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Federal Water Law and the “Double Whammy”: How the Bureau of Reclamation Can Help the West Adapt to Drought and Climate Change

Reed D. Benson*

The water resources of the American West—especially the Southwest—are at risk from climate change, as an already arid region grows even drier, warmer, and more prone to drought. The dual threat of drought and climate change is a particular challenge for the U.S. Bureau of Reclamation (USBR), which operates hundreds of federal water projects throughout the region. USBR has some authority to deal with these problems under the 2009 SECURE Water Act (for climate change) and the 1992 Drought Relief Act (for drought). This Article considers USBR’s climate change and drought programs, examining both the authorities and the implementation. It concludes with recommendations on how USBR could better use the Drought Relief Act to help reduce the impacts of future water shortages.

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INTRODUCTION

Because a megadrought like that of medieval times lasting not years but decades could occur on top of the reduced Colorado and Rio Grande flows projected [in a 2011 federal report on potential climate change impacts on western water resources], the issue of future drought is a serious concern. Droughts on top of climate change will likely be a double-whammy, much worse than drought alone and much worse than just climate change alone.¹

The foregoing statement by noted University of Arizona climate scientist Dr. Jonathan Overpeck² emphasizes a daunting challenge facing water resource managers and decision makers in the American West. The region has been drought-prone for ages; recent studies suggest that over the centuries, the Southwest has seen droughts both longer and drier than anything experienced in the past several decades.³ Climate change will compound the difficulty posed by water shortages, especially in the already-arid Southwest, which scientists firmly expect to become both warmer and drier in the coming years.⁴ The future looks grim for the region even if it is no worse than today: as of June 2012, the great majority of Arizona, Colorado, Nevada, New Mexico, and Utah were experiencing either “severe” or “extreme” drought.⁵

* Keleher & McLeod Professor, University of New Mexico School of Law. The author would like to thank the UNM Law Library Faculty for their consistently excellent research assistance; the Keleher & McLeod endowment for support of the work that went into this article; and the many people inside and outside of government who provided relevant information or insight. All errors of omission, commission, or judgment are the author's alone.

1. *Drought and Climate Change on Water Resources: Hearing Before the S. Comm. on Energy and Natural Res.*, 112th Cong. 31 (2011) [hereinafter *Drought Hearing*] (statement of Dr. Jonathan Overpeck, Professor of Geosciences, University of Arizona). The report that Dr. Overpeck refers to here is discussed *infra* notes 84–101 and accompanying text.

2. In addressing a congressional hearing regarding drought and climate change impacts on water resources, Dr. Overpeck noted that he had received numerous awards for his climate research, and was currently serving as principal investigator for the Climate Assessment of the Southwest Program, “an interdisciplinary science program focused on climate variability and change with the goal of helping promote improved decision making.” *Id.* at 30–31.

3. *Id.* at 31, 34–35 (summarizing research results, and noting an intense thirty-year drought in the twelfth century A.D.).

4. In a 2011 report that both reviewed existing literature and included new analysis, the United States Bureau of Reclamation (USBR) concluded that the southern half of the western U.S. was likely to see both warmer temperatures and reduced stream runoff due to climate change. *See infra* notes 84–101 and accompanying text. Dr. Overpeck commended this report and told the congressional committee, “I believe that the scientific evidence strongly supports the USBR finding that the Southwest and particularly the Colorado/Rio Grande River Basins will become substantially hotter and drier if we choose to let human-caused climate change continue into the future.” *Id.* at 32.

5. U.S. DROUGHT MONITOR (June 26, 2012), <http://www.droughtmonitor.unl.edu>. The Drought Monitor classifies drought conditions by their intensity. “Extreme” drought is the second-worst category, followed by “Severe” and “Moderate.” The Drought Monitor for June 26, 2012 shows nearly

Drought and climate change pose a major problem for the states, which bear primary (but not sole) responsibility for managing water in the West.⁶ The Western Governors' Association (WGA) has already recognized climate change as a factor in the droughts that have plagued the region: "In recent years, the West has experienced very significant droughts across much of the region, reduced snow pack, altered precipitation patterns, severe forest and rangeland fires, warmer temperatures and forest diseases. Climate change and variability have contributed to these impacts."⁷ The WGA—which speaks with considerable authority on behalf of the western states in water policy matters⁸—has also called for "more flexible institutional arrangements . . . to adapt to changing conditions including not only climate change, but other existing stresses as well."⁹

The U.S. Bureau of Reclamation (USBR) also plays a key role as the most important federal agency managing water resources in the West, with hundreds of water projects in seventeen western states.¹⁰ These projects provide a range

the entire territory of all five states, along with most of the southern half of California, as suffering at least moderate drought. *Id.* The region also suffered from scorching temperatures; for example, Colorado sweltered through its warmest June on record, with the statewide average temperature 6.4°F above the long-term average for the month. See Lauren Morello, *Weather: Hot, Dry June Broke an Array of Records—NOAA*, CLIMATEWIRE (July 10, 2012), <http://eenews.net/public/climatewire/2012/07/10/2>.

6. See David H. Getches, *The Metamorphosis of Western Water Policy: Have Federal Laws and Local Decisions Eclipsed the States' Role?*, 20 STAN. ENVTL. L.J. 3 (2001). A more recent article specifically addresses the implications of climate change for federalism in water law and policy. Robin Kundis Craig, *Adapting Water Federalism to Climate Change Impacts: Energy Policy, Food Security, and the Allocation of Water Resources*, 5 ENVTL. & ENERGY L. & POL'Y J. 183 (2010).

7. W. GOVERNORS' ASS'N, POLICY RESOLUTION 09-3, REGIONAL AND NATIONAL POLICIES REGARDING GLOBAL CLIMATE CHANGE ¶ A.2 (2009), available at http://www.tribesandclimatechange.org/docs/tribes_254.pdf.

8. The WGA is "an independent, non-partisan organization of Governors from 19 Western states, two Pacific-flag territories and one commonwealth," which identifies and addresses key policy and governance issues in several fields of regional importance, including natural resources and the environment. *How Does WGA Work?*, W. GOVERNORS' ASS'N, <http://www.westgov.org/about/how-wga-works> (last visited Mar. 22, 2012). "WGA helps the Governors develop strategies both for the complex, long-term issues facing the West and for the region's immediate needs. Governors use the WGA to develop and advocate policies that reflect regional interests and relationships in debates at the national and state levels." *Id.* One of the WGA's major areas of emphasis has been water policy. See *Water: Supplies, Transfers, & Drought*, W. GOVERNORS' ASS'N, <http://www.westgov.org/initiatives/water> (last visited Mar. 22, 2012) (featuring numerous WGA resolutions and reports on water policy issues).

9. W. GOVERNORS' ASS'N, WATER NEEDS AND STRATEGIES FOR A SUSTAINABLE FUTURE 22 (2006), available at <http://www.westgov.org/initiatives/water/Water06.pdf>. The WGA noted that the water sector in the West is already stressed even without climate change, due to such factors as over-appropriated watersheds, "population growth, land use changes, and water needs for instream uses, including those necessary to meet federal laws like the Endangered Species Act and the Clean Water Act. . . . Climate change may pose additional stresses and could result in thresholds being reached earlier than currently anticipated." *Id.*

10. The seventeen states of the Reclamation program are the six Great Plains states from North Dakota down to Texas, the three West Coast states, and the eight states of the Intermountain West. 43 U.S.C. § 391 (2006).

of benefits including irrigation, hydropower, reservoir recreation, and municipal water supply,¹¹ but drought and climate change threaten USBR's ability to deliver these benefits reliably. As the USBR Commissioner stated, "Certainty and sustainability are the goals Reclamation strives for in the use of the West's limited water resources. Climate change strikes at the heart of those goals. We simply need to adapt."¹²

This Article considers whether USBR has sufficient authority to adapt to the challenges of serious and chronic water supply shortages—that is, whether it has the legal tools necessary to help the West deal with the "double whammy" of drought and climate change. It focuses primarily on two federal statutes, each of which deals with a single whammy: the 1992 Reclamation States Emergency Drought Relief Act (Drought Relief Act),¹³ which authorizes drought planning and various short-term measures to mitigate drought impacts on water uses; and section 9503 of the SECURE Water Act of 2009,¹⁴ establishing the Reclamation Climate Change and Water Program. This latter statute provides important authority and direction for USBR to understand the potential impacts of climate change on western water resources and to identify and study potential adaptation strategies.¹⁵ This Article contends that the Drought Relief Act, with its power to take specific actions to mitigate the impacts of water shortages, could significantly augment USBR's ability to reduce the harm caused by drought and climate change, particularly if Congress acts to revive key provisions that expired in September 2012.¹⁶

Section I of this Article offers background information on USBR projects and their governing law and briefly addresses the implications of drought and climate change for western water resources. Sections II and III deal with the SECURE Water Act and the Drought Relief Act, respectively, examining both the text of these statutes and USBR's implementation. Section IV contends that USBR should make greater and more effective use of its Drought Relief Act powers and offers recommendations on how to do so, including an idea for tying climate change adaptation to drought contingency planning.

11. See *infra* note 21 and accompanying text.

12. *Drought Hearing*, *supra* note 1 (statement of Michael Connor, Commissioner of Reclamation).

13. Pub. L. No. 102-250, 106 Stat. 53 (1992) (codified as amended at 43 U.S.C. §§ 2201–2247 (2006)).

14. Pub. L. No. 111-11, § 9503, 123 Stat. 991, 1332 (2009) (codified at 42 U.S.C. § 10363). In this context, SECURE is one of those tortured legislative acronyms, standing for "Science and Engineering to Comprehensively Understand and Responsibly Enhance." S. 2156, 110th Cong. § 1 (2007).

15. See *infra* notes 61–82, 102–17 and accompanying text.

16. The expiring provisions are in Title I of the Drought Relief Act, which authorizes USBR to take a variety of drought-relief actions including drilling wells, acquiring water from willing sellers, and making water temporarily available for uses including agriculture, municipal water supply, and fish and wildlife habitat. See *infra* notes 129–41 and accompanying text.

I. RECLAMATION PROJECTS, DROUGHT, AND CLIMATE CHANGE IN THE WEST

A. Bureau of Reclamation Water Projects

Congress launched the Reclamation program in 1902,¹⁷ authorizing the Secretary of the Interior to build and operate large-scale projects to irrigate the arid West. Under this program as originally designed, USBR would build dams, canals and other facilities, and operate these projects to supply water to small family farms.¹⁸ The Reclamation program later expanded into other purposes, including municipal water supply and hydropower generation, making USBR even more influential in the development of the West.¹⁹ The end of the dam construction era²⁰ shifted the agency's focus to managing its existing projects, and USBR now operates 348 dams across the West, making it the nation's largest water wholesaler and second-largest generator of hydropower.²¹

Reclamation projects are governed by two basic types of statutes: first, the 1902 Reclamation Act and later statutes of general applicability that set national policy for the entire Reclamation program²²; and second, project-specific statutes that may, for example, authorize the construction of a new project,²³ or address the operation, management, and purposes of an existing project.²⁴ USBR projects operate subject to both types, but for most projects, specific authorizing statutes dictate whether that project is operated for

17. Reclamation Act of June 17, 1902, ch. 1093, 32 Stat. 388 (codified in scattered sections of 43 U.S.C. § 371–498).

18. See *Peterson v. U.S. Dep't of the Interior*, 899 F.2d 799, 802–03 (9th Cir. 1990) (explaining early features and purposes of the Reclamation program).

19. As stated by historian Donald Pisani, "Not until the 1930s, when the 'High Dam Era' gave the bureau responsibilities for providing water to cities as well as farms, did it become the most important federal agency in the West. From 1930 to 1970 the water and power provided by the bureau transformed the region." Donald J. Pisani, *Federal Reclamation Law in the Twentieth Century: A Centennial Retrospective*, in *THE BUREAU OF RECLAMATION: HISTORY ESSAYS FROM THE CENTENNIAL SYMPOSIUM VOLUMES I AND II* 611, 611 (2008), available at http://www.usbr.gov/history/Symposium_2008/Historical_Essays.pdf.

20. *Id.* at 625 (placing the end of the dam building era in the 1970s and stating reasons why it ended). "The last really big project construction authorization occurred in 1968 when Congress approved the Colorado River Basin Project Act which included the Central Arizona Project, the Dolores Project, the Animas-La Plata Project, the Central Utah Project, and several other projects." U.S. BUREAU OF RECLAMATION, *A BRIEF HISTORY OF THE BUREAU OF RECLAMATION* 5 (2000).

21. USBR claims to provide irrigation water for one-fifth of the West's farmers, provide public water supply for more than thirty million people, generate forty billion kilowatt-hours of electricity per year, and host (with partners) ninety million recreational visitor-days annually. *Bureau of Reclamation Facts & Information*, U.S. BUREAU OF RECLAMATION, <http://www.usbr.gov/main/about/fact.html> (last visited Mar. 29, 2012).

22. Examples of general reclamation laws after 1902 include section 9 of the Reclamation Project Act of 1939, 43 Stat. 1194 (codified at 43 U.S.C. § 485h (2006)), and the Reclamation Reform Act of 1982, Pub. L. No. 97-295, 96 Stat. 1263 (codified as amended at 43 U.S.C. §§ 390aa–390zz-1 (2006)).

23. See, e.g., Act of June 3, 1960, Pub. L. No. 86-488, 74 Stat. 156 (authorizing the San Luis Unit of the Central Valley Project).

24. The best-known example of a statute that addresses various aspects of a pre-existing project is the Central Valley Project Improvement Act of 1992, Pub. L. No. 102-575, 106 Stat. 4706 (1992).

irrigation only, or for additional purposes such as hydropower, municipal/industrial water supply, or recreation.²⁵

Water stored, diverted, or delivered by the facilities of a Reclamation project is commonly called "project water."²⁶ USBR enters into contracts to supply project water for irrigation and other consumptive uses; in return, the water users agree to pay certain expenses associated with the project, including a portion of the government's construction costs.²⁷ USBR generally contracts with a governmental entity such as an irrigation district or a municipal water utility, which in turn delivers the water to individual users.²⁸ Users who receive project water under a contract with USBR are the primary beneficiaries of a Reclamation project.

Many projects are operated for additional purposes, including flood control, fish and wildlife, and recreation.²⁹ These purposes are "nonreimbursable," meaning the government, rather than a specific beneficiary, bears the associated project costs.³⁰ Such purposes typically function as operational constraints on the project; thus, a certain portion of a reservoir's space may always remain full to provide a minimum pool for resident fish, or empty to provide a measure of flood control.³¹ In any event, Reclamation project dam operations inevitably involve trade-offs among uses, especially in times of shortage. For example, USBR may respond to a drought by cutting releases from a dam during the winter and spring to boost reservoir storage, benefiting irrigators who rely on the stored water but harming downstream fisheries that depend on adequate instream flows.³²

25. See, e.g., *Jicarilla Apache Tribe v. United States*, 657 F.2d 1126 (10th Cir. 1981) (analyzing statutes authorizing the San-Juan Chama Project to determine whether they allowed project water to be used for recreational purposes).

26. See Reed D. Benson, *Whose Water Is It? Private Rights and Public Authority over Reclamation Project Water*, 16 VA. ENVTL. L.J. 363, 369-72 (1997) (noting that there is no standard definition of this term).

27. The most common type of contract is a "repayment contract," whereby USBR supplies water in return for repayment of a portion of the costs of building, operating, and maintaining a project. USBR also has some "water service contracts," whereby it provides annual water deliveries for a specified term of years in return for an agreed rate of payment. *Id.* at 371-72. These contracts also contain many other provisions defining the rights and responsibilities of the parties. *Id.* at 393-94.

28. See *id.* at 371, 393.

29. See generally U.S. BUREAU OF RECLAMATION, A BRIEF HISTORY OF THE BUREAU OF RECLAMATION 7-10 (2000).

30. U.S. GOV'T ACCOUNTABILITY OFFICE, GAO/T-RCED-97-150, BUREAU OF RECLAMATION: RECLAMATION LAW AND THE ALLOCATION OF CONSTRUCTION COSTS FOR FEDERAL WATER PROJECTS 3-4 (1997). This report summarized cost allocations for a total of 133 reclamation projects; reimbursable costs (primarily irrigation and hydropower) far exceeded nonreimbursable ones, and the largest nonreimbursable categories in dollar terms were flood control and fish and wildlife. *Id.* at 8.

31. See generally *South Dakota v. Ubbelohde*, 330 F.3d 1014 (8th Cir. 2003) (explaining Missouri River reservoir operations for flood control, fish habitat, navigation, and other uses).

32. See *Upper Snake River Chapter of Trout Unlimited v. Hodel*, 921 F.2d 232 (9th Cir. 1990) (recognizing that USBR's plan to reduce Palisades Dam releases during drought would harm downstream fishery, but holding that no environmental impact statement was needed).

Despite such trade-offs, however, USBR has no program or official process for periodic review and revision of project operating plans. One possible framework for such reviews would be the National Environmental Policy Act (NEPA)³³ process, whereby federal agencies identify alternatives to their proposed actions and evaluate the potential impacts of each option considered.³⁴ USBR does not make a practice of using NEPA for project operating decisions, however, as courts have not required environmental reviews for “routine” project operations.³⁵ Yet, lacking a forward-looking process to consider alternative project operations may prevent USBR from optimizing its preparations for a future plagued by droughts and altered by climate change.

B. Drought, Climate Change, and Water Resources in the Western United States

Water supplies in the western United States have always been highly variable, with periods of withering drought interspersed with years of relative abundance. The difference between the two can be downright dramatic: the Colorado River, for example, has averaged about 15 million acre-feet (AF) in annual flow over the past century, but the lowest year brought only 5.5 million AF, while the highest exceeded 25 million AF.³⁶ Even though the West has experienced major droughts over the past several decades, studies indicate that prior centuries saw periods much drier than those which any living person has witnessed.³⁷ According to USBR, the Missouri River Basin “may have experienced relatively wetter conditions during the twentieth century compared to prior centuries as well as less annual runoff variability For example, the worst drought observed in the 20th century likely was equaled or exceeded at least 30 times in the preceding six centuries.”³⁸

33. 42 U.S.C. §§ 4321–4370f (2006).

34. *Id.* § 4332(2)(C) (requiring preparation of a “detailed statement,” including alternatives and environmental impacts, regarding “proposals for . . . major Federal actions significantly affecting the quality of the human environment”). NEPA’s requirements ensure that an agency will acquire and consider detailed information on environmental impacts before making a decision, and will make such information available to the public to facilitate its involvement in the decision-making process. See *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989).

35. Reed D. Benson, *Environmental Review of Western Water Project Operations: Where NEPA Has Not Applied, Will It Now Protect Farmers From Fish?* 29 UCLA J. ENVTL. L. & POL’Y 269, 287–96 (2011). In this article, I offered both legal and policy reasons why USBR should do NEPA reviews of long-term project operating plans. *Id.* at 301–05. I also recognized, however, that USBR had substantial reasons for wanting to avoid NEPA reviews in this context. *Id.* at 273.

36. U.S. BUREAU OF RECLAMATION, SECURE WATER ACT SECTION 9503(C)—RECLAMATION CLIMATE CHANGE AND WATER 2011 18 (2011) [hereinafter USBR 2011 CLIMATE REPORT]. These flows were measured at the Lees Ferry gauging station, sixteen miles below Glen Canyon Dam, and just above the Grand Canyon. *Id.*

37. See *supra* note 3 and accompanying text.

38. USBR 2011 CLIMATE REPORT, *supra* note 36, at 88 (citing studies based on tree ring records and reconstruction of annual runoff from the upper Missouri River Basin).

The West's water infrastructure was designed and built largely to manage this variability, or at least mitigate the suffering caused by the extreme highs and lows. "Water management systems across the west have been designed to operate within wide envelopes of hydrologic variability, handling variations from season-to-season and year-to-year. These systems were designed with local hydrologic variability and demand patterns in mind . . ." ³⁹ One notable example: the Colorado River averages roughly 15 million AF of annual runoff (as noted above), but Glen Canyon Dam on the Colorado was designed to store 26 million AF so as to meet downstream water needs in the event of a drought as severe as that of 1933–34. ⁴⁰

Still, when drought hits in the western United States, it can have serious negative effects of many kinds. As stated by the WGA, "Severe drought conditions have created life-threatening situations and financial burdens for government, the private sector, and individuals," ⁴¹ due to the impact of such things as wildfires, crop shortages, and municipal water supply restrictions. "In short, drought damages social, economic and environmental resources and negatively affects the quality of life of our citizens." ⁴²

Climate change is increasingly seen as causing or exacerbating droughts and their associated impacts; as noted above, the WGA has already acknowledged this connection. ⁴³ In addition, the WGA has expressed concern that climate change will lead to water shortages harming both human users and environmental values, ⁴⁴ and could result in "more intense, frequent, and longer-lasting droughts." ⁴⁵

These concerns are well-founded, especially in the Southwest, where the climate is likely to become even drier and hotter:

39. *Drought Hearing*, *supra* note 1 (statement of Michael Connor, Commissioner of Reclamation).

40. W.L. Rusho, *Bumpy Road for Glen Canyon Dam*, in *THE BUREAU OF RECLAMATION: HISTORY ESSAYS FROM THE CENTENNIAL SYMPOSIUM VOLUMES I AND II* 526 (2008), available at http://www.usbr.gov/history/Symposium_2008/Historical_Essays.pdf. The article notes that Lake Powell did indeed help the Colorado River Basin survive the 1999–2005 drought, and quotes an unnamed Bureau spokesman as saying, "Lake Powell releases kept Lake Mead from going dry." *Id.* at 547.

41. W. GOVERNORS' ASS'N & W. STATES WATER COUNCIL, *IMPROVING DROUGHT PREPAREDNESS IN THE WEST* 1 (2011), http://www.westgov.org/component/joomdoc/doc_download/1356-drought-climate-adaptation2010 (last visited Oct. 14, 2012).

42. *Id.*

43. *See supra* note 7 and accompanying text.

44. "Climate change will have severe economic and environmental impacts on the West in coming decades, including effects on agriculture and tourism, infrastructure (including dams, roads, water and sewer systems), loss of coastal areas, changed fisheries and wildlife, water shortages, storm impacts, and soil erosion." W. GOVERNORS' ASS'N, *supra* note 7, ¶ A.2.

45. W. GOVERNORS' ASS'N, *supra* note 9, at 21–22, (listing fourteen "projected impacts" of climate change on water supplies and demands in the West, including smaller snowpacks, greater evaporation and dryness, water quality challenges, reduced hydropower generation, and impaired ecosystems).

There is broad agreement in the climate science research community that the Southwest will very likely continue to warm. There is also a strong consensus that the same region will become drier and increasingly snow-free with time, particularly in the winter and spring. Climate science also suggests that the warmer atmosphere will lead to more frequent and more severe (drier) droughts in the future. All of the above changes have already started, in large part driven by human-induced climate change.

However, even in the absence of significant human-caused climate change, the Southwest is prone to drought and megadrought much more severe than droughts witnessed in the last 100 years. The 2000-year record of drought in the region makes it clear that droughts lasting decades are likely independent of human-caused climate change. For this reason, the “no-regrets” strategy is to plan and prepare for droughts no matter the cause—human or natural—and to do so under the assumption that droughts will very likely be hotter and thus more severe in the future than in the last 2000 years.⁴⁶

As the West’s primary federal water management agency, USBR is well aware of the problem. At a 2011 hearing on drought and climate change, Commissioner Michael Connor stated that “climate change will add to the challenges we face in managing our water supply, water quality, flood risks, wastewater, aquatic ecosystems, and energy production.”⁴⁷ He said that dealing with drought will require a proactive approach and significant planning, and he called for “new institutional and on-the-ground preventions to address future droughts. More flexibility needs to be built into our water system such as more diversified reserve supplies, efficient markets for short-term water transfers, and the creation of new habitats to improve the resiliency of important ecosystems.”⁴⁸

Several other recent articles in the legal literature—especially those by Professor Robin Craig—have nicely summarized climate change science in regard to water resources and explored the big-picture implications of climate change for water law and management.⁴⁹ This Article says less about the

46. *Drought Hearing*, *supra* note 1 (statement of Dr. Jonathan Overpeck). In referring to the Southwest, Dr. Overpeck apparently means “the broad Southwest—extending from California through east Texas and Oklahoma.” *Id.* at 34.

47. *Id.* at 36 (statement of Michael Connor, Commissioner of Reclamation).

48. *Id.* at 21.

49. See, e.g., Robin Kundis Craig, *Adapting Water Federalism to Climate Change Impacts: Energy Policy, Food Security, and the Allocation of Water Resources*, 5 ENVTL. & ENERGY LAW & POL’Y J. 183 (2010); Robin Kundis Craig, *Adapting Water Law to Public Necessity: Reframing Climate Change Adaptation as Emergency Response and Preparedness*, 11 VT. J. ENVTL. L. 709 (2010); see also Robert H. Abrams & Noah D. Hall, *Framing Water Policy in a Carbon Affected and Carbon Constrained Environment*, 50 NAT. RESOURCES J. 3 (2010). John Leshy’s broad prescription for water policy reform deals with issues far beyond climate change, but concludes, “Climate change is a two-edged sword for U.S. water management. Its destabilizing effect on water supplies poses a huge challenge to water users and managers. But concern about climate change is also creating a more favorable political climate for adopting long needed reforms in water policy.” John Leshy, *Notes on a Progressive National Water Policy*, 3 HARV. L. & POL’Y REV. 133, 159 (2009).

science and looks more narrowly at the law than those articles have. Instead, it focuses solely on existing provisions of two federal statutes, the SECURE Water Act and the Drought Relief Act, which authorize USBR to take certain actions regarding climate change and drought, respectively. The next two Sections address the content and implementation of these two laws.

II. USBR'S CLIMATE CHANGE PROGRAM UNDER THE SECURE WATER ACT

Congress expressed its concern about the water supply impacts of climate change in enacting the SECURE Water Act (SECURE).⁵⁰ Originally introduced in 2007,⁵¹ this statute was one of several water-related titles included in the Omnibus Public Land Management Act of 2009.⁵² SECURE's lead sponsor was Senate Energy and Natural Resources Committee Chairman Jeff Bingaman of New Mexico, and its primary staff architect was Michael Connor, now Commissioner of USBR.⁵³

SECURE's key congressional finding is that climate change "poses a significant challenge to the protection and use" of U.S. water resources, and "may have a substantial effect on the supplies of water for agricultural, hydroelectric power, industrial, domestic supply, and environmental needs."⁵⁴ The statute's other findings relate mostly to research and monitoring regarding the effects of climate change; one finding declares that the federal government should carry out these activities in support of the states, which are primarily responsible for managing water resources.⁵⁵ But another finding calls on federal water management agencies "to take a lead role in assessing risks to the water resources of the United States (including risks posed by global climate change); and to develop strategies" to mitigate the impact of these risks and ensure the long-term sustainability of water resource management.⁵⁶

SECURE directs several federal agencies to address climate change, and creates a "Climate Change and Water Intragovernmental Panel" with representatives from five federal cabinet departments and the Environmental Protection Agency.⁵⁷ The statute directs the Secretary of Energy, for example, to assess the risks of climate change on water supplies for hydropower generation;⁵⁸ it also gives the U.S. Geological Survey detailed orders regarding

50. See *supra* note 14 and accompanying text.

51. S. 2156, 110th Cong. (2007).

52. Pub. L. No. 111-11, 123 Stat. 991 (2009). This bulky legislation primarily addressed federal public land designations, but Title IX also included several authorizations for USBR, including SECURE. 123 Stat. 1295-1414.

53. See *Drought Hearing*, *supra* note 1 (colloquy between Sen. Jeff Bingaman, Chairman, Senate Committee on Energy and Natural Resources, and Michael Connor, Commissioner of Reclamation).

54. 42 U.S.C. § 10361(3) (2006).

55. *Id.* § 10361(4).

56. *Id.* § 10361(5).

57. *Id.* § 10366. This new panel is focused primarily on climate change science, rather than being directly involved in adaptation. *Id.*

58. *Id.* § 10365.

streamflow information and groundwater monitoring.⁵⁹ The SECURE authority emphasized in this Article, however, is the Reclamation Climate Change and Water Program.⁶⁰

A. USBR's Climate Change Adaptation Authority

Section 9503 of SECURE directs the Interior Secretary to establish a program to study and address the water supply impacts of climate change in seventeen western states.⁶¹ It directs the Secretary to assess the effects of climate change on water quantity in these states, and the risks posed by these effects.⁶² This SECURE program, however, goes beyond research and monitoring: the Secretary must also "ensure, to the maximum extent possible, that strategies are developed at watershed and aquifer system scales to address potential water shortages, conflicts, and other impacts" to water users and the environment.⁶³

Specifically, the Reclamation Climate Change and Water Program requires the Secretary to (1) *assess the risks* of climate change for water supply and demand, (2) *analyze the impacts* of these risks in human and ecological terms, and (3) *develop strategies* to mitigate these impacts.⁶⁴ Task one requires a basin-by-basin assessment⁶⁵ of climate change risks, including potential changes in snowpack, runoff, and groundwater supplies, plus increases in water demand and reservoir evaporation resulting from rising temperatures.⁶⁶ The second task requires the Secretary to determine, for each basin, a range of potential impacts caused by water supply changes.⁶⁷ This analysis must consider traditional factors such as irrigation water deliveries, hydropower generation, and flood control, and also environmental values such as fish and

59. *Id.* § 10367.

60. *See* SECURE § 9503, 42 U.S.C. § 10363 (titled "Reclamation climate change and water program").

61. "The Secretary shall establish a climate change adaptation program" that will operate within the seventeen western states where USBR projects are located. 42 U.S.C. § 10363(a); *see id.* § 10362(17) (defining the term "service area" with reference to the seventeen reclamation states listed in 43 U.S.C. § 391).

62. 42 U.S.C. § 10363(a)(1).

63. *Id.* § 10363(a)(2).

64. *Id.* § 10363(b)(2)-(4). The statute also requires the Secretary to coordinate with other federal agencies and the states regarding climate change science and water resources monitoring data. *Id.* § 10363(b)(1), (b)(5).

65. The Secretary must "assess specific risks to the water supply of each major reclamation river basin." *Id.* § 10363(b)(2). A "major reclamation river basin" is one that has an authorized USBR project within one of the seventeen reclamation states. *See supra* note 10. The term covers tributaries as well as major river systems, and specifically includes the Colorado, Columbia, Klamath, Missouri, Rio Grande, Sacramento/San Joaquin, and Truckee River Basins. *Id.* § 10362(12).

66. *Id.* § 10363(b)(2)(A)-(D).

67. *Id.* § 10363(b)(3).

wildlife habitat, imperiled species, water quality, and “flow and water dependent ecological resiliency.”⁶⁸

Task three requires the Secretary to develop strategies, “in consultation with appropriate non-Federal participants,” to mitigate each of these potential impacts.⁶⁹ These strategies may relate to “the modification of any reservoir storage or operating guideline . . . ; the development of new water management, operating, or habitat restoration plans; water conservation; improved hydrologic models and other decision support systems; and groundwater and surface water storage needs.”⁷⁰ Strategies may also include construction of “water supply, water management, environmental, or habitat enhancement water infrastructure.”⁷¹ Thus, the Secretary must produce climate change adaptation strategies which may involve new facilities, or may call for changes to the operation or management of existing USBR projects.

SECURE also authorizes “feasibility studies,” whereby the Secretary has discretionary authority “to determine the feasibility and impact on ecological resiliency of each mitigation and adaptation strategy . . . that the Secretary determines to be necessary to address the effects of global climate change on water resources located in each major reclamation river basin.”⁷² These studies must be done “in cooperation” with a non-federal partner,⁷³ which may be a state or local entity, a tribal government or organization, a water district, or even a non-governmental organization.⁷⁴ The federal government ordinarily will pay no more than half the cost of such a study, but the Secretary is authorized to exceed that share in cases of financial hardship for the non-federal partner.⁷⁵ Feasibility studies may be done in any river basin that has an existing USBR project, and may address either a regional river basin such as the Colorado, Columbia, or Missouri, or the basin of a river that is tributary to one of these larger waterways.⁷⁶

68. *Id.* § 10363(b)(3)(G). “Ecological resiliency” is not defined in the statute, although the term has become increasingly familiar in the field of natural resource management. According to Alyson Flournoy, the concept of ecological resilience “can help us to describe the degree of disturbance a system can tolerate before it flips into another behavior regime. Resilience expresses the ability of a system to rebound from disturbance and the point at which a disturbance triggers a shift in the structure of the system.” Alyson C. Flournoy, *Protecting a Natural Resource Legacy While Promoting Resilience: Can It Be Done?* 87 NEB. L. REV. 1008, 1024 (2009).

69. 42 U.S.C. § 10363(b)(4). A “non-federal participant” can be a state, regional or local authority; an Indian tribe or tribal entity; or “any other qualifying entity, such as a water conservation district, water conservancy district, or rural water district or association, or a nongovernmental organization.” It is not clear what “qualifying” means in this context. *See id.* § 10362(13).

70. *Id.* § 10363(b)(4)(A)–(E).

71. *Id.* § 10363(d)(1). This text appears in the “feasibility study” provision discussed in the next paragraph.

72. *Id.*

73. *Id.*

74. *See supra* note 69.

75. 42 U.S.C. § 10363(d)(2)(A). The non-federal cost share may be in the form of in-kind services rather than money. *Id.* § 10363(d)(2)(B).

76. *See supra* note 65.

SECURE is at best unclear, however, regarding authority to *implement* these strategies. The provision directing the Secretary to develop strategies makes no mention of implementation.⁷⁷ The authority to study the feasibility of strategies does not confer any power to implement them, and in fact suggests that further action would be needed before they could be implemented.⁷⁸ Further, nothing in SECURE "amends or otherwise affects any existing authority under reclamation laws that govern the operation of any Federal reclamation project."⁷⁹ The only section 9503 language suggesting implementation authority is the provision requiring periodic reports to Congress on progress in carrying out the program, including "each mitigation and adaptation strategy considered and implemented by the Secretary"⁸⁰ This indirect reference seems insufficient for this purpose, however, especially since a particular strategy may have been implemented under a statute other than SECURE.⁸¹ On the whole, while SECURE directs the Secretary to develop strategies for addressing the impacts of climate change, it apparently stops short of empowering him to implement such strategies.⁸²

B. USBR's 2011 Report on the Climate Change and Water Program

SECURE section 9503 required the Secretary to report to Congress within two years on progress in implementing the Climate Change and Water

77. 42 U.S.C. § 10363(b)(4). Similarly, the congressional findings speak in terms of federal agencies taking the lead in developing strategies, but say nothing about implementing them. *Id.* § 10361(5).

78. *Id.* § 10363(d)(1). A feasibility study has been a prerequisite to project development in the Reclamation program since at least 1924. "Fact Finders Act" § 4.B, 43 Stat. 672, 702 (1924) (codified at 43 U.S.C. § 412).

79. 42 U.S.C. § 10363(e).

80. *Id.* § 10363(c)(3). Section 9504 of SECURE does authorize the Secretary to make grants or cooperative agreements to promote water conservation and for several other purposes, including activities that address climate-related impacts to water supply. *Id.* § 10364(a)(1); *see infra* note 177 and accompanying text.

81. For example, the Yuma Desalting Plant was authorized in 1975 and completed in 1992 under the authority of a 1974 statute called the Salinity Control Act, but remained largely idle for the first 20 years of its existence. *See Colorado River Basin Salinity Control Act*, Pub. L. 93-320, 88 Stat. 266 (1974); U.S. BUREAU OF RECLAMATION, *THE COLORADO RIVER DOCUMENTS 2008 4-12* (2010). Recently USBR did a test run of the Yuma Desalting Plant, and mentioned this item in its 2011 report on the Climate Change and Water Program. *See infra* note 98 and accompanying text.

82. One piece of legislative history would suggest that SECURE does authorize USBR to implement these strategies. Just before the 2009 vote on final passage, Senator Jeff Bingaman made a statement on the Senate floor. Senator Bingaman was SECURE's lead sponsor, and his Senate Energy and Natural Resources Committee had held hearings on the bill, S. 2156, in the 110th Congress. *SECURE Water Act: Hearing Before the S. Comm. on Energy and Natural Res.*, 110th Cong. (2007) [hereinafter *SECURE Hearing*]. In his 2009 floor statement, Senator Bingaman said that SECURE would "improve our understanding of the impacts of climate change on water and ensure that adaptation strategies are formulated and implemented." 155 CONG. REC. S3390 (Mar. 19, 2009) (statement of Senator Bingaman). Certainly Senator Bingaman—a very able and experienced legislator (and former state attorney general)—could be expected to describe his own bill accurately. But if his statement suggests that SECURE itself confers authority to implement climate change adaptation strategies, that reading finds limited support in the text of the statute.

Program.⁸³ The resulting report, issued in April 2011, provides the most complete picture of USBR's activities under the program.⁸⁴

The great majority of the *Reclamation Climate Change and Water 2011* report is devoted to a basin-by-basin assessment of potential future changes in climate and hydrology, and the future implications of such changes for water and the environment.⁸⁵ Much of this material is based on a review of existing literature, but it also includes results of an original assessment done by USBR using a consistent set of climate projections for the western United States.⁸⁶ This standardized approach allows the report to provide "comprehensive and consistent assessments of risk" for each of the basins studied, and to present results that are comparable across basins.⁸⁷

After presenting this material for the Colorado, Columbia, Klamath, Missouri, Rio Grande, Sacramento/San Joaquin, and Truckee River Basins, the report offers a summary of changes in hydrology and climate for the entire West.⁸⁸ It notes that these basins had warmed roughly 2°F during the twentieth century and would continue to warm by an estimated 5–7°F during this century.⁸⁹ Precipitation changes are expected to vary by location, with northern areas getting somewhat wetter and southern areas becoming drier.⁹⁰ Based on these projections, the report offers a rather bleak picture of future water conditions in southern portions of the West:

Warm season runoff is projected to experience substantial decreases over a region spanning southern Oregon, the Southwestern United States, and the Southern Rockies. . . . It seems evident that projected increasing precipitation in the northern tier of the Western United States could counteract warming-related decreases in warm season runoff, whereas projected decreases in precipitation in the southern tier of the Western United States could amplify warming-related decreases in warm season runoff.⁹¹

Each of the seven river basin sections contains a five- or six-page summary of potential changes that climate change could bring to water uses and management in the basin. Under the heading of "Future Implications for Water and Environmental Resources," each of the seven sections identifies potential changes to "Water Supply and Management," "Hydropower," "Fish

83. 42 U.S.C. § 10363(c). This section required the initial report to Congress in 2011, with further reports to be filed every five years.

84. USBR 2011 CLIMATE REPORT, *supra* note 36.

85. The section for each basin begins with "Basin Setting," then addresses "Historical Climate" and "Historical Hydrology," but most of each section is devoted to "Future Changes in Climate and Hydrology" and "Future Implications for Water and Environmental Resources." *Id.* at xi–xii.

86. *Id.* at v.

87. *Id.*

88. *Id.* at 179–83.

89. *Id.* at 179.

90. *Id.* at 181.

91. *Id.* at 182.

and Wildlife," "Surface Water Quality," "Ground Water," and "Water Demands."⁹² Much of this material relates solely to projected impacts. For example, in the fish and wildlife portion of the Rio Grande Basin section, the report predicts that "reduced snowpack, earlier runoff, and higher evaporative demands due to climate change will affect vegetative cover and species' habitat. At present, most projected impacts primarily are associated with increases in air and water temperatures and include increased stress on fisheries that are sensitive to a warming aquatic habitat."⁹³

The report suggests ways in which such impacts could create pressures to change water uses or operations; for example the Rio Grande section on "Water Demands" notes that warmer air and water temperatures could increase water demands for fish and wildlife (including endangered species), potentially calling for greater releases from reservoirs.⁹⁴ To some extent, the report identifies ways in which operational or management changes could mitigate the impacts of climate change on certain uses. The hydropower portion of the Columbia section, for instance, notes that existing reservoir operating criteria could cause a loss of hydropower generation in order to maintain flood control, but that "if adjustments to operating criteria were considered as an adaptation option, then it would seem possible to rebalance flood control and other system operating objectives so that many of the impacts to water supply and hydropower generation could be reduced" without compromising flood control.⁹⁵

In describing specific USBR actions taken to assist in climate change adaptation, however, the report is remarkably thin. The report devotes a total of four pages to discussing six projects, each representing a different element of USBR's adaptation efforts.⁹⁶ Most of these projects, however, have a history that predates SECURE by years or even decades; for example, the report touted a pilot run of the Yuma Desalting Plant⁹⁷ (along the Lower Colorado River) which was authorized in 1974 but had been idle for most of its existence,⁹⁸ as

92. *Id.* at 36–40 (Colorado); *id.* at 57–62 (Columbia); *id.* at 78–82 (Klamath); *id.* at 99–104 (Missouri); *id.* at 121–26 (Rio Grande); *id.* at 151–56 (Sacramento/San Joaquin); *id.* at 174–78 (Truckee).

93. *Id.* at 123.

94. *Id.* at 125.

95. *Id.* at 58; *see also id.* at 152 (briefly noting potential operational changes of reservoirs in the Sacramento-San Joaquin river system, largely to address challenges relating to carryover storage and fishery releases).

96. Each of the six projects is listed in connection with a category of adaptation actions: "Extending Water Supplies—Pilot Run of the Yuma Desalting Plant"; "Supporting Rural Water Development—Lewiston Clearwater Exchange Project"; "Hydropower Production—Wide Head Range Turbine"; "Water Conservation—WaterSMART Grants"; "River Restoration—Trinity River Restoration Program (TRRP)"; and "Water Supply Planning—Bay-Delta Conservation Plan (BDCP)." *Id.* at 189–92.

97. *Id.* at 189.

98. *See* U.S. DEP'T OF THE INTERIOR, BUREAU OF RECLAMATION, YUMA DESALTING PLANT DEMONSTRATION RUN REPORT 1–2 (2008).

well as the Trinity River Restoration Program,⁹⁹ an ongoing effort that can be traced back at least as far as the Trinity River Basin Fish and Wildlife Management Act of 1984.¹⁰⁰ In introducing these six projects, the 2011 report declares that USBR's water management planning "includes adjusting decision [sic] with respect to [the] systems in response to actual or potential future climate stimuli or their effects to moderate harm or exploit beneficial opportunities. Where opportunities exist, Reclamation has begun actions meant to increase adaptive capacity or strengthen conditions favorable to adaptation."¹⁰¹

C. Basin Studies Under the Climate Change and Water Program

Using its authority to conduct feasibility studies of climate change mitigation and adaptation strategies,¹⁰² USBR has proceeded with "basin studies" in cooperation with a variety of partners. In fiscal years 2009–11, USBR funded a total of twelve studies, focusing on rivers in eight states along with four interstate and/or international river basins.¹⁰³ As explained above,¹⁰⁴ SECURE caps the federal share of study costs at 50 percent and requires USBR to team up with a "non-federal participant" which need not be a government agency. In practice, most of these non-federal partners have been state water resource agencies or local entities concerned with water supply.¹⁰⁵

To be eligible for funding, a proposed study must focus on a river basin in one of the seventeen Reclamation states "where imbalances in water supply and

99. USBR 2011 CLIMATE REPORT, *supra* note 36, at 189.

100. Pub. L. 98-541, 98 Stat. 2721 (1984). Congress found, among other things, that the Interior Secretary "requires additional authority . . . to achieve the long-term goals of restoring fish and wildlife populations in the Trinity River Basin." *Id.* § 1(7).

101. USBR 2011 CLIMATE REPORT, *supra* note 36, at 191.

102. 42 U.S.C. § 10363(d) (2006).

103. In fiscal year 2009, USBR funded studies in the interstate Colorado River Basin, in the St. Mary and Milk River Basins (Montana and Canada), and the Yakima River Basin (Washington). In fiscal year 2010, USBR funded studies in the Henry's Fork (Idaho), Niobrara (Nebraska), Santa Ana (California), and Truckee (Nevada) River Basins, as well as the Southeast California Regional Basin. Funding in fiscal year 2011 went to studies in the Hood (Oregon), Klamath (Oregon/California), Lower Rio Grande (Texas and Mexico), and Santa Fe (New Mexico) River Basins. As this article was being completed, USBR announced five new basin studies: the Los Angeles and Sacramento-San Joaquin (both in California), Pecos (New Mexico), Republican (Colorado, Kansas and Nebraska), and Upper Washita (Oklahoma). See *WaterSMART Basin Studies: Funded Studies*, U.S. BUREAU OF RECLAMATION, <http://www.usbr.gov/WaterSMART/bsp/studies.html> (last visited Mar. 1, 2012).

104. See *supra* notes 72–76 and accompanying text.

105. The first three funded studies all involved states or state agencies (the seven Colorado River Basin states and the water resource agencies of Montana and Washington). The next nine studies, though, involved a mix of state- and local-level partners including the Santa Ana Watershed Project Authority, the City of Santa Fe and County of Santa Fe, and the Hood River County Water Planning Group. See *WaterSMART Basin Studies: Funded Studies*, U.S. BUREAU OF RECLAMATION, *supra* note 103.

demand exist or are projected.”¹⁰⁶ USBR’s guidance for proposals states that each basin study must include four basic elements:

1. Projections of water supply and demand within the basin, or improvements on existing projections, taking into consideration the impacts of climate change;
2. Analysis of how existing water and power infrastructure and operations will perform in the face of changing water realities such as population increases and climate change;
3. Development of structural and nonstructural options to improve operations and infrastructure to supply adequate water in the future; and
4. A trade-off analysis of the options identified and findings and recommendations as appropriate. Such analysis simply examines all proposed alternatives in terms of their relative cost, environmental impact, risk, stakeholder response, or other attributes common to the alternatives. The analysis can be either quantitative or qualitative in measurement.¹⁰⁷

Given the vagueness and breadth of the third element, there is seemingly no limit to the range of options that a basin study could address.

The first completed study,¹⁰⁸ focusing on the Yakima River Basin in Washington, confirms that a basin study can examine a wide array of alternatives to meet diverse needs. The study identified a variety of familiar problems in the Yakima Basin:¹⁰⁹ “seriously depleted” fish populations due to passage, habitat, and streamflow problems; irrigation demands exceeding the available supply in drier years; challenges in meeting domestic and municipal water demands; and projected changes in the hydrograph due to climate change, exacerbating problems for both agriculture and fish.¹¹⁰ It concluded that “[these] problems have created a need to restore ecological functions in the Yakima River system and to provide more reliable and sustainable water resources for the health of the riverine environment, and for agricultural, municipal, and domestic needs.”¹¹¹

The basin study in the Yakima, for which USBR partnered with the Washington Department of Ecology, resulted in a “Yakima River Basin Integrated Water Resource Management Plan.” The two agencies jointly released a Final Programmatic Environmental Impact Statement for this plan in

106. *WaterSMART Basin Studies: Program Requirements*, U.S. BUREAU OF RECLAMATION, <http://www.usbr.gov/WaterSMART/bsp/require.html> (last visited Mar. 14, 2012).

107. *Id.*

108. Press Release, U.S. Bureau of Reclamation, Yakima River Basin Study, First One Completed Under Reclamation’s WaterSMART Program (Feb. 2, 2012), available at <http://www.usbr.gov/newsroom/newsrelease/detail.cfm?RecordID=39123>.

109. Such problems had led Congress in 1994 to authorize the Yakima River Basin Water Enhancement Project. Pub. L. No. 103-434, tit. XII, 108 Stat. 4526, 4550 (1994).

110. U.S. BUREAU OF RECLAMATION & WASH. DEP’T OF ECOLOGY, YAKIMA RIVER BASIN INTEGRATED WATER RESOURCE MANAGEMENT PLAN, FINAL PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT EXECUTIVE SUMMARY i–ii (2012), available at <http://www.usbr.gov/pn/programs/yrbwep/reports/FPEIS/summary.pdf>.

111. *Id.* at ii.

2012,¹¹² explaining that the plan was the product of more than thirty years of study and proposals to address water-related problems in the basin, and nearly three years of stakeholder discussions.¹¹³ The plan itself has something for seemingly everyone, with seven types of elements: “reservoir fish passage, structural and operational changes to existing facilities, surface water storage, groundwater storage, habitat/watershed protection and enhancement, enhanced water conservation, and market reallocation.”¹¹⁴ Thus, the Yakima plan aptly illustrates how a basin study may include a seemingly limitless range of measures.

Although the Yakima is the only completed basin study as of this writing, some of the uncompleted studies reflect a major focus on developing new storage facilities or other sources of water supply. For example, two objectives of the Henry’s Fork basin study are “facilitation of water projects involving the acquisition of water supply, including the potential development of water storage, reduction of water demand, and canal system optimization”; and “evaluation of impacts of identified water projects on the basin water budget

112. *Id.*

113. *Id.* at iv, v.

114. *Id.* at i. The Final EIS Executive Summary provides summary information on each of the seven elements:

- Reservoir Fish Passage Element (Habitat Component);
 - Provide fish passage at the five major Yakima River basin dams—Cle Elum, Bumping Lake, Tieton, Keechelus, and Kachess—as well as Clear Lake Dam.
- Structural and Operational Changes Element (Systems Modification Component);
 - Cle Elum Pool Raise,
 - Kittitas Reclamation District Canal Modifications,
 - Keechelus-to-Kachess Pipeline,
 - Subordinate Power at Roza Dam and Chandler Powerplants, and
 - Wapatox Canal Improvements.
- Surface Water Storage Element (Water Supply Component);
 - Wymer Dam and Pump Station,
 - Kachess Reservoir Inactive Storage,
 - Bumping Lake Reservoir Enlargement, and
 - Study of Columbia River Pump Exchange with Yakima Storage.
- Groundwater Storage Element (Water Supply Component);
 - Shallow Aquifer Recharge, and
 - Aquifer Storage and Recovery.
- Habitat/Watershed Protection and Enhancement Element (Habitat Component);
 - Targeted Watershed Protections and Enhancements, and
 - Mainstem Floodplain and Tributary Enhancement Program.
- Enhanced Water Conservation Element (Water Supply Component);
 - Agricultural Conservation, and
 - Municipal and Domestic Conservation Program.
- Market Reallocation Element (Water Supply Component).

Id. at v–vi.

and environmental resources.”¹¹⁵ One objective of the Niobrara basin study is to “evaluate opportunities for meeting needs through structural and nonstructural means, including surface and aquifer storage and retiming, and water banking.”¹¹⁶ Other studies appear to focus on a wider range of concerns, such as the Klamath study, which seeks to identify potential climate change impacts on a range of water uses in the basin, and then “[d]evelop both structural and non-structural adaptive strategies to balance supplies with demands.”¹¹⁷

In sum, SECURE offers direction and authority for the Secretary to identify both climate change impacts and strategies for dealing with them. USBR has not only studied the potential effects of climate change on western river basins, but has also cooperated with state and local authorities on basin studies that consider a range of options for addressing water supplies and demands. Because SECURE provides no clear authority to implement such options, however, USBR and its non-federal partners may lack the power take the necessary actions, unless, of course, authority can be found under other law.

III. THE DROUGHT RELIEF ACT: AUTHORITIES AND IMPLEMENTATION

A. Drought Relief Act Authorities

With California gripped by drought in the early 1990s, Congress enacted the Reclamation States Emergency Drought Relief Act (Drought Relief Act).¹¹⁸ The Drought Relief Act authorizes the Interior Secretary to conduct studies and prepare plans to assist in reducing drought impacts in the western states. Moreover, this 1992 statute gives the Secretary conditional authority to take certain actions in providing drought relief.

Title II of the Drought Relief Act authorizes the Secretary to study opportunities for conserving water and increasing efficiency of reclamation projects for purposes of making them more drought resistant.¹¹⁹ In addition, the Secretary may “prepare or participate in the preparation of cooperative drought contingency plans . . . for the prevention or mitigation of adverse effects of

115. *Henry's Fork of the Snake River Basin Study*, U.S. BUREAU OF RECLAMATION, http://www.usbr.gov/WaterSMART/bsp/docs/fy2010/Henry's_Fork_Factsheet_Final.pdf (last visited Mar. 14, 2012).

116. *Niobrara River Basin Study Fact Sheet*, U.S. BUREAU OF RECLAMATION, http://www.usbr.gov/WaterSMART/bsp/docs/fy2010/Niobrara_River_Basin_Study_Factsheet.pdf (last visited Mar. 14, 2012).

117. *Klamath River Basin Study Fact Sheet*, U.S. BUREAU OF RECLAMATION, http://www.usbr.gov/WaterSMART/bsp/docs/fy2011/Final_Factsheet_Klamath.pdf (last visited Mar. 14, 2012).

118. Pub. L. No. 102-250, 106 Stat. 53 (1992) (codified as amended at 43 U.S.C. §§ 2201–2247 (2006)).

119. 43 U.S.C. § 2221 (authorizing Secretary “to conduct studies to identify opportunities to conserve, augment, and make more efficient use of water supplies available to federal Reclamation projects and Indian water resource developments in order to be prepared for and better respond to drought conditions”).

drought conditions.”¹²⁰ The Secretary must develop such plans “in consultation with other appropriate Federal and State officials, Indian tribes, public, private, and local entities,” but the statute offers no guidance regarding which entities may be “appropriate” for a particular plan.¹²¹ The statute is also silent on the proper scope of these plans, so they conceivably could cover an entire state, a single reclamation project, a river basin with more than one project, or some other geographic area.

These drought contingency plans may include a wide range of drought relief measures, such as:

- (1) Water banks;
- (2) Appropriate water conservation actions;
- (3) Water transfers to serve users inside or outside authorized Federal Reclamation project service areas in order to mitigate the effects of drought;
- (4) Use of Federal Reclamation project facilities to store and convey nonproject water for agricultural, municipal and industrial, fish and wildlife, or other uses both inside and outside an authorized Federal Reclamation project service area;
- (5) Use of water from dead or inactive reservoir storage or increased use of ground water resources for temporary water supplies;
- (6) Water supplies for fish and wildlife resources; and
- (7) Minor structural actions.¹²²

Plans may include elements that are entirely within the Secretary’s powers in operating one or more USBR projects, as well as elements that “pertain to projects, purposes, or activities not constructed, financed, or otherwise governed by the Federal Reclamation law.”¹²³

The Drought Relief Act obligates the Secretary to take certain actions following adoption of a drought contingency plan. Although the plans do not require congressional approval,¹²⁴ the Secretary must submit each plan to Congress along with any recommendations, including recommendations for new legislation.¹²⁵ The statute also calls for periodic review and revision of plans,¹²⁶ but does not indicate how frequently this should happen. And actions

120. *Id.* § 2222.

121. *Id.*

122. *Id.* § 2223(a). This list is not exclusive.

123. *Id.* § 2223(b).

124. An earlier version of the bill that became the Drought Relief Act would have delayed the effective date of each plan for at least sixty days after it had been submitted to the relevant committees in the U.S. House and Senate, unless each committee approved the plan within that sixty-day period. H.R. REP. NO. 102-21, at 4 (1991) (describing section 204 of H.R. 355, 102d Cong. (1991)). This feature was dropped before enactment, apparently in the Senate, leaving only the requirement of submittal to Congress. S. REP. NO. 102-185, at 65 (1991) (noting that any plan requiring either authorizing legislation or appropriations would require congressional approval, and that the Secretary would need to “approve any aspects of a plan which would involve the exercise of federal authorities which lie within the discretion of the Secretary”).

125. 43 U.S.C. § 2224(a).

126. *Id.* § 2223(e).

taken to implement a plan require compliance with NEPA,¹²⁷ as well as other applicable federal and state laws.¹²⁸

The Drought Relief Act, however, is not only about planning: it also gives the Secretary conditional authority to take certain actions within the area covered by the plan. Under Title I of the Drought Relief Act, the Secretary may conduct a range of drought relief activities (as explained below), such as making temporary water supplies available for a range of uses. The statute provides that these Title I authorities take effect "in any Reclamation State . . . only after the Governor or Governors of the affected State or States . . . has made a request for temporary drought assistance and the Secretary has agreed that such temporary assistance is merited, *or upon the approval of a drought contingency plan as provided in Title II . . .*"¹²⁹ Thus, either a governor's request or the adoption of a plan vests the Secretary with power to take actions to mitigate the effects of drought.

Many of the actions authorized in Title I are primarily for the benefit of traditional water users—such as irrigators or municipalities—including those not normally served by a USBR project. For example, the Secretary may construct and manage temporary new facilities, or even drill permanent wells, for purposes of minimizing drought-related losses and damages.¹³⁰ The Secretary may also purchase water from willing sellers¹³¹ and may enter into temporary contracts to supply water "for use both within and outside an authorized [USBR] project service area."¹³² Title I also authorizes use of USBR project facilities to store and convey non-project water for various uses,¹³³ and even to make loans to water users for purposes of construction activities, conservation measures, or water acquisitions.¹³⁴

Title I also contains important authority to reduce drought-related impacts on fish and wildlife. Most notably, the Secretary may make project water available "for the purposes of protecting or restoring fish and wildlife resources, including mitigation losses, that occur as a result of drought conditions or the operation of a Federal Reclamation project during drought conditions."¹³⁵ The statute allows the Secretary to make such water available for fish and wildlife habitat in federal, state, or private ownership, including

127. See *supra* notes 33–34 and accompanying text.

128. 43 U.S.C. § 2223(d). This requirement applies to the plans themselves, as well as "plan elements."

129. *Id.* § 2214(a). The Title I authorities may also apply "on a reservation, when the governing body of the affected tribe has made a request" *Id.*

130. *Id.* § 2211(a).

131. *Id.* § 2211(c).

132. *Id.* § 2212(a). Such contracts are limited to two years in duration; they may terminate earlier if the Secretary determines "that water supply conditions no longer warrant that such contracts remain in effect . . ." *Id.* § 2212(b). The most detailed provisions of the Drought Relief Act relate to certain restrictions and requirements of such contracts, including pricing. *Id.* § 2212(b)–(c).

133. *Id.* § 2212(e).

134. *Id.* § 2213.

135. *Id.* § 2212(d).

habitat outside the service area of a reclamation project.¹³⁶ Title I provides that water made available for fish and wildlife purposes is considered “nonreimbursable,”¹³⁷ and that no contract is needed to supply water for these purposes.¹³⁸

The Secretary’s Title I powers are not perpetual, however. For one thing, they are rather clearly intended to provide temporary assistance during times of drought, being triggered by a governor’s “request for temporary drought assistance and the [Secretary’s determination] that such temporary assistance is merited”¹³⁹ More importantly, Title I itself carries a sunset date: originally ten years after enactment of the Drought Relief Act,¹⁴⁰ and currently September 30, 2012.¹⁴¹

Two notable (permanent) sections of the Drought Relief Act direct the Secretary to take certain programmatic actions for purposes of ensuring adequate implementation of the statute. First, section 205 requires “a study of the need, if any, to establish a Reclamation Drought Response Fund to be available for defraying those expenses” associated with implementing drought contingency plans.¹⁴² Second, section 302 provides both broad authority to implement the statute and specific direction to consider fish and wildlife needs in doing so:

The Secretary is authorized to perform any and all acts and to promulgate such regulations as may be necessary and appropriate for the purpose of implementing this Act. In carrying out the authorities under this Act, the Secretary shall give specific consideration to the needs of fish and wildlife, together with other project purposes, and shall consider temporary operational changes which will mitigate, or can be expected to have an effect in mitigating, fish and wildlife losses and damages resulting from drought conditions, consistent with the Secretary’s other obligations.¹⁴³

USBR’s authority under the Drought Relief Act, however, is subject to some uncertainties and constraints. Certain provisions indicate that the

136. *Id.*

137. *Id.* Nonreimbursable costs are borne by the government rather than project beneficiaries. *See supra* note 30 and accompanying text.

138. 43 U.S.C. § 2211(c).

139. *Id.* § 2214(a). Title I authority may also be triggered by adoption of a drought contingency plan, however, and the statute is a little less clear regarding the temporary nature of the Secretary’s authorities in that situation. *Id.* And although the statute requires termination of temporary water supply contracts as soon as water supply conditions no longer warrant their continuation, *id.* § 2212(b)(1), this provision may not apply to fish and wildlife water supplies, which do not require a contract, *id.* § 2211(c).

140. Pub. L. No. 102-250, § 104(c), 106 Stat. 53, 56 (1992).

141. 43 U.S.C. § 2214(c). Congress originally extended the effective date of Title I until September 30, 2005. Pub. L. No. 106-566, § 201(a), 114 Stat. 2818, 2820 (2000). The authority lapsed, but Congress revived it in 2006. Pub. L. No. 109-234, § 2306(a), 120 Stat. 418, 456 (2006). In 2010, Congress provided a two-year extension. Pub. L. No. 111-212, § 404(a), 124 Stat. 2302, 1213 (2010).

142. 43 U.S.C. § 2225. This fund could also be used to make loans for certain types of small drought mitigation projects. *Id.*

143. *Id.* § 2242.

Bureau's actions must be consistent with existing laws¹⁴⁴ and with its "other obligations;"¹⁴⁵ such provisions could be read, for example, to prohibit release of water for fish habitat from a project authorized solely for irrigation and hydropower,¹⁴⁶ although such an interpretation would seem contrary to the fundamental purpose of the statute.¹⁴⁷

B. USBR's Implementation of the Drought Relief Act

In the two decades since enactment of the Drought Relief Act, USBR has done relatively little in developing a program to implement it. USBR has never used its rulemaking authority under section 302, nor does it have final internal guidance on drought assistance and contingency planning. And in its fiscal year 2011 budget request, USBR sought only \$380,000 for the Drought Emergency Assistance Program¹⁴⁸—a microscopic sum in the context of a total budget request of nearly \$1.1 billion.¹⁴⁹

In practice, USBR has not developed its own drought contingency plans, but rather has approved those developed by non-federal entities.¹⁵⁰ As of May 2010, only eight drought contingency plans were in effect: four produced by states, three by tribes, and one by a county.¹⁵¹ The more common approach

144. "All actions taken pursuant to this Act pertaining to the diversion, storage, use, or transfer of water shall be in conformity with applicable State and applicable Federal law." *Id.* § 2244(a).

145. *Id.* § 2242.

146. In the *Rio Grande Silvery Minnow* litigation involving a dispute over USBR's discretion to implement the Endangered Species Act, the parties disagreed on the meaning of the Drought Relief Act, with the environmental plaintiffs focusing on the authority to make water available for fish and wildlife, and the federal government and water users focusing on the language requiring any such action to be consistent with the Bureau's other obligations. See Brief for Plaintiffs-Appellees at 51–52, *Rio Grande Silvery Minnow v. Keys*, Nos. 02-2254, 02-2255, 02-2267, 02-2295, 02-2304 (10th Cir. Dec. 18, 2002), 2002 WL 32879652; Brief for Federal Appellants at 29–32, *Rio Grande Silvery Minnow v. Keys*, Nos. 02-2254, 02-2255, 02-2267, 02-2295, 02-2304 (10th Cir. Nov. 20, 2002), 2002 WL 32879498; Reply Brief for Appellant Middle Rio Grande Conservancy District at 18–21, *Rio Grande Silvery Minnow v. Rinne*, Nos. 05-2399, 06-2020, and 06-2021 (9th Cir. Oct. 5, 2006), 2006 WL 3293790. The Drought Relief Act played little if any part in the outcome of the litigation, however, and eventually all opinions in the case were vacated on mootness grounds. *Rio Grande Silvery Minnow v. Bureau of Reclamation*, 601 F.3d 1096, 1104, 1111–12, 1133 (10th Cir. 2010).

147. According to a report of the House Interior and Insular Affairs Committee, the "primary purpose" of the legislation was to give the Bureau "sufficient temporary authority to provide water to those users and areas which will suffer severe and irreplaceable losses because of the drought, . . . including providing water to those users and uses which do not normally receive water from Bureau projects." H.R. REP. NO. 102-21, at 6 (1991).

148. U.S. DEP'T OF THE INTERIOR, BW-20, BUDGET JUSTIFICATIONS AND PERFORMANCE INFORMATION, FISCAL YEAR 2011: BUREAU OF RECLAMATION (2010), available at <http://www.usbr.gov/budget/2011/2011Budget.pdf>. The fiscal year 2012 and 2013 budgets have no line item for drought relief.

149. The Bureau stated its fiscal year 2011 budget request as "\$1,064.7 million in gross budget authority." *Id.* at General Statement-1.

150. Telephone interview with Ken Maxey, Reclamation Drought Coordinator, USBR, in Denver, Colo. (Mar. 16, 2012).

151. The States of Arizona, Hawaii, New Mexico, and Utah submitted plans, along with the Hopi and Hualapai Tribes and the Navajo Nation, as well as San Juan County, Utah. All of these plans were

under the Drought Relief Act, however, involves a drought declaration by a governor or tribe and a subsequent request for USBR assistance under Title I.¹⁵² Thus, contingency plans have played a minor role in Drought Relief Act implementation.

USBR's activities under Title I of the Drought Relief Act have often involved drilling new wells—or rehabilitating or deepening existing wells—to provide a water supply in times of drought.¹⁵³ This emphasis on well drilling is not surprising, given that wells are the only permanent facilities that USBR may construct using its construction authority under section 101(a).¹⁵⁴ In addition, USBR has, at least occasionally, used its power to acquire water from willing sellers.¹⁵⁵ For example, it contracted with the City of Albuquerque in 2000 and 2002 to lease San-Juan Chama Project water for instream flows to benefit the endangered Rio Grande silvery minnow.¹⁵⁶ However, USBR has never used its power under section 102 to make available temporary water supplies, or its authority under section 103 to make loans.¹⁵⁷

Similarly, USBR has taken few steps to develop policy and guidance in this area. USBR has posted draft guidance for its Drought Relief Act implementation, dated April 2002, with separate documents for Title I and Title II.¹⁵⁸ The Title I guidance states that if no drought contingency plan has been approved, the governing body of a state or tribe must declare a drought, after which a water user within the declared area may request emergency drought assistance.¹⁵⁹ The same document suggests that drought contingency plans will

developed from 2000 to 2005. Drought Declarations and Contingency Plans as of May 13, 2010, e-mail attachment from Ken Maxey, Reclamation Drought Coordinator, to Reed D. Benson, Professor, Univ. of New Mexico School of Law (Mar. 16, 2012, 11:33 MDT) (on file with author).

152. *Id.* (showing drought declarations in effect as of May 13, 2010, by four states and numerous tribal governments). According to the Reclamation Drought Coordinator, USBR's Title I authorities are more commonly triggered by this method than by approval of a drought contingency plan. Telephone interview with Ken Maxey, *supra* note 150.

153. Telephone interview with Ken Maxey, *supra* note 150.

154. 43 U.S.C. § 2211(a) (2006).

155. *Id.* § 2211(c).

156. USBR used this authority to acquire water from the City of Albuquerque during the drought of the early 2000s, for purposes of maintaining river flows for the endangered Rio Grande silvery minnow. *See* San Juan-Chama Project Contracts Between the Bureau of Reclamation and the City of Albuquerque to Lease the Use of San Juan-Chama Project Water, No. 00-WC-40-6630 (2000) and No. 02-WC-40-8210 (2002) (on file with author).

157. Telephone interview with Ken Maxey, *supra* note 150.

158. USBR has a web page devoted to its drought program, which includes a link to the Drought Relief Act. *Policy and Program Services: Drought Program*, U.S. BUREAU OF RECLAMATION, <http://www.usbr.gov/drought> (last visited Mar. 16, 2012). Under the heading "Interim Directives & Standards," the page states, "Reclamation is working to update and finalize the Drought Directives and Standards, which will be posted here when available. The drafts below are for reference only." Links below include "Title I: Emergency Assistance" and "Title II: Contingency Planning." Clicking on those links brings up documents marked "DRAFT" and dated "4/12/02." *Id.*

159. U.S. BUREAU OF RECLAMATION, INTERIM DIRECTIVES & STANDARDS, TITLE I, RECLAMATION STATES EMERGENCY DROUGHT RELIEF ACT OF 1991 ¶ 9.C (2002), available at <http://www.usbr.gov/drought/title1.pdf>. USBR will consider drought declarations to be in effect for one year after issuance.

normally be prepared by states or tribes rather than USBR.¹⁶⁰ Otherwise, however, neither document says much more than the statutory text in terms of interpreting USBR's authority or explaining how the programs will operate.

In short, USBR has been passive in implementing the Drought Relief Act, rather than using its powers proactively to help drought-proof the West. One indication of USBR's unwillingness to use these authorities is that only one reported judicial decision in twenty years has involved a dispute over the meaning of the Drought Relief Act.¹⁶¹ Another hint of the statute's current insignificance appears in the statement of Commissioner Connor at a 2011 Senate Energy and Natural Resources Committee hearing, regarding drought and climate change impacts on water resources.¹⁶² The hearing was held in Santa Fe, and focused largely on the ongoing drought in New Mexico; Connor opened his remarks by noting that "the entire State is in drought," and then reviewed on-the-ground conditions and USBR's activities in some detail.¹⁶³ He closed this discussion by stating, "If we aren't proactive, then most likely the only way to address drought is to try and mitigate economic losses."¹⁶⁴ But neither his oral remarks nor his written statement even mentioned the Drought Relief Act, reflecting the minor role this law plays in USBR's drought response efforts today.¹⁶⁵

Thus, even though Congress saw drought contingency plans as a way to help mitigate human and environmental impacts,¹⁶⁶ the Drought Relief Act has not lived up to its potential. It does, however, provide ongoing authority that could be used for this purpose—and while Title I expired in September 2012, other provisions of the statute are permanent. The next Section suggests that the Drought Relief Act could play a much larger role in the future, as a source of authority for USBR to promote adaptation to climate change.

160. "If a state or tribe has completed a drought contingency plan, Reclamation will determine whether the plan meets the goals and intentions of Title II of the Act." *Id.* ¶ 9.B. The guidance never discusses the circumstances under which USBR itself would prepare a plan, or explains the process that would apply if it did.

161. This was the *Rio Grande Silvery Minnow* litigation over USBR's discretion to implement the ESA in operating certain projects in New Mexico. *See supra* note 146.

162. *Drought Hearing, supra* note 1 (statement of Michael Connor, Commissioner of Reclamation).

163. *Id.* at 20.

164. *Id.* at 21.

165. In response to a question from the committee as to any federal programs that could provide drought assistance to hard-hit New Mexico, Connor eventually stated, "We do have a drought relief program within the Bureau of Reclamation. We've used that within the last decade on numerous occasions within New Mexico to drill, provide resources to drill supplemental wells. We've still got some activity going on." *Id.* at 40–41.

166. "Having such 'on-the-shelf' contingency plans in place will allow the Federal government and the States cooperatively to anticipate drought conditions and act early to prevent or at least mitigate the adverse impact that drought conditions may have on environmental resources and water users." H.R. REP. NO. 102-21, at 7 (1991).

IV. DOING MORE WITH THE DROUGHT RELIEF ACT

The Drought Relief Act and the SECURE Water Act were enacted a generation apart, and while they address somewhat different issues, they are similar in that they both emphasize planning for the purpose of mitigating the impacts of water shortages. In light of the increasing recognition that drought and climate change represent a powerful “double whammy” for western water resources, it makes sense to ask whether these two statutes could be used in tandem for maximum benefits. This Part contends that the Drought Relief Act contains important authority for USBR to take action—provided its Title I authorities are revived, which can complement and strengthen preparations for climate change under SECURE.

A. The Case for Greater Use of the Drought Relief Act

Given that a major concern regarding climate change is that it will bring more frequent and more punishing droughts to the West, it stands to reason that SECURE’s provisions for adaptation strategies are not so different from the Drought Relief Act’s planning provisions. The former require the Secretary to “consider and develop appropriate strategies to mitigate each impact of water supply changes” due to climate change;¹⁶⁷ the latter authorize the Secretary to prepare drought contingency plans “for the prevention or mitigation of adverse effects of drought conditions.”¹⁶⁸ The Secretary must develop climate change adaptation strategies “in consultation with appropriate non-Federal participants”¹⁶⁹ and prepare drought contingency plans “in consultation with other appropriate Federal and State officials, Indian tribes, public, private, and local entities.”¹⁷⁰ SECURE suggests a range of strategies including changes to project operating guidelines, revisions to water management or operations plans, and water conservation measures;¹⁷¹ the Drought Relief Act identifies elements such as changes to the use of project facilities, actions to provide temporary water supplies for a range of uses, and water conservation measures.¹⁷² Although there are some notable differences between these two planning authorities,¹⁷³ they attempt to solve similar problems using similar approaches.

167. 42 U.S.C. § 10363(b)(4) (2006).

168. 43 U.S.C. § 2222.

169. 42 U.S.C. § 10363(b)(4).

170. 43 U.S.C. § 2222.

171. 42 U.S.C. § 10363(b)(4)(A)–(C).

172. 43 U.S.C. § 2223(a).

173. Most notably, perhaps, SECURE allows for consideration of constructing significant, permanent new infrastructure. 42 U.S.C. § 10363(d)(1). The Drought Relief Act contemplates only “minor structural actions,” and focuses more on providing temporary water supplies through such measures as water banks, water transfers, and changes to the operation of existing facilities. 43 U.S.C. § 2223(a).

These planning authorities are vitally important, which is why the WGA has declared that "a comprehensive, integrated response to drought emergencies, including mitigation planning, is critical to the social, environmental and economic well-being of the West. . . . Governors support a comprehensive national policy that promotes a coordinated and integrated approach to future drought, including . . . drought preparedness and planning."¹⁷⁴ The WGA has also called for federal support and cooperation to allow the states to incorporate climate change scenarios into their water-related plans, including state water plans and drought plans.¹⁷⁵

Importantly, however, the WGA has taken the position that planning is not enough, and has called on the federal government to do more to help the West prepare for the "double whammy":

Western Governors recognize the need to be able to proactively respond to short-term climate change and variability, e.g. drought, forest fires, significant precipitation events, and extreme heat events. Western Governors support creating at the federal and regional level the information, organization, and funding necessary to proactively respond rather than react to these increasingly frequent events.¹⁷⁶

This statement points to the need for authorities (and funding) that allow federal agencies to act, not merely plan, to address the impacts of drought and climate change. Unfortunately, SECURE section 9503 lacks such authorities.¹⁷⁷

Title I of the Drought Relief Act, in contrast, authorizes the Secretary to take a variety of actions including drilling wells, constructing temporary facilities, acquiring water from willing sellers, making loans for various purposes, and providing temporary water supplies for a range of uses.¹⁷⁸ These authorities might be important for many reasons, but especially for protecting fish and wildlife species and their habitats which would otherwise be seriously harmed by drought. Since USBR has no broad programmatic authority to take actions for the benefit of fish and wildlife,¹⁷⁹ Title I may provide a crucial lifeline for fish and wildlife during periods of major stress on their habitat and food supplies. The ability to assist fish and wildlife populations is doubly

174. W. GOVERNORS' ASS'N, POLICY RESOLUTION 11-7, WATER RESOURCE MANAGEMENT IN THE WEST ¶ B.7 (2011), available at http://www.west.gov.org/component/joomdoc/doc_download/1441-11-7-.

175. W. GOVERNORS' ASS'N, *supra* note 7, ¶ B.9.

176. *Id.* ¶ B.8.

177. See *supra* notes 77–82 and accompanying text. SECURE section 9504, however, authorizes the Secretary to make grants to (or cooperative agreements with) states, tribes, water suppliers, and other entities to promote certain goals, including water conservation, enhanced water management, and fish and wildlife habitat protection. 42 U.S.C. § 10364. Given the resource limitations and eligibility constraints of this program, however, these grants represent a very modest tool for addressing these problems. See Reed D. Benson, *New Adventures of the Old Bureau: Modern-Day Reclamation Statutes and Congress's Unfinished Environmental Business*, 48 HARV. J. ON LEGIS. 137, 169–72 (2011).

178. See *supra* notes 129–41 and accompanying text.

179. See Benson, *supra* note 177, at 165–69.

important because, unlike the irrigators who receive most of the water from USBR projects, these populations cannot be made more-or-less whole by disaster relief payments. Thus, Title I can provide a measure of authority to act, which should allow USBR to more effectively reduce the impacts of water shortages, including those related to climate change.

The flip side is that implementing SECURE section 9503 could potentially broaden the benefits of Title I by producing a new and robust set of drought contingency plans. As noted above, the two statutes are broadly similar in their provisions for preparing drought contingency plans and developing climate change adaptation strategies.¹⁸⁰ There is no obvious reason why all or part of a “basin study” conducted under SECURE¹⁸¹ could not also be deemed a “drought contingency plan” for purposes of the Drought Relief Act.¹⁸² Adoption of a drought contingency plan, of course, is one way to trigger the applicability of Title I authorities.¹⁸³ In other words, USBR—with its non-federal partner in a SECURE basin study—could develop a plan that would include both long-term climate change adaptation strategies and temporary measures for surviving drought periods. If the latter elements of a study could be approved as a drought contingency plan under Title II of the Drought Relief Act, that would trigger USBR’s assistance powers under Title I.

Such an approach might require USBR to take a more affirmative approach to Drought Relief Act implementation, seeking out opportunities to use its authorities rather than simply waiting for a state or tribe to request assistance. A more active role for USBR, in turn, might raise concerns among western states and water users about losing control to a federal agency with its own agenda.¹⁸⁴ At least three factors, however, should largely address such concerns. First, both SECURE and the Drought Relief Act require the Secretary’s actions to be consistent with state water law.¹⁸⁵ Second, Title II requires consultation with appropriate state officials in the development of drought contingency plans, giving states at least procedural protection under

180. See *supra* notes 167–72 and accompanying text.

181. See *supra* notes 102–17 and accompanying text.

182. See *supra* notes 120–23 and accompanying text.

183. See *supra* note 129 and accompanying text.

184. Such potential concerns were probably the underlying reason for a question that Senator Domenici asked New Mexico State Engineer John D’Antonio regarding the SECURE Water Act before its enactment. D’Antonio had testified in favor of SECURE on behalf of the WGA at a 2007 hearing, *SECURE Hearing*, *supra* note 82 (statement of John D’Antonio, representing Western States Water Council) (noting affiliation between the Western States Water Council and the WGA). Following the hearing itself, Senator Domenici asked D’Antonio some written questions for the record, one of which was, “Do you believe anything in this legislation would lead to the federalization of state water rights?” D’Antonio answered no, relying on SECURE’s explicit recognition of state primacy in water management, its requirements for federal agencies to work with state officials, and its provisions preserving state water laws and requiring the Secretary to comply with such laws. *Id.* at 86 (responses of John D’Antonio to questions from Senator Domenici).

185. 42 U.S.C. § 10370(b) (2006); 43 U.S.C. § 2244(a) (2006).

the Drought Relief Act.¹⁸⁶ Third, the WGA not only sees both a need and opportunity for stronger national legislation on drought preparedness, but has even identified the reauthorization of the Drought Relief Act as a potential legislative vehicle for new authorities.¹⁸⁷

USBR’s authority to act under Title I—and its apparent lack of similar authority under SECURE—would be less important if Congress could be counted on to act in a timely and reasonable matter in response to new proposals for mitigating water-related drought impacts. At present, however, partisan gridlock combined with sharp philosophical differences on natural resource issues makes it somewhat doubtful that Congress would approve even modest measures with significant support.¹⁸⁸ Any strategy for drought relief or climate change adaptation requiring congressional approval is at best uncertain; far more certain, it seems, is the “double whammy” facing water resources in the West. Given the urgent need to prepare for drought and climate change, and the grave doubts about Congress’s near-term effectiveness, it is imperative that USBR use established statutory authority to maximum effect.

The next Section lays out an approach for a stronger USBR drought/climate change program under existing law. With key provisions of the Drought Relief Act now expired as of September 2012, even maintaining “existing law” will require legislative action. Congress will need to extend Title I, but USBR and non-federal entities can carry out the rest of this approach under current authorities.

186. 43 U.S.C. § 2222.

187. “One key element of comprehensive drought policy that may be ripe for consideration as a stand-alone bill is drought preparedness planning. . . . If Congressional authorization is required for implementation of any of the recommendations, one possible legislative vehicle that should be considered is the reauthorization of the 1991 Reclamation States Drought Relief Act.” W. GOVERNORS’ ASS’N & W. STATES WATER COUNCIL, *supra* note 41, at 5. The document states that any comprehensive drought policy “should complement and support state, local, and watershed-based plans, not override or replace them,” and suggests convening discussions involving states, federal agencies, tribes, local governments, and stakeholder groups for the purpose of developing consensus recommendations. *Id.*

188. Despite the ongoing, intense drought and its effects on agriculture across much of the country, the House in July 2012 was in no hurry to revive expired Farm Bill programs providing drought relief to farmers. David Pitt, *USDA Chief Urges Action on Farm Bill as Drought Persists*, ASSOCIATED PRESS, July 24, 2012, available at http://articles.philly.com/2012-07-24/news/32828949_1_farm-bill-livestock-farmers-agriculture-secretary-tom-vilsack. On the subject of water, the current Congress has also failed to approve a bill authorizing a much-heralded settlement of a major dispute in the Klamath Basin, although that measure carries a sizeable price tag. See Allison Winter, *Klamath: Interior Delays Decision on Dam Removal*, GREENWIRE (Mar. 2, 2012), <http://www.eenews.net/Greenwire/2012/03/02/archive/27> (noting that Congress’s failure to act has delayed implementation of the settlement, including the Interior Secretary’s decision on removal of certain dams). The failure of Congress to advance new wilderness bills, even compromise measures with support from a broad range of local stakeholders, speaks to the current difficulty facing nearly any legislation regarding natural resources. See Danielle Venton, *Wilderness Bills Languish in Legislative Limbo*, HIGH COUNTRY NEWS (Mar. 5, 2012), <http://www.hcn.org/issues/44.4/wilderness-bills-languish-in-legislative-limbo>.

B. Suggestions for a Stronger Drought Relief Program Under Existing Law

First, because the Drought Relief Act provides crucial authority for USBR to take practical actions that can mitigate the effect of water shortages, Congress needs to extend Title I's effective date beyond 2012.¹⁸⁹ With droughts likely to become more frequent and more damaging to western water resources,¹⁹⁰ Title I should be made permanent, or at least renewed for something like its original ten-year duration.¹⁹¹ If Title I is expired and ineffective—as it was in 2005, when Congress allowed it to lapse until restoring it the following year¹⁹²—USBR will lose the authority to drill wells, purchase water from willing sellers, provide temporary water supplies, and take other measures that can benefit irrigation and domestic users as well as fish and wildlife. At a time when the WGA is calling for a more robust and comprehensive drought policy,¹⁹³ failing to restore Title I would significantly weaken the federal government's ability to deliver drought assistance in the West.

Second, USBR can do significantly more with its existing powers under Title II of the Drought Relief Act. Rather than simply processing drought contingency plans submitted by states or tribes,¹⁹⁴ USBR could take the initiative to prepare its own plans, in consultation with states, affected tribes, and other appropriate entities.¹⁹⁵ In developing such plans, it certainly makes sense to prioritize those areas where there is strong interest and good cooperation from a state or tribe. But USBR should also emphasize river basins or sub-basins where Reclamation projects exist, and where existing water uses (including fish and wildlife) are particularly vulnerable to the effects of drought and climate change. In such areas where USBR could provide great benefits by adopting a drought contingency plan and invoking its Title I powers, it should make an effort to develop its own plan in consultation with non-federal entities, rather than sitting back and waiting for someone else to take the initiative.

Third, USBR should consider the potential for having SECURE basin studies (or portions of them) also serve as drought contingency plans. As discussed above, SECURE's provisions for development and study of adaptation strategies have much in common with the Drought Relief Act's

189. See *supra* notes 139–40 and accompanying text.

190. See *supra* Section I.B.

191. Pub. L. No. 102-250, § 104(c), 106 Stat. 53, 56 (1992). USBR is apparently drafting legislation that would provide a five-year extension of Title I, and also raise the appropriations ceiling. Telephone interview with Ken Maxey, *supra* note 150. The statute currently caps appropriations at a total of \$90 million for the period from fiscal year 2006 through fiscal year 2012. 43 U.S.C. § 2241 (2006).

192. See *supra* note 141.

193. See *supra* notes 174–76 and accompanying text.

194. As noted above, this has been USBR's typical practice under Title II. See *supra* notes 150–52 and accompanying text.

195. See *supra* notes 120–21 and accompanying text.

planning authorities, and there is no obvious reason why a basin study could not do double duty.¹⁹⁶ Because an approved drought contingency plan triggers USBR’s authority to take actions such as drilling wells and providing temporary water supplies,¹⁹⁷ this approach could give the basin studies immediate practical benefits in mitigating the effects of water shortages, so long as Title I is effective. This approach might even allow USBR to help address chronic (as opposed to strictly drought-induced) water shortages under the Drought Relief Act,¹⁹⁸ because if a drought contingency plan is in effect, Title I can be invoked without a drought declaration.¹⁹⁹

Fourth, USBR should carry out its duties under Drought Relief Act section 205, which states that the Secretary “shall undertake a study of the need, if any, to establish a Reclamation Drought Response Fund to be available for defraying those expenses which the Secretary determines necessary to implement plans prepared under section 202”²⁰⁰ Such a fund could be important to the success of the drought relief program, because money will be needed to implement measures such as water conservation projects or acquiring water for fish and wildlife. Obviously, any proposal for significant federal spending would be controversial in today’s political climate.²⁰¹ However, the existing Reclamation Fund²⁰² is one potential source of the necessary

196. See *supra* notes 167–73 and accompanying text.

197. See *supra* notes 129–38 and accompanying text.

198. Legislative history suggests that Congress understood the need for USBR to address more-or-less chronic water shortages that result from growing demands and/or shrinking supplies. The Senate Report on the Drought Relief Act noted that USBR “distinguishes between two situations: (1) a ‘drought’ and (2) a situation where, even in normal years, the available water supply is too small to meet all existing demands.” S. REP. NO. 102-185, at 9 (1991). In contrast to a temporary shortage during a drought year, “[t]he second situation occurs when demand for water exceeds or grows beyond that for which the project was authorized, designed, and constructed.” *Id.* Projects are designed and built based on historical precipitation in the basin, and water supply contracts made based on normal or average water supply.

During extremely low precipitation years or during consecutive years of low precipitation, however, water supplies may not be available to meet even the minimum levels of demand. Of primary concern during these times are the economic, environmental, and social impacts of water shortages to water users, the surrounding communities, and fish and wildlife resources.

Id.

199. Title I authority is triggered by an approved request for “temporary drought assistance” from a governor or tribe, or by an approved drought contingency plan under Title II, 43 U.S.C. § 2214(a) (2006). Title II provides that drought contingency plans must be “for the prevention or mitigation of adverse effects of drought conditions,” *id.* § 2222, and refers to “drought levels that would trigger the implementation of contingency plans,” *id.* § 2223(c). But the statute does not define “drought” or specify any particular requirement for putting such plans into practice.

200. *Id.* § 2225. This fund could also be used “to make loans for nonstructural and minor structural activities for the prevention or mitigation of the adverse effects of drought.” *Id.*

201. See, e.g., Ryan A. Smith, *Indian Water Settlements: Outlook for the 112th Congress and Beyond*, WATER REPORT, Aug. 15, 2011, at 10, 12–13 (describing serious challenges in securing congressional approval to fund water right settlements with Indian tribes).

202. 43 U.S.C. § 392a provides in part, “All moneys received by the United States in connection with any irrigation projects, including the incidental power features thereof,” constructed by USBR

dollars.²⁰³ The WGA has noted that this fund has a large and growing unappropriated balance of several billion dollars,²⁰⁴ and even suggested tapping the Reclamation Fund “for appropriate purposes and programs authorized by [the SECURE Water Act].”²⁰⁵ Establishing a Reclamation Drought Response Fund would require congressional action, but the statute tasks the Secretary with studying the concept.²⁰⁶ And regardless of whether a Drought Response Fund is created, adequate funding is clearly crucial to the success of USBR’s drought relief program.²⁰⁷

Fifth, USBR should use its general implementing power under Title III²⁰⁸ to adopt rules that provide some structure and clarity to the Drought Relief Act program, including its relationship to the SECURE climate change program. Implementing rules could address topics such as the circumstances under which USBR will develop its own drought contingency plans; the process for developing such plans, including “coordination” with states, tribes, and other entities; the types of “appropriate water conservation actions” that may be included as plan elements;²⁰⁹ the timeline for periodic review of adopted plans; and the ways in which a SECURE basin study could produce a drought contingency plan. USBR could opt to address many of these issues through

using federal funds, “shall be covered into the reclamation fund,” except where otherwise authorized by law. The Reclamation Fund was created by the original 1902 Reclamation Act, and was originally seeded by the proceeds from federal land sales; this fund would provide the money to build reclamation projects, and irrigators would repay construction costs into the fund. 43 U.S.C. § 375. Over time, however, Congress made major changes to the approach to project funding and repayment. *See* U.S. GOV’T ACCOUNTABILITY OFFICE, *supra* note 30, at 1–3.

203. Congress in 2009 directed that money paid into the Reclamation Fund be diverted to provide funding for tribal water rights settlements. Pub. L. No. 111-11, § 10501, 123 Stat. 991, 1375 (2009) (codified at 43 U.S.C. § 407). A bill in the current Congress would divert money from the Reclamation Fund to provide \$80 million annually for USBR to complete construction of authorized rural water projects. If enacted, the bill would provide this amount for fiscal years 2013 through 2029 from “revenues that would otherwise be deposited for the fiscal year in the reclamation fund established by the first section of the Act of June 17, 1902.” The bill stipulates, however, that such funds would not be made available if doing so would increase the federal deficit. S. 3385, 112th Cong. § 3(b) (2012).

204. W. GOVERNORS’ ASS’N, *supra* note 9, at 15.

205. *SECURE Hearing*, *supra* note 82 (statement of John D’Antonio, representing Western States Water Council).

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

207. Appropriations for USBR’s drought relief program are currently capped at a total of \$90 million for a seven-year period ending in fiscal year 2012. 43 U.S.C. § 2241. Congress not only must authorize new spending in the statute itself, but must also provide a level of appropriations—whether from the Reclamation Fund or some other source—adequate to support an effective drought relief program.

208. The first sentence of section 302 reads, “The Secretary is authorized to perform any and all acts and to promulgate such regulations as may be necessary and appropriate for the purpose of implementing this Act.” *Id.* § 2242.

209. It is not clear whether such measures could involve significant new infrastructure, given that Congress specified that plans could also include “*minor* structural actions.” *Id.* § 2223(a)(7) (emphasis added).

guidance rather than rulemaking.²¹⁰ Issuing guidance would eliminate the need for notice and comment,²¹¹ but would also prevent USBR's positions from receiving *Chevron* deference²¹² if they were challenged, leaving them somewhat more vulnerable to being overturned in court.²¹³

Sixth, USBR must fulfill its statutory mandate to "give specific consideration to the needs of fish and wildlife, together with other project purposes," and to "consider temporary operational changes which will mitigate, or can be expected to have an effect in mitigating, fish and wildlife losses and damages resulting from drought conditions, consistent with the Secretary's other obligations."²¹⁴ This requirement appears in Title III of the Drought Relief Act, which, unlike Title I, has no expiration date. This general charge supplements and reinforces provisions of both Title I and Title II that specifically address the needs of fish and wildlife; for example, drought contingency plans may include measures regarding "water supplies for fish and wildlife resources."²¹⁵ Thus, USBR's rulemaking and/or guidance should address the types of temporary operational changes that may be implemented, along with the means by which drought contingency plans can arrange to supply water for fish and wildlife purposes.

Taken together, these actions would represent a substantial but modest step forward in helping reduce the effects of drought and climate change on water resources. They certainly would not keep the southern portion of the West from getting hotter and drier, and they would not keep the region from suffering serious harm as a result—especially in the event of a "megadrought" worse than any seen in the twentieth century.²¹⁶ But they would represent a more proactive and preventive approach to drought planning, which both state and federal officials have been advocating.²¹⁷ They would provide new opportunities, and perhaps a higher priority, for protecting fish and wildlife populations and their habitats from the ravages of drought. And they could

210. Reclamation has no immediate plans to revise or finalize its guidance documents, see *supra* note 158, in part because of the pending expiration of its Title I authorities. Telephone interview with Ken Maxey, *supra* note 150.

211. See 5 U.S.C. § 553(b) (2006) (requiring notice for proposed rules, but exempting interpretive rules and policy statements).

212. See *United States v. Mead Corp.*, 533 U.S. 218, 234 (2001) (denying *Chevron* deference to a Customs Service ruling on tariff classification of a product, and noting that "interpretations contained in policy statements, agency manuals, and enforcement guidelines" do not normally merit such strong deference from the courts).

213. See, e.g., *Friends of the Everglades v. S. Fla. Water Mgmt. Dist.*, 570 F.3d 1210, 1227–28 (11th Cir. 2009) (using *Chevron* deference to uphold an EPA rule exempting certain water transfers from Clean Water Act permitting requirements, even though other courts had rejected EPA's position before the agency adopted it as a rule).

214. The second sentence of section 302 states that the Secretary "shall" do these things "[i]n carrying out the authorities under this Act . . ." 43 U.S.C. § 2242.

215. *Id.* § 2223(a)(6).

216. See *supra* notes 37–46 and accompanying text.

217. See *supra* notes 48, 164, 174–76 and accompanying text.

strengthen USBR's climate change program by supplementing SECURE's planning provisions with a measure of authority to act.

CONCLUSION

Calling drought and climate change a "double whammy" may understate the threat they pose to water resources in the western United States; for the Southwest, especially, they are more like a fearsome two-headed monster. Congress has given USBR one statute per head: SECURE Water Act section 9503 for climate change, and the Drought Relief Act of 1992 for drought. The programs created by these statutes will not stop or even slow the monster,²¹⁸ but with adequate implementation and funding they could reduce the damage it causes.

The Reclamation Climate Change and Water Program is a positive step, providing USBR with authority and direction to identify climate change risks to western water resources, and to develop strategies to mitigate these risks. By partnering with non-federal entities on "basin studies," USBR is moving forward in evaluating a range of these strategies for river basins throughout the West. But the statute provides only for development and study of these strategies, giving USBR no clear authority to implement any of them, leaving key adaptation measures dependent on action by an increasingly unresponsive Congress.

The Drought Relief Act can help because it authorizes USBR to take drought relief actions under Title I and to prepare drought contingency plans under Title II. That help is not assured, however, because Title I was allowed to expire, and USBR has done very little with its planning authority. If Congress renews Title I, USBR will retain the power to take a range of actions—from drilling irrigation wells to supplying water for fish and wildlife—to mitigate the effects of drought-related water shortages. If USBR uses its *permanent* authority to develop drought contingency plans, the benefits could be significant, partly because the Title I action authorities apply in areas covered by an approved plan. And if SECURE basin studies could be adopted as drought contingency plans, USBR's climate change program would have greater short-term benefits for mitigating the effects of water shortages.

The West needs all the help it can get in preparing for the challenges of drought and climate change. To provide that help, USBR needs to make the most of its authorities under both SECURE and the Drought Relief Act. Even

218. As Dr. Jonathan Overpeck, whose "double whammy" quote opened this article, stated at the same congressional hearing: "Finally, it is critical to realize that the people of . . . our nation can certainly make the worst case for the Southwest less worse by eliminating the greenhouse gas emissions that are the primary cause of the climate change that is already affecting the Southwest." *Drought Hearing, supra* note 1 (statement of Dr. Jonathan Overpeck).

with these two statutes, USBR may be no match for the "double whammy"—but it can at least deliver a meaningful one-two punch.

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