable water, interstate water, the territorial seas, or a covered tributary, 2) within the 100-year floodplain of a covered water, and 3) all waters within 1,500 feet of the high tide line of a covered water.[129]

The Rule established two circumstances under which "case-specific" determinations would be made: 1) five subcategories of waters including Prairie potholes, Carolina and Delmarva bays, pocosins, western vernal pools in California, and Texas coastal prairie wetlands, and 2) waters within the 100-year floodplain of a traditionally covered water and within 4,000 feet of the high tide line or ordinary high water mark of a traditionally covered water.[130] Last, the Rule discussed some waters and features that are excluded from "waters of the United States."[131] Specifically, the Rule excluded "[a]rtificially irrigated areas that would revert to dry land should application of irrigation water to that area cease," "[a]rtificial, constructed lakes or ponds created by excavating and/or diking dry land," "[a]rtificial reflecting pools or swimming pools created by excavating and/or diking dry land," "[s]mall ornamental waters created by excavating and/or diking dry

124. *Id.*
125. *Id.*
126. *Id.* at 37,080.
127. *Id.*
128. *Id.*
129. *Id.* at 37,080-81.
130. *Id.* at 37,086.
131. *Id.* at 37,096-101.

land for primarily aesthetic reasons," "[w]ater-filled depressions created in dry land incidental to mining or construction activity," "[e]rosional features," and "[p]uddles."[132]

C. Clean Power Plan

The Clean Power Plan ("CPP"), whose implementation has been stayed by the Supreme Court pending resolution of a legal challenge,[133] is a set of regulations issued by the Environmental Protection Agency ("EPA") under its authority pursuant to section 111(d) of the Clean Air Act ("CAA"). The CPP is intended to reduce carbon emissions from fossil fuel burning power plants by providing states with the option to adopt either a rate-based or mass-based emission standard by fall of 2016, or with an extension by 2018, that each state will be required to achieve by 2030.[134] The standards are based generally upon the EPA-determined best system of emission reduction ("BSER"), which constitutes three distinct "building blocks": "(1) increasing the operational efficiency of existing coal-fired steam electric generating units ["EGUs"], (2) substituting increased generation at existing [natural gas combined cycle "NGCC"] units for generation at existing steam EGUs, [and] (3) substituting generation from low- and zero-carbon generating capacity for generation at existing fossil fuel-fired EGUs."[135] The original proposal also contained a fourth building block which was dropped by the final rule: increasing demand-side efficiency.[136] States can reach these goals using any of the building blocks or essentially by any other means that they wish; however, it must be outlined in a state implementation plan ("SIP") that will be reviewed and approved by the EPA, or the EPA will impose a federal implementation plan ("FIP") if the SIP is not approved.[137]

The rate-based emission standards set a rate, measured as pounds of carbon dioxide per megawatt/hour (lb CO_2/MWh), which each state must achieve. The rate is calculated by "quantification of performance based on the BSER and embody the reductions estimated under building blocks 1, 2, and 3. . . ."[138] The EPA "applied these rates to the baseline generation levels to estimate the affected fleet emission rate that would occur if all affected EGUs in the

132. *Id.* at 37,098.

133. W. Va. V. EPA, --- S. Ct. ---, 2016 WL 502947 (Mem.) (Feb. 9, 2016).

134. Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 80 Fed. Reg. 64,662, 64,663, 64,887-94, 64,894-911 (Oct. 23, 2015) (to be codified at 40 C.F.R. pt. 60) [hereafter "Clean Power Plan"].

135. *Id.* at 64,717.

136. *Id.*

137. *Id.* at 64,840.

138. *Id.* at 64,821.

fleet met the subcategory-specific rates."[139] In other words, the EPA calculated the rate goal that it believed could be achieved by 2030 using the building blocks it provided, then it applied that rate to the current baseline fossil fuel electricity generation in each state, and came to the rate-based emission standard for each state.[140] These rate-based emission standards are published in Table 12 of the CPP.[141] The mass-based emission standards were similarly devised by applying the rate-based emission standard to all of the EGUs in a state and calculating the quantity of CO_2 emissions that would be allowed based on projected electric demand.[142] The mass-based standard for each state is listed in Table 13 of the CPP.[143] Each state may utilize essentially any means available to arrive at its emission standard, whether it opts for the rate-based metric or the mass-based one, including any of the EPAs three building blocks, demand-side efficiency, cap-and-trade programs, and the like.[144]

III. NOTABLE FLORIDA CASES

A. Florida Department of Transportation v. Clipper Bay Investments, LLC

In 2008 Clipper Bay Investments, LLC ("Clipper Bay") filed an action against the Florida Department of Transportation ("FDOT") and Santa Rosa County ("the County") for quiet title and ejectment from a seven acre portion of land adjacent to Interstate 10 ("I-10") pursuant to the Marketable Record Title Act ("MRTA"), alleging that it had acquired the land in 2006 and 2007 from an entity that had acquired the land from the original owner in 1970.[145] FDOT filed a counterclaim for quiet title and ejectment from the same land, alleging that the land "was a portion of what FDOT considered part of its Interstate 10 right-of-way," and that it had acquired the contested land through a single recorded deed from the same original owner as Clipper Bay, as well as others, in 1965.[146] FDOT alleged that it had used a portion of the land, as required in order to be exempt from the requirements of the MRTA, during the past thirty years by leasing it to the County.[147]

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139. *Id.*
140. *Id.*
141. *Id.* at 64,824.
142. *Id.* at 64,822.
143. *Id.* at 64,825.
144. *See id.* at 64,717-811.
145. Fla. Dep't of Transp. v. Clipper Bay Invs., LLC, 160 So. 3d 858, 860-61 (Fla. 2015).
146. *Id.* at 861.
147. *Id.*

The trial court partially granted Clipper Bay's petition to quiet title, awarding exclusive use of the contested property to Clipper Bay.[148] The First District Court of Appeals ("DCA") reversed, rejecting Clipper Bay's argument that the type of conveyance employed was dispositive; however, it found that FDOT failed to provide competent substantial evidence that it had maintained the right-of-way on the contested land.[149] The Florida Supreme Court, affirming the First DCA's reasoning that the type of conveyance employed was not dispositive, quashed the First DCA's opinion and remanded to the trial court because FDOT did provide competent substantial evidence that it had maintained the right-of-way required to be exempt from MRTA.[150]

The MRTA, which was enacted "to simplify and facilitate land transactions" "eliminates all stale claims to real property, with certain enumerated exceptions, unless notice of these claims is filed in a procedurally proper manner."[151] Clipper Bay argued that its root of title was a warranty deed from the original owner in 1970.[152] This root of title "provides [Clipper Bay] with marketability unless [F]DOT can demonstrate an exception."[153]

FDOT argued that the First DCA's decision expressly conflicted with the Fourth DCA's decision in *Florida Department of Transportation v. Dardashti Properties*.[154] In *Dardashti*, the Fourth DCA concluded that FDOT was given fee title, through a number of conveyances, to an eleven-foot strip of land near the Florida Turnpike even though the deed purported to create a "right of way and easement" that "would revert if not used as a public highway."[155] The Florida Supreme Court ultimately agreed with FDOT and, while disapproving of the Fourth DCA's approach in *Dardashti*, adopted the First DCA's reasoning from the case below.[156] Although the First DCA's correctly held that FDOT had established that it held a right-of-way because "[t]he focus . . . is the reason or purpose that the state holds the land in question rather than the manner in which the title is actually held," it erred when it determined that FDOT failed to demonstrate that its interest in the land preserved an exception from MRTA.[157]

148. *Id.* at 862.
149. *Id.*
150. *Id.*
151. *Id.*
152. *Id.* at 863.
153. *Id.*
154. 605 So. 2d 120 (Fla. 4th DCA 1992).
155. *Clipper Bay Invs., LLC*, 160 So. 3d at 864 (discussing *Dardashti*, 605 So. 2d 120).
156. *Id.* at 864-65.
157. *Id.* at 865.

The two exceptions to the MRTA that the Florida Supreme Court considered were sections 712.03(1) and (5), Florida Statutes.[158] Section 712.03(1) provides an exception for "[e]states or interests, easements and use restrictions disclosed by and defects inherent in the muniments of title on which said estate is based beginning with the root of title" if the easements, use restrictions or other interests are "created prior to the root of title" and there is a specific reference to a recorded title transaction, subject to section 712.03(5).[159] Section 712.03(5) provides an exception for "[r]ecorded or unrecorded easements or rights . . . [and] rights-of-way . . ., including those of a public utility or of a governmental agency, so long as the same are used and the use of any part thereof shall except from the operation hereof the right to the entire use thereof."[160]

With regard to subsection (1), the Court held that "[t]o apply this exception to marketability, [F]DOT must establish that the instrument provided to invoke the exception is a muniment of title that specifically references a pre-root conveyance."[161] Applying the test found in *Sunshine Vistas Homeowners Association v. Caruana*,[162] the Court held that FDOT has established that the 1987 lease from it to Santa Rosa County contained sufficiently specific identification of its interest in the property to exempt it from MRTA.[163] The Court then analyzed subsection (5) because the lease conveyed only a portion of the property; it concluded that "because the land described is included in [F]DOT's title, use of any part of it as a right-of-way excludes the remainder from the effect of the MRTA."[164] The Court held that FDOT was entitled to the exception for the remainder of the land because it used a portion of the land to maintain a right-of-way to access I-10 and conveyed another portion to maintain a right-of-way in a county road.[165]

B. Rogers v. United States

Property owners ("the Claimants") brought claims for compensation for taking of a 12.43 mile long, 100 foot wide strip of land in the United States Court of Federal Claims alleging that the conversion of a former railroad corridor that abutted their proper-

158. *Id.* at 865-66.
159. *Id.* at 865 (quoting § 712.03 (1), Fla. Stat.).
160. *Id.* at 867 (quoting § 712.03 (5), Fla. Stat.).
161. *Id.* at 865.
162. 623 So. 2d 490, 491 (Fla. 1993).
163. *Clipper Bay Invs., LLC*, 160 So. 3d at 866.
164. *Id.* at 867.
165. *Id.* at 867.

ties into a recreational trail had constituted a taking without just compensation.[166] The Court of Federal Claims found that the Claimants had no property interest in the contested property. After the case was appealed to the United States Court of Appeals for the Federal Circuit, it certified a question to the Florida Supreme Court to determine if section 2241, Revised Statutes of Florida (1892), governing conveyances of land from private parties to a railroad corporation, state policy, or factual considerations, limit a railroad's interest in property that on the face of the conveying deed granted the strip of land in fee simple.[167] The Federal Circuit set forth that property interests for the strip of land were received by the Seaboard Air Line Railway ("Seaboard") through a series of transactions between 1910 and 1941.[168] After having been conveyed a fee simple interest to the northern portion of the rail way corridor in 1911, Seaboard began laying track and operating trains along the entire corridor, even the southern part for which it had not received any deeds.[169] In 2003 Seminole Gulf, a successor operator of the rail way, sought an exemption from continuing to operate the rail line, which was granted, at which point Seminole Gulf entered into an agreement to convey the land to the Trust for Public Land to be used as a railbank and converted into a trail.[170]

The deeds used to convey the properties to Seaboard used such language as "the parties . . . hereby grant, bargain, sell, and convey unto the [other party] all their right, title and interest, of any nature whatsoever, in and to" the described property "TOGETHER WITH all and singular tenements, hereditaments, and appurtenances thereunto belonging or appertaining, and every right, title or interest, legal or equitable" in one deed and another where the seller "doth by these presents grant, bargain, sell, convey, alien, remise and release, unto the said Seaboard Air Line Railway Company . . . forever, all of its right, title and interest in and to the following real estate . . . TO HAVE AND TO HOLD . . . in fee simple, forever."[171]

The Claimants argued that the deeds did not convey a fee simple interest on their face, but rather a railroad right-of-way that, when such use was abandoned "gave them the right to claim the land free of the easements . . . and that the conversion of the land to a public recreational trail constitutes a taking for which they

166. Rogers v. United States, 184 So. 3d 1087 (Fla. 2015).

167. *Id.* at 1090-91.

168. *Id.* at 1090 (quoting Rogers v. United States, Nos. 2013-5098 & 2013-5102, slip op. at 5-7 (Fed. Cir. July 21, 2014).

169. *Id.*

170. *Id.*

171. *Id.* at 1091-92.

are entitled to compensation."[172] They argued that section 2803 (2), General Statutes of Florida (1906), applied and provided Seaboard with only an easement for a railroad right-of-way because it provided that "real estate received by voluntary grant shall be held and used for purposes of such grant only."[173] In order for this argument to have prevailed, however, the Claimants must have proved that the grant to the railroad conveyed only an easement rather than a fee simple interest.[174] The Florida Supreme Court did not find this argument persuasive because the provision only applies to "voluntary conveyances" which are those made without consideration; "the deeds were grants by bargain and sale for valuable consideration and conveyed fee simple title."[175] The Claimants also argued that the deeds indicated an intent to provide only easements because the purpose for which the land was purchased was for a railroad right-of-way. Because the Claimants could point to no Florida decisions to support their argument, however, and because "Florida law recognizes that railroads may hold fee simple title to land acquired for the purpose of building railroad tracks," the Florida Supreme Court held that nothing in section 2241, Revised Statutes of Florida (1892), "limited the railroad's interest in the property regardless of the language of the deed."[176]

Turning to the question of whether any state policy limits a railroad's interest in property, the Claimants argued that the railroads occupied and used the strips of land upon which the railways were built solely for railroad purposes as an easement and when the corridor stopped being used for railroad purposes and was effectively abandoned, title to the land reverted to the abutting landowners because the deeds showed that the railroad paid very little consideration for the land.[177] The Court rejected these arguments because the deeds were clear on their face that a fee simple interest was being conveyed to Seaboard and under Florida law the amount of consideration does not provide any grounds on which to challenge the validity of the conveyance.[178] The Claimants last argued that fee simple conveyances of strips of land are disfavored under Florida law, and that because the deed is ambiguous, Seaboard's interest should be treated as an easement: the Court rejected that argument because the Florida cases cited by the Claimants all involved cases where the intent of the parties was

172. *Id.* at 1091.
173. *Id.* at 1094.
174. *Id.*
175. *Id.* at 1094.
176. *Id.* at 1099.
177. *Id.* at 1096.
178. *Id.*

not easily discernible, whereas here the deed clearly purported to convey the strips of land to the railroads in fee simple.[179] Accordingly, the Court held that nothing in the State's public policy limits the railroad's interest in the property.[180]

The Court finally concluded that no other factual considerations, such as Seaboard's survey of the land before conveyance or laying track and beginning operation before the conveyance of a deed, limit a railroad's interest in land.[181] Although the Claimants argued that surveying the land prior to the conveyance "gave the process of purchasing the rights of way an 'eminent domain flavor,'" and that there was a possibility for coercion, the Court found that the deed, on its face, transferred a fee simple interest in the land, and that the Claimants had produced absolutely no evidence of coercion.[182] Accordingly, the Court found that no other factual considerations limited the railroad's interest in the land.[183]

C. Teitelbaum v. South Florida Water Management District

In 2004, a group of property owners ("Property Owners" or "Plaintiffs") in the Bird Drive Basin area of western Miami-Dade County ("the County") filed suit alleging that the South Florida Water Management District ("the Water District") engaged in "coercive acquisition policies" and "illicit actions" in order to acquire the Plaintiffs' property as part of an effort to create a buffer zone next to the Florida Everglades to prevent "massive flooding throughout Miami-Dade County and also to prevent saltwater intrusion from contaminating" the local freshwater wellfields.[184] The Plaintiffs alleged that the Water District artificially depressed their property values through governmental action by preventing development of the land in and near the Bird Drive Basin, specifically by preventing the County from rezoning the area from agricultural use to urban or residential use.[185] After the Water District abandoned its plan to acquire Plaintiffs' property through condemnation due to various studies that showed its buffer plan was no longer feasible, Plaintiffs amended their complaint to allege that the Water Districts acquisition of surrounding properties "left the area checkered with largely unusable, undeveloped, and

179. *Id.* at 1097.
180. *Id.*
181. *Id.* at 1099-1100.
182. *Id.* at 1099.
183. *Id.*
184. Teitelbaum v. S. Fla. Water Mgmt. Dist., 176 So. 3d 998, 1001 (Fla. 3d DCA 2015).
185. *Id.*

unsellable property."[186] Importantly, evidence was presented that Plaintiffs purchased their properties while the land was zoned for only agricultural use, and no evidence was presented that showed that Plaintiffs' property values had actually depreciated.[187]

Plaintiffs argued that the Water District's actions amounted to a taking of their property in violation of the Takings and Due Process Clauses of the Florida and United States Constitutions.[188] They argued that a per se taking should result when 1) the government publicly announces its intent to condemn a property, 2) the government engages in post-announcement unreasonable conduct, including delay in the proceedings or interference with the property owner's rights, and 3) the owner's use and enjoyment of the property is disrupted; they term this "condemnation blight."[189] Importantly, the Plaintiffs never argued that the Water District's actions constituted a physical taking or a regulatory taking.[190] However, the Water District argued, and the trial court held, that under Florida law, "condemnation blight is merely a factor to be considered during the valuation phase of condemnation (or inverse condemnation) proceedings assuming that a taking has already occurred" rather than an independent cause of action for taking.[191]

The Third District Court of Appeals ("DCA") summarized physical takings claims as well as inverse condemnation claims, concluding that "a property owner must demonstrate that the property has in fact been 'taken' by a governmental entity before being entitled to full compensation via inverse condemnation."[192] Moving to its analysis of "condemnation blight" under Florida law, the Third DCA observed that "condemnation blight is only relevant to the valuation of the taken property after a plaintiff has already established that a taking has occurred either by de jure condemnation via eminent domain proceedings or de facto condemnation via one of the three established tests; it is not itself a grounds for a de facto taking."[193] This is so because Florida cases have frequently held that "condemnation blight" referred to the depreciation of property value that occurs when the government announces its intentions to condemn a property, and that Florida law adequately addresses that devaluation by requiring the government entity taking the property to pay full valuation as of the date of the con-

186. *Id.* at 1002.
187. *Id.*
188. *Id.*
189. *Id.* at 1002-03.
190. *Id.* at 1004 n.2.
191. *Id.* at 1002.
192. *Id.* at 1003.
193. *Id.* at 1004.

demnation announcement.[194] The Third DCA reiterated that, in this context, the focus of the inquiry is the effect on the property at issue, rather than on the actions of the governmental entity.[195] It was also important to the court that the property at issue was purchased as "undeveloped wetland on the border of the Everglades . . . that . . . was already zoned exclusively for agricultural use."[196] No additional restrictions were ever placed on the use of the property – the zoning simply never changed the way that Plaintiffs expected that it would when they purchased their properties.[197]

D. Florida Audubon Society v. Sugar Cane Growers Cooperative of Florida

In 2012 the South Florida Water Management District ("the District") issued Everglades Works of the District ("WOD") Permits to several sugar cane growers whose farms are located in the Everglades Agricultural Area ("EAA"). These permits regulate the discharge of phosphorous, and require that sugar cane growers implement various techniques to reduce the nutrients present in agricultural discharge called Best Management Practices ("BMPs").[198] The WOD permits allow sugar cane growers to discharge phosphorous-rich water from their farms to Stormwater Treatment Areas ("STAs"), which are manmade wetlands constructed and operated by the District for the purpose of treating this discharged water and removing more phosphorous before the water is discharged into the Everglades Protection Area ("EvPA").[199] The EvPA is an area that has been protected by the Everglades Forever Act, in an effort to lower the amount of phosphorous in the water and restore the remaining Everglades ecosystem.[200] Discharge of water from the STAs into the EvPA is authorized by two permits issued to the District by the Florida Department of Environmental Protection ("FDEP") pursuant to the Everglades Forever Act and the Clean Water Act, issuance of neither of these permits was challenged by the Florida Audubon Society ("Audubon"), the Appellant in this case.[201]

Audubon challenged the issuance of the WOD permits in an administrative hearing before the District; the case was referred to

194. *Id.*
195. *Id.* at 1005.
196. *Id.*
197. *Id.*
198. Fla. Audubon Soc'y v. Sugar Cane Growers Coop. of Fla., 171 So. 3d 790, 792 (Fla. 2d DCA 2015).
199. *Id.* at 792-94.
200. *Id.* at 792.
201. *Id.* at 793-94.

an Administrative Law Judge ("ALJ") at the Division of Administrative Hearings who ruled for the District and held that the permits should be issued.[202] The District adopted the ALJ's order and Audubon appealed, arguing that the permits violate the Everglades Forever Act because they "do not impose 'additional water quality measures' beyond those imposed in permits issued before December 31, 2006," which is required by the statute and because the "discharges 'cause or contribute to' ongoing water quality violations in the EvPA," which is forbidden by the statute.[203]

After summarizing the "long and complex history of environmental regulation in the Everglades," the Second District Court of Appeal ("DCA") analyzed the District's interpretation of the Everglades Forever Act, noting at the outset that "[t]he agency's interpretation should only be reversed if clearly erroneous."[204] It held that the District "reasonably determined that the first sentence of [the relevant provision] does not require WOD permits to include more aggressive BMPs because the treatment actually provided by the STA's and the effectiveness of the BMPs must be taken into account"; this requires that "the District must consider the water quality that will be achieved by approved projects."[205] The Second DCA reasoned that this was a reasonable reading of the statute in light of the Long-Term Plan that was adopted by the legislature to address the overarching problem of phosphorous pollution in the Everglades and relies more heavily on expansions of the STAs rather than BMPs.[206] Audubon argued that this reading of the statute is inconsistent with the consent decree that was entered into as a result of litigation in 1992 in *United States v. South Florida Water Management District*, 847 F. Supp. 1567 (S.D. Fla. 1992), *aff'd in part, rev'd in part*, 28 F.3d 1563 (11th Cir. 1994), which states that "[t]he State parties shall not implement more intensive management of the STAs as the sole additional remedy."[207] The Second DCA held, however, that "expansion of the STAs is different than more intensive management of the STAs."[208] The court also ultimately rejected Audubon's argument that a plain reading of the Everglades Forever Act requires more aggressive BMPs since the phosphorous concentration goal was not met by the end of 2006, because it would conflict with the Legislature's recent implementations of a Long-Term Plan and Restoration

202. *Id.* at 794.
203. *Id.* at 797.
204. *Id.* at 794-97.
205. *Id.* at 798.
206. *Id.*
207. *Id.*
208. *Id.*

Strategies that need time to be put in place – Audubon's reading of the statute would ultimately require a farm-by-farm solution to the problem which would cut against the larger-scale solutions that are being set in motion.[209]

Audubon also challenged issuance of the permits because, it argued, the sugar cane growers "'cause and contribute' to a 'violation of water quality standards' in the EvPA" because they have failed to meet the phosphorous concentration goal.[210] However, the court held that the District reasonably determined that the discharge was not a violation of water quality standards because it has been approved by the STA permits and consent orders.[211] Essentially, as long as the District is on-track to meet the long-term goals for phosphorous reduction put in place by the Legislature and FDEP, it is allowed to discharge water into the EvPA.[212] The court ultimately held that "Audubon should have challenged the STA permits" that approved the discharge from the STAs into the EvPA, rather than the permits that allow the sugar cane growers to discharge water into the STAs.[213] Audubon finally argued that it should have at least been allowed to present evidence to the ALJ that the sugar cane growers' farming operations were causing or contributing to water quality violations in the EvPA, however the Court flatly rejected this argument because it is undisputed that the phosphorous concentration goals have not yet been met – therefore, the ALJ properly excluded this evidence on this point.[214]

E. Hussey v. Collier County

Between 1989 and 1991, Francis and Mary Hussey ("the Husseys") purchased 979 acres of land in a rural area known as North Belle Meade on which they began rock mining, which was an allowable use, so long as it was carried out incident to agricultural development, under Collier County's ("the County") Comprehensive Land Use Plan ("Land Use Plan") and recent enactments thereunder.[215] In 2002, the County amended its Land Use Plan and in so doing reclassified the Husseys' property to "Sending Lands," which are "deemed to have the highest degree of environmental value and sensitivity" and on which mining is prohibited

209. *Id.* at 798-99.
210. *Id.* at 799.
211. *Id.*
212. *Id.*
213. *Id.*
214. *Id.* at 800.
215. Hussey v. Collier Cty., 158 So. 3d 661, 663 (Fla. 2d DCA 2014).

and residential development is restricted.[216] The Husseys challenged the County's reclassification with the Department of Community Affairs and an Administrative Law Judge ("ALJ") at the Department of Administrative Hearings presided over the challenge. The ALJ found that the County had not violated the law in early 2003 and the First District Court of Appeal ("DCA") affirmed the ALJ's order, per curiam, in 2004.[217]

In 2004, the Husseys notified the County that they were seeking compensation under the Bert J. Harris Private Property Rights Act, Section 700.01, Florida Statutes ("the Harris Act") after which time, in 2008, they filed suit in the trial court against the County alleging a Harris Act claim as well as an inverse condemnation claim because the County's reclassification of their property deprived them of any future economic use.[218] The trial court dismissed the Husseys' complaint and they appealed to the Second DCA.[219]

The County argued that the Husseys could not challenge the amendments to its Land Use Plan because they "were 'general' ordinances, whereas only an 'as-applied' challenge was cognizable under the [Harris A]ct" and because the claims were barred under the statutes of limitation.[220] At oral argument on appeal, the County conceded that the claim was timely filed and that notice was timely provided to the County.[221] Thus, the Second DCA concluded that the Harris Act claim was timely.[222] The court further rejected the County's argument that the claim was barred because it was a challenge to a generally applicable ordinance: it concluded that because the Act was applied to the Husseys' property in order to reclassify it in a way that limited the use of the property, this action was properly a challenge to the amendments as-applied to their property.[223] The court finally concluded that the Husseys' inverse condemnation claim was barred by the four year statute of limitations.[224] Although both claims have the same limitation period, the time is tolled for the Harris Act claim while the property owner seeks relief "through lawfully available administrative or judicial proceedings," whereas there is no tolling available for the inverse condemnation claim.[225] In other words, the statute of limitations

216. *Id.*
217. *Id.* at 663-64.
218. *Id.* at 664.
219. *Id.*
220. *Id.*
221. *Id.* at 764-65.
222. *Id.* at 665.
223. *Id.* at 666.
224. *Id.* at 666-67.
225. *Id.*

for the Harris Act claim was tolled through the First DCA's affirmance of the ALJ's decision in 2004, whereas the inverse condemnation claim became ripe for judicial review immediately upon the ALJ's order in 2003 without having been subject to any tolling period.[226] Accordingly, the Second District affirmed the dismissal of that claim.[227]

IV. NOTABLE FLORIDA LEGISLATION AND REGULATION

A. An Act Relating to Environmental Resources – SB 552

First, this Act requires the Department of Environmental Protection ("DEP") to create a database of state conservation lands where public access is compatible with conservation and recreation and to make it available on the Internet by July 1, 2017.[228] It then creates section 373.037, Florida Statutes, which allows several Water Management Districts ("WMDs") in restricted allocation areas to develop pilot projects for alternative water supplies.[229] It next requires minimum flow and water levels ("MFLs") to be designated for all "Outstanding Florida Springs" by July 1, 2017 and puts in place procedures to prevent harmful withdrawals from the springs.[230] The Act creates section 373.0465, Florida Statutes, to codify the Central Florida Water Initiative Area and provides manners by which to control water consumption.[231] It requires a new, renewal of, or modification of a consumptive use permit authorizing withdrawal of 100,000 gallons or more of water per day from a well eight inches or more in diameter to be monitored by the WMD and gives WMDs authority to make rules to enforce this provision.[232] The Act also amended section 373.4595, Florida Statutes to provide that Basin Management Action Plans ("BMAPs") are now the primary pollution control planning tool for Lake Okeechobee, Caloosahatchee River, and St. Lucie River Watersheds, and to provide that DEP has responsibility for these BMAPs, rather than the South Florida WMD which used to.[233]

Importantly, the Act created the Florida Springs and Aquifer Protection Act to define "Outstanding Florida Springs" ("OFS") as

226. *Id.*
227. *Id.*
228. Act effective July 1, 2016, ch. 2016-1, 2016 Fla. Laws § 1.
229. *Id.* at § 4.
230. *Id.* at §§ 5-6.
231. *Id.* at § 7.
232. *Id.* at § 10.
233. *Id.* at § 15.

"all historic first magnitude springs, including their associated spring runs . . . ."[234] The Act directs DEP, in conjunction with WMDs, to determine "priority focus areas for each OFS or group of springs that contain one or more OFS and is identified as impaired."[235] DEP and the WMDs also must adopt recovery or prevention strategies if an OFS is below or is projected to fall below an MFL within 20 years, which includes specific projects identified for implementation of the plan, the estimated cost of completion, and a schedule with 5, 10, and 15-year targets.[236] It also forbids certain activities that have the potential to pollute water within a "priority focus area."[237] Further, it directs DEP to adopt rules to improve water quality and quantity.[238] Finally, the Act requires the Office of Economic and Demographic research to conduct an annual assessment of Florida's water resources and conservation lands.[239]

B. An Act Relating to the Fish and Wildlife Conservation Commission – HB 7021

This Act first amends various provisions of Florida Statutes to make the language of their life jacket requirements during various boating activities consistent with current and future U.S. Coast Guard requirements.[240] Next, the law eliminates the requirement for tarpon anglers to report any tarpon they possess to the Fish and Wildlife Conservation Commission ("FWC").[241] The Act further repealed most of section 379.361 (2)(b), Florida Statutes, which set forth specific provisions regarding "restricted species" endorsements for saltwater fishing licenses;[242] although these were repealed from the statute they were adopted by FWC rule.[243] The Act next added exemptions from alligator trapping and alligator trapping agency licenses for children under sixteen years of age, military, and disabled veterans during an FWC-sponsored event, as well as contracted nuisance alligator trappers; permanently disabled individuals are completely exempt from the fee for a

234. *Id.* at §§ 22-24.
235. *Id.* at § 25.
236. *Id.* at § 26.
237. *Id.* at § 28.
238. *Id.* at § 29.
239. *Id.* at § 36.
240. Act effective June 1, 2015, Ch. 2015-161, 2015 Fla. Laws §§ 1-3 (hereafter "FWC Act").
241. *Id.* at § 6.
242. *Id.* at § 7.
243. Fla. Admin. Code R. 68B-2.006.

license. [244] Last, the Act creates section 379.412, Florida Statutes, which sets forth the penalties for violations of FWC wildlife feeding rules: a first violation is now punishable by a $100 civil penalty, a second by a second degree misdemeanor, and a third by a third degree felony.[245]

C. Surface Water Quality Standards – Ch. 62-302, F.A.C.

The Department of Environmental Protection ("DEP") revised its Surface Water Quality Standards providing for mostly stylistic changes as well as updating internal cross-references.[246] The only substantive changes appear to be updating the formulas used to determine acceptable levels of various chemical compounds in surface water.[247] Additionally, the Rule now requires DEP to "take into account the variability occurring in nature and shall recognize the statistical variability inherent in sampling and testing procedures" when "applying the numeric and narrative water quality criteria to ambient waters."[248] It also requires DEP, when placing a manmade lake, canal or ditch, or stream converted to a canal in a water quality classification, to "evaluate the limited aquatic life support and habitat limitations of such waters, recognizing the physical and hydrologic characteristics and water management uses for which they were constructed."[249]

244. FWC Act, at § 9.
245. *Id.* at § 12.
246. Fla. Admin. Code R. 62-302.200 *et seq.*
247. *See, e.g.*, Fla. Admin. Code R. 62-302.530.
248. Fla. Admin. Code R. 62-302.530.
249. Fla. Admin. Code R. 62-302.400.