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Note

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Effective flood management is still a struggle for modern society. The federal government has always had a foothold on national water policy, but over the last half-century, states and substate water institutions have taken an active role in project decision-making.[1] Increasingly, extensive flood protection projects require cooperation from both federal and state agencies.[2] For flood management issues that cross jurisdictional boundaries, coordination is key, and disagreement is sometimes inevitable. The U.S. Army Corps of Engineers (the Corps) is the federal entity responsible for administering large water management projects domestically in the United States.[3] Naturally, the Corps must cross paths with state and local agencies to implement federal water projects in accordance with state law and stakeholder preference. In particular, interstate water projects have the potential to increase state-state and state-federal conflict. The projects that are selected are often those that maximize the

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1. *See infra* Parts II.A–B.
2. *See infra* Parts II.A–B.
3. *Civil Works*, U.S. ARMY CORPS ENGINEERS, http://www.usace.army.mil/Missions/CivilWorks.aspx (last visited Sept. 17, 2014).

national interest, despite having state-specific origins. This creates a careful balancing of equities between local, state, and federal governments.

This Note will address major flood management issues in the Red River Basin (RRB) that continue to cause disagreement between RRB stakeholders. This Note focuses on the RRB because it provides an excellent case study for comparing government decision-making in response to frequent flood events. The RRB contextualizes major flaws in comprehensive floodplain management noted by scholars, lawyers, scientists, and those critical of the Corps' planning process. Disagreement over the massive Fargo-Moorhead Flood Diversion Project (Diversion project) underway in the RRB captures much of the discord currently plaguing the Corps' interstate flood management strategies.

The Diversion project is one of the largest projects ever administered by the Corps, involving many project stakeholders and government agencies.[4] Varying viewpoints on appropriate watershed management strategies have been discussed throughout the course of the Diversion project's development. Some include comprehensive basin-wide planning, and others a strict diversion design, although both strategies are not mutually exclusive.[5] The Corps' planning procedures have come under fire in the last few decades, especially in the context of comprehensive flood reduction.[6] This Note seeks to address conflicts in the Corps' planning procedure. This includes ongoing litigation by small upstream communities against the Corps in response to the Diversion project's current design.[7] The communities have proffered their own interpretation of the Corps' faulty planning process, seeking redress not only through litigation, but also by devising floodwater management strategies of their own.[8] The

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4. *About the Authority*, F-M AREA DIVERSION, http://www.fmdiversion.com/authority.php (last visited Oct. 17, 2014).

5. *See* Daniel P. Loucks, *Managing America's Rivers: Who's Doing It?*, 1 INT'L. J. RIVER BASIN MGMT. 21, 25 (2003).

6. *See Opponents of Red River Diversion for Fargo-Moorhead Sue US Army Corps of Engineers*, STAR TRIBUNE (Aug. 20, 2013, 8:12 AM), http://www.startribune.com/local/220335341.html.

7. *Id.*

8. *Id.*

communities contend that alternative project designs were overlooked, and that they are now stuck with the collateral effects of the project's narrowly scoped design.[9] At the heart of this Note is how multiple jurisdictional involvement can inhibit comprehensive flood-related solutions. The upstream litigation underlines many water management issues that are the fallout of large Corps-backed projects.

Parts I and II of this Note provide a brief history of the Corps and an overview of the Corps' planning procedure. Understanding the Corps' planning procedure is necessary to understand its recommendation of a massive diversion design. Part III introduces recurrent flood management issues in the RRB. This includes disagreement over the cumulative environmental impacts of many substate watershed projects, and the RRB's local policy of comprehensive planning. Part IV focuses on the Corps' method for selecting the Diversion project design. Part IV also explores ongoing litigation between the Corps and upstream communities within the Diversion project's staging area. Part V discusses some of the complications with comprehensive water retention planning in the RRB, including discussions on a ring levee system designed to buffer the upstream communities from the staging area. Lastly, Part VI supports the idea of centralizing interstate river basin administration in order to further comprehensive floodwater retention.

I. THE ARMY CORPS OF ENGINEERS' EXPANSIVE JURISDICTION

The Corps has maintained general jurisdiction over U.S. waterways since 1899.[10] Initially, its jurisdiction was limited to traditional navigable waterways, such as rivers and tributaries.[11] But over the last century, the Corps has

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9. *Id.*

10. Rivers and Harbors Appropriation Act of 1899, 33 U.S.C. § 403 (2012).

11. *See id.* ("The creation of any obstruction not affirmatively authorized by Congress, to the navigable capacity of any of the waters of the United States is prohibited . . . ."); *Permitting Process*, U.S. ARMY CORPS ENGINEERS, ST. PAUL DISTRICT, http://www.mvp.usace.army.mil/Missions/Regulatory/PermittingProcessProcedures.aspx (last visited Oct. 24, 2014); *see also* Gibbons v. Ogden, 22 U.S. 1 (1824) (marking a profederal interpretation of regulating interstate commerce in the context of navigable waterways).

experienced significant growth in jurisdiction.[12] Major jurisdictional expansion came when Congress enacted the Flood Control Act of 1936 to address the nation's growing concern over the "improvement of navigable waters or their tributaries, including watersheds thereof, for flood-control purposes."[13]

Later, Congress would pass the 1965 Water Resources Planning Act (WRPA) in another effort to coordinate the Corps' involvement in water resource planning at the regional, or otherwise "basin-wide," level.[14] The WRPA focused on the idea of river basin agencies, identifying themselves as "neither Federal agencies nor State agencies,"[15] although assuming "governmental authority and responsibility."[16] The WRPA commanded a "centralized approach to water resources planning"[17] by mandating interagency-interstate commissions ("River Basin Commissions," or RBCs), which would help facilitate "comprehensive regional or river basin plans."[18] The

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12. *See infra* notes 13–30 and accompanying text.

13. Flood Control Act of 1936, Pub. L. No. 74-738, 49 Stat. 1570 (codified as amended at 33 U.S.C. § 701a (2012)) (establishing that "flood control on navigable waters or their tributaries is a proper activity of the Federal Government in cooperation with States, their political subdivisions, and localities . . . ."). The Flood Control Act of 1936 authorized the Corps to proceed with a multitude of new flood-related projects. The Act stated that a project could be selected if "the benefits to whomsoever they may accrue are in excess of the estimated costs . . . ." *Id.*

14. Water Resources Planning Act of 1965, Pub. L. No. 89-298, 79 Stat. 1073 (codified at 42 U.S.C. § 1962d-5 (2012)).

15. Gary Warren Hart, *Creative Federalism: Recent Trends in Regional Water Resources Planning and Development*, 39 U. COLO. L. REV. 29, 31 (1966) (quoting Henry P. Caulfield, Jr., Executive Director, Water Resources Council, unpublished speech at Cornell University Conference on State Planning (Mar. 24, 1966)).

16. *Id.*

17. NAT'L RESEARCH COUNCIL, COMM'N ON GEOSCIENCES, ENV'T & RES., NEW DIRECTIONS IN WATER RESOURCE PLANNING 15 (1999) [hereinafter NEW DIRECTIONS].

18. Water Resources Planning Act of 1965, 42 U.S.C. § 1962a-2 (2012). "Comprehension," in this Note, is a relative term. It is meant to include all solutions to water management issues that are state-by-state, interstate, and internationally recognized (for example, the Red River Basin Commission has focused much of its energy on Canada and ongoing eutrophication issues in Lake Winnipeg, Manitoba, caused, in part, by runoff from the RRB). *See* RED RIVER BASIN COMM'N, NATURAL RESOURCES FRAMEWORK PLAN (NRFP)

role of commissions in comprehensive water planning is summarized below:

> [A] commission's authority bisects layers of government primarily through its responsibility for coordinating federal, state, interstate, local and non-governmental plans for water resource development. Further, the commission is commanded to prepare and maintain a comprehensive plan which coordinates the planning efforts of a variety of levels of government and which will act as a blueprint for development of water resources by this variety of political entities in the future.[19]

The WRPA was meant to coordinate the Corps' planning process at the basin level[20] and to standardize the way comprehensive project alternatives were evaluated and implemented.[21] Congress responded to the federal-regional disconnect via RBCs, which in essence would be a local vehicle for driving comprehensive national water policy, guiding both the Corps and local government.[22] RBCs, although not the focus of this Note, are referenced as a logical solution to comprehensive water management despite their somewhat innocuous existence nationally.[23] The main point is that RBCs attempted to resolve issues that comprehensive flood planning has been fraught with for decades—how to coordinate numerous government agencies spanning across multiple jurisdictions.

In the late 1970s, policy makers eventually determined that flood losses and environmental damage could be reduced through coordinated floodplain management and wetland protection.[24] Congress specifically expanded the Corps' jurisdiction through the Federal Water Pollution Control Act,

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REPORT 6 (2013), http://www.redriverbasincommission.org/Projects/11-7-13_NRFP_Report.pdf.

19. Hart, *supra* note 15, at 35 (citation omitted).

20. *See* NEW DIRECTIONS, *supra* note 17, at 15. A basin is "[a]n area having a common outlet for its surface runoff." PAUL A. DEBARRY, WATERSHEDS: PROCESSES, ASSESSMENT, AND MANAGEMENT 659 (2004).

21. *See* NEW DIRECTIONS, *supra* note 17, at 15.

22. *See* Hart, *supra* note 15, at 31.

23. Some regions of the country have found RBCs advantageous. *See* Loucks, *supra* note 5, at 22. As a federal solution to comprehensive flood planning, their inclusion in this Note helps establish past federal solutions to complex interstate river basin systems.

24. FED. EMERGENCY MGMT. AGENCY, UNIT 1: FLOODS AND FLOODPLAIN MANAGEMENT 1-29 (n.d.), https://www.fema.gov/pdf/floodplain/nfip_sg_unit_1.pdf (last visited Oct. 16, 2014).

later amended in 1977 to become the Clean Water Act (CWA).[25] Under the CWA,[26] the Corps' jurisdiction expanded drastically, to also include dredging and fill operations[27] involving "wetlands, ponds, streams and lakes, including those on private land,"[28] as a means to combat wetland conversion into productive farmland.[29] Recent changes affecting the breadth of CWA coverage will likely call for additional coordination between the Environmental Protection Agency (EPA) and the Corps, with state agencies and local project stakeholders.[30]

The Corps' control over project development was reduced under the Water Resources Development Act (WRDA) of 1974.[31] The WRDA is an omnibus water bill that authorizes

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25. *Permitting Process*, *supra* note 11.

26. Clean Water Act, 33 U.S.C. § 1251 (2012).

27. *Clean Water Act Section 404(c) "Veto Authority,"* U.S. ENVTL. PROTECTION AGENCY, http://water.epa.gov/type/wetlands/outreach/upload/404c.pdf (last visited Oct. 16, 2014) [hereinafter *Veto Authority*].

28. *Permitting Process*, *supra* note 11.

29. *See* Maryland Port Admin., *Innovative Reuse of Dredged Material*, HARBOR ROCK, http://www.harborrock.com/innovative_reuse.pdf (last visited Sept. 18, 2014) (noting dredge and fill material can be used to enhance degraded farmland).

30. *EPA and Army Corps of Engineers Clarify Protection for Nation's Streams and Wetlands: Agriculture's Exemptions and Exclusions from Clean Water Act Expanded by Proposal*, U.S. ENVTL. PROTECTION AGENCY (Mar. 25, 2014), http://yosemite.epa.gov/opa/admpress.nsf/3881d73f4d4aaa0b85257359003f5348/ae90dedd9595a02485257ca600557e30 ("The agencies are launching a robust outreach . . . , holding discussions around the country and gathering input needed to shape a final rule.").

31. *See* NEW DIRECTIONS, *supra* note 17, at 19; *see also* Water Resources Development Act of 1986, Pub. L. No. 99-662, 100 Stat. 4082 (codified as amended at 33 U.S.C. § 2211 (2012)) ("The non-Federal interests for a navigation project . . . shall pay, during the period of construction of the project, the following costs . . . ."); NICOLE T. CARTER & CHARLES V. STERN, CONG. RESEARCH SERV., R41243, ARMY CORPS OF ENGINEERS: WATER RESOURCE AUTHORIZATIONS, APPROPRIATIONS, AND ACTIVITIES 15 (2014), *available at* http://fas.org/sgp/crs/misc/R41243.pdf ("Congress fundamentally transformed the rules for Corps water project planning and funding through WRDA 1986 (33 U.S.C. § 2211); it established new cost-share formulas, resulting in greater financial and decision-making roles for local stakeholders."). The WRDA of 1986 would establish a cost-sharing strategy for projects that would "greatly change[] the way new projects would be studied and evaluated and it established a framework that promoted federal-nonfederal partnerships." NEW DIRECTIONS, *supra* note 17, at 19.

funding for projects undertaken by the Corps,[32] but more generally, omnibus bills bundle unrelated projects together in a single proposition to Congress, subject to its approval.[33] Before 1974, Congress authorized national water projects in the same bill except under the titles of the Rivers and Harbors Act (to enhance navigation) and the Flood Control Act (to reduce flood damage).[34]

For the Corps, this means that implementation of any project must "move through a highly structured process that begins with a congressional study authorization, requires congressional and presidential approval, and ends . . . with project implementation . . . ."[35] Although congressional authorization is required, "authorizations are usually insufficient for a Corps study or construction project to proceed; action on an authorization requires funding."[36] Put another way, congressional authorizations make certain projects eligible to receive federal funding, although project funding is not guaranteed.[37] Project funding is only realized once the money has been appropriated.[38] For those that would benefit from the Corps' project, the uncertainty in this process often breeds frustration and diminishes confidence in federal flood protection, especially where local project sponsors have secured their share of project funding.[39] As discussed below, this

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32. NEW DIRECTIONS, *supra* note 17, at 19; *see also* CARTER & STERN, *supra* note 31, at summary ("WRDAs historically are omnibus bills including many provisions for site-specific activities."). Three general categories of Corps activities under the WRDA are: (1) project studies, (2) construction projects, and (3) modifications to existing projects. CARTER & STERN, *supra* note 31, at 2.

33. BLACK'S LAW DICTIONARY 1842 (9th ed. 2009) (defining "omnibus bill" as "a bill including in one act various separate and distinct matters, and particularly one joining a number of different subjects in one measure in such a way as to compel the executive authority to accept provisions which he [or she] does not approve or else defeat the whole enactment").

34. NEW DIRECTIONS, *supra* note 17, at 19.

35. NAT'L RESEARCH COUNCIL, COMM'N ON FLOOD CONTROL ALTERNATIVES IN THE AM. RIVER BASIN, FLOOD RISK MANAGEMENT AND THE AMERICAN RIVER BASIN 28 (1995) [hereinafter AMERICAN RIVER BASIN].

36. CARTER & STERN, *supra* note 31, at 1.

37. *See id.*

38. *See id.* at 2.

39. *See infra* note 214 and accompanying text.

happens to be the current disposition of the Diversion project.[40] President Obama authorized funding for the Diversion project on June 10, 2014, under the Water Resources Reform and Development Act (WRRDA).[41] Now local sponsors must sign a partnership agreement delineating cost-sharing responsibilities, as well as the division of labor for constructing the project.[42]

II. THE ENVIRONMENTAL MOVEMENT AND INTERAGENCY COOPERATION

A. FEDERAL COOPERATION

The 1970s marked a transitional phase for the Corps. The environmental movement forced the Corps to think critically about its environmental impact.[43] For example, it restructured its water policies in response to the 1969 National Environmental Policy Act (NEPA) and the Endangered Species Act of 1973, among other environmental initiatives during that time.[44] These Acts required the Corps to integrate

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40. Senators John Hoeven and Heidi Heitkamp of North Dakota have "press[ed]" the Corps to "include funding for the Diversion in the Corps' work plan," and that altogether, "[t]his will bring total funding for the project to $40 million, which will enable the Corps to complete the project engineering and design phase;" together, both Senators "have included authorization for the project in the [WRDA]." *Funding Ensures Continued Momentum on Diversion Project*, F-M AREA DIVERSION (Mar. 19, 2014), http://www.fmdiversion.com /newsdetails.php?ID=135 (quoting Senator John Hoeven). The "challenge now is to secure funding for Fiscal Year 2015." *Id.*

41. *Project Status*, F-M AREA DIVERSION, http://www.fmdiversion.com /status.php (last visited Oct. 15, 2014).

42. *Id.*

43. CARTER & STERN, *supra* note 31, at 15; A. Dan Tarlock, *A First Look at a Modern Legal Regime for a "Post-Modern" United States Army Corps of Engineers*, 52 U. KAN. L. REV. 1285, 1287 (2004) ("[T]he 'post-modern' vision of the Corps is an agency whose primary mission is river and coastal ecosystem restoration and the management of its existing infrastructure."); *cf.* C. Katopodis & L. P. Aadland, *Effective Dam Removal and River Channel Restoration Approaches*, 4 INT'L. J. RIVER BASIN MGMT. 153, 153 (2006) ("As various societies around the globe, particularly in recent decades, place a higher priority on river ecosystem health and sustainability, effective approaches to deal with existing and new dams are emerging.").

44. NEW DIRECTIONS, *supra* note 17, at 17 ("Congress passed several statutes that had considerable influence on the Corps' (and other federal agencies') planning processes, and the presidents during this time issued

environmental risk analysis prospectively into all Corps projects.[45] Notably, NEPA required the Corps to issue Environmental Impact Statements (EIS) to assess the environmental risks associated with project alternatives.[46]

The EIS is critical for project stakeholders and government agencies to assess project alternatives. For example, some states affected by a Corps-administered project may disagree with the project's environmental costs relative to the monetary and social benefits it confers nationally. State determination should be a forerunner of Corps-backed projects. Among a vast array of considerations, the historical conservation efforts of a state, state regulatory framework, and environmental policy goals of a state ought to be weighed in favor of sovereign determination. Point in case is Minnesota's "no net loss" policy regarding wetlands,[47] which is a considerably aggressive stance on wetland preservation.

In addition, NEPA required the Corps to include "procedural and substantive planning requirements," which provided a legal foundation for individuals and communities to challenge the Corps' actions.[48] NEPA achieved this "through formal public hearings" and allowing public comment.[49] This

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several important executive orders relating to natural resources policy and planning.").

45. *See id.* at 17, at 30–31; *see also* Bradley C. Karkkainen, *Toward a Smarter NEPA: Monitoring and Managing Government's Environmental Performance*, 102 COLUM. L. REV. 903, 967–69 (2002) (discussing the potential environmental risks associated with an infrastructure plan administered by the Corps in the Florida Everglades).

46. 40 C.F.R. §§ 1506.1, 1506.2 (2012).

47. MINN. STAT. § 103A.201 (2014).

> The legislature finds that the wetlands of Minnesota provide public value by conserving surface waters, maintaining and improving water quality, preserving wildlife habitat, providing recreational opportunities, reducing runoff, providing for floodwater retention, reducing stream sedimentation, contributing to improved subsurface moisture, helping moderate climatic change, and enhancing the natural beauty of the landscape, and are important to comprehensive water management, and that it is in the public interest to: (1) achieve no net loss in the quantity, quality, and biological diversity of Minnesota's existing wetlands . . . .

Id.

48. AMERICAN RIVER BASIN, *supra* note 35, at 29.

49. *Id.*

would help the Corps understand local concerns at the project level. These procedural rights took momentous effect by the late 1970s, as evidenced by the Corps' project activities coming to a standstill due to "differences between the administrative and legislative branches over water planning"[50] as well as strong environmental proponents "slowing" and even "reversing" some of the Corps' water project activities.[51] NEPA would help the public fight against the development of projects unfavorable to the local environment.

The Corps responded to America's growing environmental conscience in two ways. First, moving forward, the Corps would have to renounce its former paradigm that rivers could be harnessed through science and engineering alone.[52] Certain flood planning strategies, like strict diversion designs, river channelization, and tile drainage, would have to be considered in the wider array of project alternatives.[53] Thus, some projects would be more environmentally suitable than others, albeit at a higher cost. Second, the Corps could no longer hide from public perception. People sought to protect the pristine nature of rivers by lobbying against the construction of projects that would drastically alter their natural flow.[54] The effect of local politics, imputed to politics in Washington, encouraged open dialogue about appropriate flood control measures at a regional scale.[55]

As time passed, greater awareness of the environmental impacts of government activity caused agency missions to overlap.[56] The Corps found itself collaborating with other federal agencies to ensure that the environmental risks of its

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50. *Id.*

51. *Id.*

52. *See* Tarlock, *supra* note 43, at 1286.

53. *Cf. id.* at 1287.

54. *See, e.g.*, *id.* at 1297.

55. One example is the financial-backing provided in the Farm Bill for rural flood protection projects. Consolidated Appropriations Act, 2014, Pub. L. No. 113-76, div. A, tit. II, 128 Stat. 5.

56. *See Veto Authority*, *supra* note 27. Under Section 404(c) of the Clean Water Act, the EPA may limit the Corps' activity; the EPA may "restrict, prohibit, deny, or withdraw the use of an area as a disposal site for dredged or fill material if the discharge will have unacceptable adverse effects on municipal water supplies, shellfish beds and fishery areas, wildlife, or recreational areas." *Id.*

large-scale projects were in compliance with other agencies' promulgations.[57] Presently, some federal partners include the U.S. Fish and Wildlife Service (USFWS) and the EPA.[58]

Agencies' responsibilities are often shared with the Corps, which is more or less a corollary to their overlapping interests. But when multiple agencies are involved in the same project, inefficiencies are often a natural consequence.[59] Essentially, what follows is a "too many cooks in the kitchen" result. Despite sharing many of the same policy goals, a project's development may be hindered by each agency's specific grant of

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57. U.S. DEP'T OF THE ARMY & U.S. ENVTL. PROT. AGENCY, MEMORANDUM OF AGREEMENT BETWEEN THE DEPARTMENT OF THE ARMY AND THE EPA CONCERNING FEDERAL ENFORCEMENT FOR THE SECTION 404 PROGRAM OF THE CLEAN WATER ACT (1989), *available at* http://www.usace.army.mil/Portals/2/docs/civilworks/mous/enfmoa.pdf ("The prime goal of the MOA is to strengthen the Section 404 enforcement program by using the expertise, resources and initiative of both [the Corps and EPA] in a manner which is effective and efficient in achieving the goals of the CWA.").

58. NEW DIRECTIONS, *supra* note 17, at 69; Stanley Laskowski, Richard Morgenstern & Allen Blackman, *Environmental Decentralization in the United States: Seeking the Proper Balance Between National and State Authority* 5 (Resources for the Future Discussion Paper 05-43, Oct. 2005), *available at* http://ageconsearch.umn.edu/bitstream/10779/1/dp050042.pdf.

59. *See* Philip R. Wandschneider, *Managing River Systems: Centralization vs. Decentralization*, 24 NAT. RESOURCES J. 1043, 1065–66 (1984). After arguing the pros and cons of a centralized river basin management structure, the author states that "[w]ith the physical complexities of river systems, the complex character of institutions, and the contradictory arguments for centralized versus decentralized management, there is simply no clear judgment either way."). *Id.* at 1066. The author uses the Columbia River as a case study to illustrate the inefficiencies of a decentralized river basin management approach. *Id.* Normative economic analysis guides the author to conclude that "central management" by a public agency with jurisdiction over an entire river basin would internalize external costs like duplicating efforts, lack of coordination and accountability between interested parties, and "amateur management due to small size." *Id.* at 1052. However, an argument for decentralized river basin management is that "negotiation, voluntary agreement and contract can enable decentralized management to achieve the efficiencies . . . of central management." *Id.* at 1054. The centralization-decentralization dichotomy is not just an issue at the river basin level, it has been an issue at the heart of federal/non-federal water resource management. *Id.* at 1057. The author uses the example of failing water storage on the Columbia River, administered by local utilities, to assert that a "fragmented" approach to river management produced less energy than a unitary approach under a federal agency. *Id.* at 1057.

regulatory power.[60] In large part, this is a product of the federal system of water resource management.[61]

Professor Jon Cannon describes the fragmentation in U.S. watershed management as a result of authorities "widely dispersed, both vertically (among federal, state, and local levels) and horizontally (within levels)."[62] Without effective coordination, federal and state agencies overseeing a project's development can evolve competing interests due to inconsistencies in water management priorities.[63] Coordination is key where local, state, and federal governments may bear diverging viewpoints on water policy. The issue becomes even more problematic when the scope of the project widens to involve greater stakeholder participation and interstate river basin systems.[64]

The Corps must also balance its interpretation of local environmental law with congressional objectives.[65] All Corps activity is periodically authorized by Congress as individual projects.[66] The Corps' jurisdiction covers all reaches of the United States, sometimes in isolated state jurisdictions, and other times in multiple interstate jurisdictions.[67] Every project is locally specific, however each has varying means of serving

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60. *See* Loucks, *supra* note 5, at 27 ("Today no law gives any single federal agency the authority to facilitate any top-down or even bottom-up multi-agency multi-organization effort towards developing more integrated and sustainable river basin management programs in America's major interstate river basins.").

61. *See* Wandschneider, *supra* note 59, at 1057; *cf.* Robin Kundis Craig, *Climate Change, Regulatory Fragmentation, and Water Triage*, 79 U. COLO. L. REV. 825, 826–27 (2008) (delineating all the various federal agencies with a stake on the water resources of the Colorado River, including: the National Park Service, EPA, the Corps, the Bureau of Reclamation, Forest Service, and several Native American tribes).

62. Jon Cannon, *Choices and Institutions in Watershed Management*, 25 WM. & MARY ENVT'L L. & POL'Y REV. 379, 387 (2000).

63. *See* Loucks, *supra* note 5, at 21–22.

64. *See id.* at 23.

65. Gerald E. Galloway, *Corps of Engineers Responses to the Changing National Approach to Floodplain Management Since the 1993 Midwest Flood*, 130 J. CONTEMP. WATER RES. & EDUC. 5, 10–11 (2005).

66. *See supra* note 36 and accompanying text.

67. *See* U.S. ARMY CORPS OF ENG'RS, REGULATORY JURISDICTION OVERVIEW 2–3 (n.d.), *available at* http://www.usace.army.mil/Portals/2/docs /civilworks/regulatory/reg_juris_ ov.pdf.

the national interest.[68] Thus, the dual nature of a Corps-backed project (containing both local and national objectives) engenders how a project develops. The general rule, however, is that the Corps is subject to all environmental laws that affect all other federal agencies and agencies of the state where the project is implemented.[69]

When the Corps' congressional objectives are at odds with site-specific objectives or other state agency objectives, this can cause significant disagreement.[70] Congress has not attempted to consolidate all of the Corps' activity, but instead grants the Corps its power through different Acts with varying purposes.[71] For this reason, there is speculation as to whether the Corps is being asked to assume too many roles throughout a project's development, and at times, is burdened by competing local/national objectives, without sufficient statutory guidance.[72] A significant issue is that there is no uniform legislation that encompasses all Corps activity[73]—instead, projects are approved on a piecemeal basis.

Defining *logical* jurisdictional boundaries has put significant stress on the Corps as well.[74] With respect to its expertise, the Corps has had a longstanding monopoly on science and engineering.[75] In recent years, however, the Corps

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68. *See* Tarlock, *supra* note 43, at 1317 ("The [Corps] is increasingly asked to come 'reason together' by participating in both large and small scale watershed governance processes.") (footnote omitted).

69. *Cf.* Robert Haskell Abrams, *Water Federalism and the Army Corps of Engineers*, 31 UALR L. REV. 395, 415 (2009).

70. *See id.* at 400.

71. Galloway, *supra* note 65, at 10–11 ("One Act directs the Corps to carry out navigation on a given river. Another defines Corps flood damage reduction responsibilities.").

72. Tarlock, *supra* note 43, at 1319.

73. *Id.* at 1320.

74. *Id.* at 1287.

75. *Id.* at 1288 (suggesting that the Corps' reformation is pulling it in two opposite directions). First, one school of thought is that the Corps should let go of its focus on science and engineering and the broad "national interest" model generally. *Id.* Rather, the Corps should engage in problem solving that incorporates "collaborative processes" at the regional level. *Id.* A critique of the Corps' current planning model is that unilateral agency decision does not build consensus among affected parties. *Id.* The other school of thought is that the Corps should adopt rational techniques like "adaptive management." *Id.* Adaptive management emphasizes the feedback loop between learning and decision making. B.K. WILLIAMS & E.D. BROWN, ADAPTIVE MANAGEMENT: THE

has adapted its "traditional emphases in hydrology, hydraulics, and structural engineering by hiring life scientists and environmental engineers throughout the organization."[76] The extent of other agency participation will depend on the type of project, level of expertise within that agency,[77] and other practical considerations.[78]

B. STATE AND LOCAL COOPERATION

The Corps must also consider the intersection of state and local government. This arena of water resource management is a common source of tension between federal and state regulatory agencies.[79] Unlike other areas of environmental policy, interstate water resource management has primarily been left to the states.[80] The characteristics of water shoulder a lot of the blame. For instance, water resources (especially rivers) often establish state boundaries, even though water's fluid property does not differentiate between the two.[81] Therefore, when states dispute over water, it is often because each is vying for a mutual resource.[82]

As noted earlier, RBCs were established in an attempt to address this very issue. Their justification is readily apparent where floods occur throughout an interstate river basin

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U.S. DEPARTMENT OF THE INTERIOR APPLICATIONS GUIDE 9 (2012), *available at* http://www.usgs.gov/sdc/doc/DOI-Adaptive-Management-Applications-Guide-27.pdf. Adaptive management emphasizes decision making at the stakeholder level but calls for future decision making to be informed by the observable impact of prior decision making. *Id.* at 1. Under this view, water resource management should incorporate "holistic water resource policies." Tarlock, *supra* note 43, at 1288.

76. NEW DIRECTIONS, *supra* note 17, at 6.

77. *See, e.g.*, *id*. at 7.

78. Laskowski et al., *supra* note 58, at 2. Centralizing the Corps' responsibilities over certain environmental impacts is a practical decision. *Id.* Environmental impact research that covers many issues within a broad area is best administered at the national level, versus individual research at the state level. *Id.*

79. *See* Noah D. Hall, *Toward a New Horizontal Federalism: Interstate Water Management in the Great Lakes Region*, 77 U. COLO. L. REV. 405, 409 (2006).

80. *Id.* at 409–10.

81. *Id.* at 410.

82. *Id.*

system.[83] By coordinating "state and federal roles with regard to specific federal acts and programs,"[84] RBCs tend to disincentivize lawsuits.[85] One critique, however, is that RBCs have not been consistently integrated into all levels of government decision making.[86] Their overall purpose, however, stands a good chance to unite state and federal policy objectives, but other agencies must also be willing to do the same.[87] Today, the disappearance of federal funding for RBCs has caused their role in comprehensive basin-wide planning to lessen, and the RBCs' federal representatives are generally limited to the heads of the local Corps.[88]

1. Minnesota and North Dakota Water Law Exemplify the Complexity of State and Federal Cooperation

The appropriate level of power sharing between the Corps and states with respect to water resource management elicits varying opinions.[89] Substate watershed planning, such as

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83. *See* NEW DIRECTIONS, *supra* note 17, at 56.

84. D. Craig Bell & Norman K. Johnson, *State Water Laws and Federal Water Uses: The History of Conflict, the Prospects for Accommodation*, 21 ENVTL. L. 1, 55 (1991) (suggesting five additional considerations to ameliorate federal/state conflict: "(1) urging federally regulated entities to comply with state law, despite a federal agency's position that such compliance is not necessary; (2) seeking favorable interpretations of federal law through litigation; (3) developing and implementing comprehensive procedures to improve and enhance consultation and coordination between federal and state agencies; (4) attempting to amend federal laws to require the desired deference to state water law authority; (5) urging amendments to state law to improve recognition and protection of all legitimate federal interests in water resource allocation and management").

85. *Cf.* RED RIVER BASIN FLOOD DAMAGE REDUCTION WORK GRP., AGREEMENT 2–3 (1998), *available at* http://www.rrwmb.org/files/FDRW/FDRAGMT.pdf [hereinafter MEDIATION AGREEMENT] ("Concern about the potential cumulative environmental effects of proposed watershed districts' flood control projects led the United States Army Corps of Engineers and Minnesota Department of Natural Resources to initiate a joint Environmental Impact Statement (EIS). The EIS was completed, designated as a Generic EIS for state purposes and subsequently challenged in state district court by the watershed districts and the Red River Watershed Management Board.").

86. NEW DIRECTIONS, *supra* note 17, at 56.

87. Loucks, *supra* note 5, at 22.

88. *Id.* at 26.

89. Chief Justice Rehnquist "advanced a policy position" of "state sovereignty in water resource allocation" because states are closer to the

planning undertaken by watershed organizations, has had a strong presence in regional water resource planning.[90] For example, Minnesota grants its Watershed Districts[91] (WDs) statutory power to enter into agreements that "jointly or cooperatively exercise *any* power common to the contracting parties or any similar powers . . . except for the territorial limits within which they may be exercised."[92] Similarly, North Dakota gives its Water Resource Districts (WRDs) the power to enter into agreements "with any other political subdivision . . . for the cooperative or joint administration of *any* power or function that is authorized by law or assigned to one or more of them."[93] For either state, including its substate watershed organizations, water management collaboration is encouraged to avoid the scalar effects of identical or repetitious projects.

Sometimes the variations between state-state water policies can be reduced to fundamental differences. For instance, collaboration between substate watershed institutions is sometimes limited by their understanding of a "watershed," i.e., definitions of what hydrological boundaries

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resource. Abrams, *supra* note 69, at 405. *Contra* A. Dan Tarlock, *United States Flood Control Policy: The Incomplete Transition from the Illusion of Total Protection to Risk Management*, 23 DUKE ENVTL. L. & POL'Y F. 151, 172 (2012) (noting that the benefits of having a federal coherent flood strategy that is binding on the states would help to eliminate disconnecting federal/nonfederal strategies and alleviate jurisdictional disputes).

90. *See, e.g.*, William Goldfarb, *Watershed Management: Slogan or Solution?*, 21 B.C. ENVTL. AFF. L. REV. 483, 496 (1994) ("Substate regional entities are creatures of state law."). State management of water resources made extensive use of watershed districts, commissions, and various authorities in managing water resources. *Id.* States have authorized substate authorities to control, *inter alia*, conservation, irrigation, drainage, natural resource management, erosion control, water supply, and flood control. *Id.*

91. A watershed is defined as "[t]he region or land area that contributes to the drainage or catchment area above a specific point on a stream or river." DEBARRY, *supra* note 20, at 687.

92. MINN. STAT. § 471.59 subdiv. 1 (Supp. 2013) (emphasis added).

93. N.D. CENT. CODE § 54-40.3-01 (2014) (emphasis added); Robert R. Hearne & Craig C. Kritsky, *Characteristics of Active Local Water Management Districts in the Red River Basin*, 12 WATER POL'Y 898, 902 (2010) (the North Dakota Legislature grants "powerful legislative mandates that allow [its WRDs] broad powers to regulate water use, develop infrastructure and protect water resources.").

constitute a watershed can differ between states or agencies,[94] potentially frustrating some collaborative agreements altogether.[95] Taken to its logical extent, the Corps must be able to guide its project decisions through even simple bedrock principles that entrench state water policy, such as how a project will impact the state's interpretation of a watershed (or multiple states' interpretation for an interstate project).

In addition to substate watershed organizations, state-level conservation agencies have had to take on interdisciplinary roles to manage their water resources.[96] The gradual emergence of state agencies caused many states to reconsider how water management was structurally organized.[97] For example, in Minnesota, water resource-related statutes and programs were independently created as needs pressed a particular issue.[98] This meant assigning the statutes and programs to different agencies with somewhat related responsibilities.[99] As a result, failed interagency coordination has called for a reorganization of Minnesota's water resource programs, which has been an ongoing challenge since the 1970s.[100] Also consider the state of North Dakota, which created WRDs in the 1800s to manage and assist in draining

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94. The EPA adopts a strategy that is an "ad hoc, esoteric definition of 'watershed,'" which is essentially determined by socioeconomic factors as well as physical factors. Goldfarb, *supra* note 90, at 484–85. Minnesota defines watershed districts as "special purpose units of local government whose boundaries follow natural watershed divides." MINN. ASS'N OF WATERSHED DISTS., ANNUAL REPORT 7 (2006), *available at* http://www.mnwatershed.org/vertical/Sites/%7B8075FBF0-4136-414E-99AC-FC56C14C0AC9%7D/uploads/%7BDBC159E4-8200-4C90-88E0-EDA5C2395EBA%7D.PDF.

95. *See id.*

96. John E. Thorson et al., *Dividing Western Waters: A Century of Adjudicating Rivers and Streams*, 9 U. DENV. WATER L. REV. 299, 321–22 (2006).

97. *Id.*

98. Sherry A. Enzler et al., *Finding a Path to Sustainable Water Management: Where We've Been, Where We Need to Go*, 39 WM. MITCHELL L. REV. 842, 896 (2013).

99. *Id.*

100. *See id.* at 897, 907–08, 912, 914 (arguing that Minnesota has failed to recognize connections between hydrologic systems and human and natural resources, and also has failed to enact overarching water law and policy; a primary barrier is "fragmentation of water authority between federal, state, and local units of government and across state agencies").

agricultural lands for farm production.[101] The districts shifted their emphasis in the early 1900s to focus on water conservation via "planning, constructing, and regulating water supply, drainage, and water management projects"[102] to promote farming. Among other things, water policy in North Dakota falls largely on infrastructural regulation of *water quantities* (hence its place in the United States as an agricultural powerhouse), whereas Minnesota generally directs attention toward developing its *water quality* policies.[103]

A further example is the difference between *jurisdictional* watershed boundaries of North Dakota and Minnesota watersheds—apart from literal understandings of *hydrological* watershed boundaries, discussed above.[104] For the most part, North Dakota's WRDs work within county lines,[105] which contemplates their ability to manage more than one watershed in terms of hydrological boundaries. Conceivably, this would allow WRDs to manage impacts between one watershed and another (if the county's borders include more than one watershed) by the same WRD. Conversely, Minnesota's Watershed Districts (WDs) "follow natural hydrological boundaries," contemplating jurisdictional boundaries that align with hydrological boundaries.[106] In this way, the WDs' project impacts appear to be limited to the hydrological area where its impacts are most likely to be observed, and consequently within each WD's direct control.

Each system has its disadvantages. Watersheds vary in size and "relatedness," meaning that small watersheds, appearing to be a patchwork of hydrological units, can cause adverse cumulative impacts if managed poorly.[107] North Dakota's WRDs may limit the effects of relatedness because its jurisdiction could span multiple hydrological units (e.g.,

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101. *See* Robert R. Hearne, *Evolving Water Management Institutions in the Red River Basin*, 40 ENVTL. MGMT. 842, 848 (2007).

102. *Id.* at 847–48.

103. *Id.* at 848.

104. See *supra* note 94 and accompanying text for the assertion that regulating agencies may have inconsistent interpretations of what constitutes a watershed.

105. Hearne & Kritsky, *supra* note 93, at 902.

106. *Id.*

107. J.B. Ruhl et al., *Proposal for a Model State Watershed Management Act*, 33 ENVTL. L. 929, 933 (2003).

watersheds—assuming there are two or more watersheds within the particular county), thus potentially reducing adverse cumulative impacts. However, WRDs may be limited by their ability to reach all parts of a watershed, given that their county lines do not align neatly to hydrological watershed boundaries. This is where joint powers agreements become critical. WDs appear to be disadvantaged by their inability to minimize watershed relatedness without successful coordination with surrounding WDs, perhaps justifying Minnesota's statutory grant to "exercise any power common to" WDs so long as an agreement is reached.[108]

Each of the considerations discussed above—the historical trajectory of a state's water policy, current water policy initiatives, jurisdictions of substate governments (e.g., county versus hydrologically defined watersheds), variegated opinions of what constitutes a watershed, and even common law origins of water property rights (Minnesota: riparian rights; North Dakota: prior appropriation)[109]—begs the question of the appropriate level of Corps involvement in interstate river basin systems. One answer by watershed management reformers suggests that:

> [A] federal watershed initiative could express broad national goals and standards and establish a mechanism for states to submit their respective watershed management programs for federal approval, offering in return federal financial support . . . as well as the commitment that federal agencies will not carry out, fund, or authorize actions inconsistent with the state plan.[110]

But a federal overhaul such as this is likely a daunting task. At any rate, the water law complexities at the subfederal levels seem almost insurmountable, especially when every Corps project must be enforceable under state law.[111]

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108. *See* MINN. STAT. § 471.59 subdiv. 1 (Supp. 2013).

109. Hearne, *supra* note 101, at 846–47. States like North Dakota and South Dakota have modified the riparian rights doctrine to enjoy the benefits of transferring water rights and exclusivity, distinguishing themselves as prior appropriation states. *See* TERRY L. ANDERSON & DONALD R. LEAL, FREE MARKET ENVIRONMENTALISM 33 (1991).

110. Ruhl et al., *supra* note 107, at 937.

111. Brief for the Federal Respondents in Opposition at 4–5, 10–11, North Dakota Department of Health v. United States Army Corps of Engineers, 126 S. Ct. 1568 (2006) (No. 05-628), *cert. denied* (noting the CWA provides a general waiver of sovereign immunity, as long as federal agencies comply with state and local laws).

III. THE ARMY CORPS OF ENGINEERS' PROJECT VALUATION

A. COST-SHARING REGIME

Project valuation is perhaps the most hotly contested area of the Corps' planning process. For the Corps, project selection often rests on two conjunctive factors: project impacts and project alternatives.[112] The Corps' recommendation is guided by its EIS, which is meant to provide transparency to adverse environmental impacts.[113] In addition, the EIS is a tool for local project sponsors and participating agencies to make informed decisions on project alternatives.[114] Project alternatives became sharply focused when the WRDA of 1986 "stipulated actual cash contributions for most types of projects."[115] This formal requirement meant that local project sponsors would contribute to the total cost of projects administered by the Corps.[116] This allowed local project sponsors to make substantial financial investments in local infrastructure with the assistance of federal dollars.[117] The upshot of local stakeholder participation in project planning is that interested parties can also hold substantial bargaining chips during the project selection phase.[118] For example, easy decisions will be made with respect to structural or nonstructural flood mitigation strategies when municipal interests are at stake.[119] Municipal stakeholders

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112. Oliver A. Houck, *Hard Choices: The Analysis of Alternatives Under Section 404 of the Clean Water Act and Similar Environmental Laws*, 60 U. COLO. L. REV. 773, 775 (1989).

113. *NEPA Documentation*, FED. HIGHWAY ADMIN., U.S. DEPARTMENT TRANSP., http://environment.fhwa.dot.gov/projdev/docueis.asp (last visited Oct. 24, 2014).

114. *Id.*

115. *See* NEW DIRECTIONS, *supra* note 17, at 19.

116. *Id.* (explaining how the 1986 WRDA forced the hands of federal/nonfederal partnerships, giving local sponsors a financial interest in project planning).

117. *See id.*

118. *See* Tarlock, *supra* note 43, at 1320 (arguing that cost sharing has "devolved" power from the Corps to local districts because it gives "local sponsors, local representatives, and senators a greater role in project selection, designs, and most importantly, scope.").

119. *See id*. Flood mitigation measures are broken down into structural measures and nonstructural measures. Dodo J. Thampapillai & Warren F. Musgrave, *Flood Damage Mitigation: A Review of Structural and*

with the right financial backing will be incentivized to divert flood waters (i.e., structural mitigation) from inhabited areas,[120] even when an alternative, federally recommended plan is estimated to better preserve the environment.[121]

B. COST-BENEFIT ANALYSIS

Choosing project alternatives bears another level of complexity. The Corps analyzes project risk through one overarching document meant to standardize project assessment, called the *Principles and Guidelines* (*P&Gs*).[122] The Corps replaced its original project assessment strategy with the current *P&Gs* in 1983.[123] The primary focus of the

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Nonstructural Measures and Alternative Decision Frameworks, 21 WATER RESOURCES RES. 411, 412 (1985). Structural measures may include dams, reservoirs, levees, channel improvements, and floodways. *Id.* However, "structural measures do not provide complete protection against flooding. They only reduce the expected value of flood losses and cost of risk taking." *Id.* Nonstructural measures include flood warning and evacuation, and flood plain land use that "regulat[es] the pattern of development on the floodplain," flood proofing, and flood insurance. *Id.* A primary concern for deciding against nonstructural mitigation versus structural diversion is a belief that cost effectiveness is hard to quantify in nonstructural mitigation, and therefore, the benefits are uncertain to be worth the costs when compared to other project alternatives, such as structural mitigation. ASS'N OF STATE FLOODPLAIN MANAGERS, NATIONAL FLOOD PROGRAMS AND POLICY IN REVIEW 44 (2007), *available at* http://www.floods.org/PDF/ASFPM_NFPPR_2007.pdf. *See also* Tarlock, *supra* note 43, at 1296 (advocating the position of Gilbert White, that "sole reliance on structural flood control measures" versus non-structural alternatives creates a "moral hazard problem," which occurs when increased protection increases the attraction for development of the floodplain).

120. *Cf.* Joseph W. Westphal, *The Politics of Infrastructure*, 75 SOC. RES. 793, 800 (2008).

121. *Cf.* U.S. ARMY CORPS OF ENG'RS, ER1105-2-100, PLANNING GUIDANCE NOTEBOOK (2000).

122. U.S. WATER RES. COUNCIL, ECONOMIC AND ENVIRONMENTAL PRINCIPLES AND GUIDELINES FOR WATER AND RELATED LAND RESOURCES IMPLEMENTATION STUDIES (1983) [hereinafter *P&Gs*]. Other federal agencies governed by this document include the Bureau of Reclamation, the Tennessee Valley Authority, and Soil Conservation Service. *Id.* at 1.

123. EVANS SCH. OF PUB. AFFAIRS, UNIV. OF WASH., PRINCIPLES AND GUIDELINES FOR EVALUATING FEDERAL WATER PROJECTS: U.S. ARMY CORPS OF ENGINEERS PLANNING AND THE USE OF BENEFIT COST ANALYSIS 7 (2009). The *P&Gs* replaced the ESTABLISHMENT OF PRINCIPLES AND STANDARDS FOR PLANNING WATER AND RELATED LAND RESOURCES, WATER RESOURCES COUNCIL (1972), which relied on both national economic development and environmental quality (EQ). EVANS SCH. OF PUB. AFFAIRS, *supra*, at 11. *See*

P&Gs, as opposed to the original document, is designing projects that maximize the National Economic Development (NED).[124] The *P&Gs* defines NED as "increases in the net value of the national output of goods and services, expressed in monetary units. Contributions to NED are the direct net benefits that accrue in the planning area and the rest of the Nation."[125] The traditional role of the *P&Gs* has been one of "recommended guidance"[126] and strict adherence to the *P&Gs* has come with great scrutiny.[127]

Perhaps the most troublesome issue with the *P&Gs* is its formulaic cost-benefit analysis, which is criticized for having the potential to overlook less quantifiable environmental outputs.[128] Cost-benefit analysis was once an objective determination of project alternatives for the Corps, but it was not long before cost-benefit analysis would yield disagreement between project designs with less quantifiable environmental outputs and projects more certain to enhance flood protection.[129] The Corps is well aware of public disagreement

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generally S. Res. 342, 87th Cong. 6 (1962), *available at* http://planning.usace.army.mil/toolbox/library/Guidance/PoliciesStandardsProceduresWResources1962wSupp1_1964.pdf (agreeing to a cost-benefit standard for project valuation).

124. NEW DIRECTIONS, *supra* note 17, at 34. Although the Corps identifies one plan that optimizes NED among other alternatives, it is not necessarily a predetermined plan. For instance, if the Corps' collaborating partners, including local sponsors and stakeholders, are able to raise additional funds for a plan that exceeds the Corps-selected NED plan, that project alternative may be recommended. *Id.* at 38.

125. *P&Gs*, *supra* note 122, at iv.

126. NEW DIRECTIONS, *supra* note 17, at 34.

127. *See, e.g.*, Westphal, *supra* note 120, at 800.

128. EVANS SCH. OF PUB. AFFAIRS, *supra* note 123, at 11 ("Benefits and costs are often difficult to identify, difficult to measure or monetize, and highly uncertain. Additionally, although the [cost-benefit analysis] process aims for objectivity, analysts must make many subjective decisions and assumptions. These might include . . . whether and how to value environmental amenities (which are not traded in a marketplace), and what categories of benefits and costs to use.").

129. *See* James P. Heaney, *New Directions in Water Resources Planning and Management*, 93 J. CONTEMP. WATER RES. & EDUC. 1, 5 (2011). Some of the earliest applications of water resource economics began with the enactment of the Flood Control Act of 1936, which prioritized projects based on their cost-benefit. *Id.* The first promulgation of "consistent" sets of engineering-economic principles for water resource management was in the 1950s. *Id.* The author notes that the major challenge with this approach is

over its standards for project valuation.[130] The current *P&Gs* is under revision, and it is unclear what the future of the Corps' project assessment will look like until its release.[131]

IV. THE FARGO-MOORHEAD FLOOD DIVERSION PROJECT HAS TESTED THE CORPS' PLANNING FRAMEWORK

A. HISTORY OF THE RED RIVER BASIN AND FLOOD MANAGEMENT IN FARGO-MOORHEAD

The nearly predictable flooding of the Red River of the North (Red River) has been a source of water management controversy for RRB citizens.[132] The Red River divides two major metropolitan areas along the Minnesota-North Dakota border.[133] The two areas are the Fargo, North Dakota metropolitan area and Moorhead, Minnesota.[134] Over the last century these communities have fought relentless flood events.[135] The impetus for developing permanent flood mitigation has grown over the last decade.[136] The Red River has exceeded flood stages every year from 1993 to 2011.[137] The

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developing "reasonable estimates of future benefits and costs . . . ." *Id.* The example the author uses is representative of modern valuation issues, namely, how to measure cost-benefits "of a stormwater pond which provides flood control, water quality control, and fish and wildlife enhancement . . . ." *Id.*

130. *See* NEW DIRECTIONS, *supra* note 17, at 20, 28.

131. *See Updated Principles and Guidelines for Water and Land Related Resources Implementation Studies*, COUNCIL ON ENVTL. QUALITY, http://www.whitehouse.gov/administration/eop/ceq/initiatives/PandG (last visited Oct. 10, 2014) ("Developed by Federal agencies and incorporating extensive public comment, the modernized P&G will help accelerate project approvals, reduce costs, and support water infrastructure projects with the greatest economic and community benefits . . . . Once the Guidelines are finalized, each agency will update its procedures as needed to apply the new P&G to their agency-specific missions.").

132. JAY A. LEITCH & GENE KRENZ, A RIVER RUNS NORTH 1 (2d ed. 2013) ("It has been said that the [RRB] always has a water supply problem . . . either too much or not enough!").

133. *See id.* (referencing a map of the RRB).

134. *Id.*

135. *Id.* (noting the position of Fargo and Moorhead displayed on the map).

136. *See id.* ("[R]ecords indicate that major *flooding* prevailed generally . . . in . . . 2001, 2006, 2009, 2010, and 2011.").

137. U.S. ARMY CORPS OF ENG'RS, ST. PAUL DIST., FINAL FARGO-MOORHEAD FEASIBILITY REPORT AND ENVIRONMENTAL IMPACT STATEMENT

flood of 1997 was historically devastating.[138] Flooding that year alone cost the United States and Canada nearly $5 billion in flood recovery and mitigation costs.[139] A flood of even greater magnitude occurred less than ten years later in 2009, followed by comparably sized floods in 2010 and 2011.[140]

Flooding in the RRB dates back to the days of settlers.[141] Accessibility of water was essential to those crossing the Great Plains.[142] Settling near rivers and streams was a natural choice for pioneers, especially those in the RRB who relied on the Red River for trading and homesteading.[143] In the late 1800s the RRB's population increased dramatically.[144] Settler-farmers took an early initiative to convert prairie and wetlands into premier farmland, which transformed large portions of the RRB's landscape.[145] Over the years, artificial drainage systems were constructed to reduce flood loss to communities and agricultural land.[146] In particular, the use of structural control measures such as straight-line drains replaced the natural

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ES-4 (2011) [hereinafter FINAL FEASIBILITY REPORT], *available at* http://www.fmdiversion.com/pdf/CorpsReports1/Main_Report_with_Attachments.pdf.

138. *See* INT'L JOINT COMM'N, LIVING WITH THE RED 1 (2000), *available at* http://ijc.org/files/tinymce/uploaded/documents/redRiverBoard_microSite/en/Living%20with%20the%20Red%20report%20with%20appendices.pdf.

139. *Id.*

140. RED RIVER BASIN COMM'N, LONG TERM FLOOD SOLUTIONS 20–21 (2011) [hereinafter LONG TERM FLOOD SOLUTIONS], *available at* http://www.redriverbasincommission.org/Comprehensive_Report_12-15-11_FINAL.pdf.

141. *See* LEITCH & KRENZ, *supra* note 132, at 1.

142. *See* ANDERSON & LEAL, *supra* note 109, at 32.

143. *Id.*; *Red River Valley History*, RIVER KEEPERS (May 2005), http://www.riverkeepers.org/files/history_of_red_river_valley.pdf.

144. *See Red River Valley History*, *supra* note 143, at 2 (noting that the population of the Red River Valley grew six fold).

145. *See* RED RIVER BASIN FLOOD DAMAGE REDUCTION WORK GRP., A USER'S GUIDE TO NATURAL RESOURCE EFFORTS IN THE RED RIVER BASIN 7 (2001), *available at* http://files.dnr.state.mn.us/aboutdnr/reports/redriver_nrefforts_pdf4.pdf ("[W]aves of immigrants moved into the Basin, plowed up the prairie, connected and straightened segments of streams, and drained the standing water and saturated soils.").

146. *See* DIMPLE ROY ET AL., INT'L INST. FOR SUSTAINABLE DEV., ECOSYSTEM APPROACHES IN INTEGRATED WATER RESOURCES MANAGEMENT (IWRM) 30 (2011), *available at* http://www.iisd.org/pdf/2011/iwrm_transboundary_river_basins.pdf (listing the various measures that have been employed to mitigate future flooding effects).

meander of rivers, accelerating runoff from fields.[147] The installation of wetland drainage systems also greatly reduced the number of native wetlands in the Basin.[148] Wetland loss tends to "aggravate the damage caused by floods."[149]

In addition, the Red River is one of eight rivers in the world that flows north, a fact that is sometimes overlooked.[150] This feature is also its kiss of death:

> The Red River's direction of flow from south to north is another contributing factor to the challenge of retaining water in the basin's river channels during its already problematic spring floods. When the earlier waters from the south encounter a still-frozen river channel to the north, flow of the river's waters is impeded [by what are known as "ice jams."] Water levels can rise quickly and dramatically at these points, causing break-outs with resultant damage to infrastructure and environment.[151]

As early as 1909, the United States and Canada realized that flooding would continue to be a pall over both countries.[152] Together, the United States and Canada have built major flood control structures to alleviate annual flood damage.[153] The imminent risk of flood damage has caused many RRB stakeholders to become actively involved in the flood crisis.[154]

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147. *Id.* (noting dramatic ecological change as a result of changed drainage patterns).

148. INT'L JOINT COMM'N, *supra* note 138, at 25.

149. *Id.* ("Depending on their structure and condition at the time of the flood event, wetlands may retain floodwaters and reduce . . . total flood volumes . . . .").

150. Slobodan P. Simonovic & Richard W. Carson, *Flooding in the Red River Basin – Lessons from Post Flood Activities*, 28 NAT. HAZARDS 345, 346 (2003).

151. LONG TERM FLOOD SOLUTIONS, *supra* note 140, at 16; Donald P. Schwert, *Why Is the Red River of the North So Vulnerable to Flooding?*, N.D.S.U., http://www.ndsu.edu/fargo_geology/whyflood.htm (last visited Oct. 24, 2014) ("Ice concentrations . . . can only build, retarding or damming water flow.").

152. *See* INT'L JOINT COMM'N, *supra* note 138, at 7 (discussing a government action made pursuant to the 1909 Boundary Waters Treaty).

153. *See* ROY ET AL., *supra* note 146, at 30. Some of these structures include the Red River Floodway around Winnipeg, Manitoba, and the English Coulee Diversion of the Grand Forks/East Grand Forks cities which protect Minnesota and North Dakota citizens along the Red River. *Id.* Early flood control coordination between the United States and Canada was memorialized in the Boundary Waters Treaty of 1909. *Id.* at 32.

154. *See* Jonathan P. Scoll, *Flood Control on the Red River as a Complex Environmental Decision System*, 26 NAT. RESOURCES & ENV'T 24, 28 (2012).

Flood control on the Red River is an exceptional case study because it represents "competing interests and policies that drive flood control efforts" in interstate river basin systems.[155] The complexity of interagency participation in the RRB creates a vexing situation.[156] Many local, state, federal, and international government agencies must coordinate their flood control efforts.[157] The most notable are the eight WDs in Minnesota, four WRDs in North Dakota, the Corps as the primary federal government entity, various state agencies of Minnesota and North Dakota, small representative commissions, and various boards created through joint powers agreements—and don't forget Canada.[158] The RRB is truly a watershed management laboratory, with many lessons to be taken away.[159]

B. EARLY OVERLAPPING INTERESTS REQUIRE LEGISLATIVE RESOLUTION

Disagreement over local implementation of flood control efforts reached its tipping point in the late 1990s. Minnesota WDs[160] and other local governments felt that their role in

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155. *Id.*

156. *See id.* ("Climate change in the region has increased precipitation, with the result that while 48 of the last 109 years have seen the Red exceed its . . . flood stage, such flood stage has been exceeded in *every* year from 1993 through 2011.").

157. *Id.*

158. *Id.*

159. *See* Hearne & Kritsky, *supra* note 93, at 899 (arguing that the autonomy of Minnesota and North Dakota's local water management districts, as opposed to a uniform organizational institution, is what allows each state to manage its water resources effectively). The authors contend that "[n]o single organizational arrangement should be accepted as the best arrangement across a variety of needs and circumstances. Indeed the variety of institutional arrangements allows new ideas to be developed and more cross agency learning." *Id.*

160. The Minnesota legislature authorized the formation of WDs in the 1955 Watershed District Act. MINN. STAT. § 103D.201 (2014). The purpose of WDs are "[t]o conserve the natural resources of the state by land use planning, flood control, and other conservation projects by using sound scientific principles for the protection of the public health and welfare and the provident use of the natural resources . . . ." *Id.* "Since water flows from place to place, a water resource problem in one community may be caused by another community's actions. By managing water resources on a watershed basis, communities can jointly plan to prevent problems, and coordinate and equably

planning regional water projects was sometimes challenged by other agencies.[161] Issues arose when the Corps and the Minnesota Department of Natural Resources (MN DNR) began to worry about the "cumulative environmental effects" of several small watershed projects.[162] In response, the Corps and the MN DNR initiated an EIS which halted local watershed actions until the EIS was completed.[163] Without state or federal permitting,[164] regional watershed activities were put on hold.[165] Eight WDs challenged the Corps and MN DNR on its EIS directive in state district court.[166] In 1997, the Minnesota legislature responded to the stalemate by authorizing funding "for a 'Mediation' process to attempt resolution of the disputed issues that were addressed in the EIS, led to the court challenge, and resulted in gridlock on permitting issues."[167] The mediation agreement was touted as a "framework for a new, collaborative approach to implementing both flood damage reduction and natural resource protection and enhancement in the [RRB] in ways that will benefit all Minnesota's citizens."[168] There are still discussions to this day on how to appropriately implement the mediation agreement.[169]

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pay for projects to correct problems when they do occur." MINN. BD. OF WATER & SOIL RES., WHAT IS A WATERSHED DISTRICT 1 (2005), *available at* http://www.bwsr.state.mn.us/planning/whatiswd.pdf.

161. Enzler et al., *supra* note 98, at 898–99 (explaining how a 1986 House Research evaluation "recapped the previous fifteen years of water management studies and suggested that the multiplicity of agencies at all scales of governance involved in water management create an advocacy system of strong, competing agencies, each concerned with its own duties and specific goals.").

162. MEDIATION AGREEMENT, *supra* note 85, at 2.

163. *See id.*

164. *See* Clean Water Act, 33 U.S.C. § 1344(a) (2012) (explaining the Corps' authority over projects permitting for the discharge of dredged or fill material; "The Secretary may issue permits, after notice and opportunity for public hearings for the discharge of dredged or fill material into the navigable waters at specified disposal sites.").

165. *See* Scoll, *supra* note 154, at 25.

166. MEDIATION AGREEMENT, *supra* note 85, at 3.

167. *Id.*

168. *Id.* at 1.

169. *See* Scoll, *supra* note 154, at 25.

C. THE CORPS' RESPONSE TO THE RED RIVER BASIN CRISIS

The RRB has tested the Corps' flood control strategies and continues to plague the Corps' flood control policy.[170] The Diversion project is a good case study on how the Corps develops federal flood-related projects. More interesting, however, is how the Diversion project embodies many of the floodplain management issues associated with multi-jurisdictional projects.[171]

The Corps began discussing a diversion project design in 2008.[172] Prior to 2008, the Corps administered multiple studies and projects to counter incessant flood events in the Fargo-Moorhead metropolitan area.[173] At the outset, the Corps initiated the "Red River Reconnaissance Study" of 2002, followed by another reconnaissance study which "specifically" emphasized flood protection options for Fargo-Moorhead.[174] To the satisfaction of Fargo and Moorhead, the cities entered into a cost-share agreement with the Corps in September 2008, to continue studying flood relief strategies for the metro area.[175] But only later would the selection of a diversion design evolve into the massive undertaking it has become.[176]

The Diversion project was one plan among many alternatives.[177] The possible alternatives were: (1) inaction by continuing emergency measures, (2) non-structural measures, (3) creation of flood barriers, (4) increased conveyance which

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170. *See* FINAL FEASIBILITY REPORT, *supra* note 137, at ES-1 ("The purpose of the feasibility study was to investigate flood issues in the Fargo-Moorhead Metropolitan Area . . . and, if appropriate . . . recommend implementation of a federal project.").

171. *History*, F-M AREA DIVERSION, http://www.fmdiversion.com /history.php (last visited Oct. 21, 2014) ("Interagency and public stakeholders and potentially affected landowners were identified.").

172. *Id.*

173. *Id.*

174. *Id.*

175. *Id.*

176. Dave Kolpack, *Flood-Weary Fargo, ND, Lobbies for Permanent Fix*, MPR NEWS (Apr. 28, 2013), http://www.mprnews.org/story/2013/04/27 /regional/red-river-diversion-project-still-under-debate ("But the plan, which has been kicked around for a few years, has drawn strong opposition from upstream farmers, homeowners and businesses, who don't want the diversion channel carving through their communities. They say it's [sic] nearly $2 billion price tag is a waste of money . . . .").

177. FINAL FEASIBILITY REPORT, *supra* note 137, at ES-4.

would include diversion channels, or (5) flood storage.[178] The Corps settled on a design that would impart a flood diversion design,[179] and later on, an additional flood retention area to store floodwaters on rural lands just upstream from the Fargo-Moorhead metropolitan area where many small communities rest.[180]

D. RED RIVER BASIN FLOOD PROTECTION AUTHORITIES USE DIFFERENT FLOOD CONTROL STRATEGIES

The lurking risk of catastrophic flooding in the RRB has spurred the creation of many flood-related organizations.[181] The Flood Diversion Board of Authority (Diversion Authority) was created to "build and operate a flood diversion channel along the Red River . . . to reduce the flood risk of stakeholder communities and counties."[182] The Diversion Authority is an innovative conglomeration of government entities whose

178. *Id.*

179. *Id.* The Final Feasibility Report was one of many studies issued by the Corps that incrementally moved toward a diversion channel design. *See* Scoll, *supra* note 154, at 26. In May 2010, the Corps issued its "Draft Feasibility Report and Environmental Impact Statement" which featured "several diversion channel alternatives" that were adjusted according to "cost estimates for each [diversion] alternative." U.S. ARMY CORPS OF ENG'RS, ST. PAUL DIST., DRAFT FEASIBILITY REPORT AND ENVIRONMENTAL IMPACT STATEMENT ES-4 (2010) [hereinafter DRAFT FEASIBILITY REPORT]. In September 2010, hydraulic modeling indicated that the current plan would have more "extensive downstream impacts" than originally anticipated. *Id.* In response, the Corps issued its "Supplemental Draft Feasibility Report and Environmental Impact Statement," which reduced the capacity of the channel diversion by adding an upstream storage and staging area to reduce downstream impacts. FINAL FEASIBILITY REPORT, *supra* note 137, at ES-4. After the end of the public comment period on the proposed changes, including state agency and other government input, the Corps settled on a plan that was "virtually identical to that of the 2010 [Draft Feasibility Report]: little more than a ranking of different locations for the diversion channel, each essentially an iteration of the same design idea." Scoll, *supra* note 154, at 27. The new design with an upstream retention area would "minimize[] downstream impacts, cause[] upstream impacts, and provide[] the same level of risk reduction to the Fargo-Moorhead Metropolitan area as the original." FINAL FEASIBILITY REPORT, *supra* note 137, at ES-7.

180. *See generally* FINAL FEASIBILITY REPORT, *supra* note 137 (describing the Corps' plan).

181. Scoll, *supra* note 154, at 25.

182. *About the Authority*, *supra* note 4.

primary goal is coordination and project implementation.[183] Its members include the cities of Fargo and Moorhead, two North Dakota counties, one Minnesota WD, and a North Dakota joint WRD.[184] The Diversion Authority, Fargo, and Moorhead hold themselves out as the three nonfederal project sponsors, although technically Fargo and Moorhead are the Diversion project's only nonfederal project sponsors.[185] The Diversion Authority and the Corps have worked closely to develop the Diversion project.[186]

Aside from the Diversion Authority, whose work involves mostly structural flood control measures (i.e., a diversion channel), the analysis would be remiss to exclude the Red River Retention Authority (RRRA). The RRRA was specially created to "ensure joint, comprehensive, and strategic coordination of retention projects in the Red River of the North watershed" and to "aggressively pursue federal dollars to off-set local costs for retention projects."[187] Rural support for "distributed retention" across the basin has been viewed as an additional solution to reducing downstream flooding (a priority for the Diversion Authority as well).[188] Flood water retention is a pillar of the RRRA.[189] Flood retention uses "[d]epressional areas within the landscape [to] capture runoff and allow time for evaporation and infiltration to occur, which normally results in natural seasonal drawdown" and has the added benefit of reducing

183. *See id.*

184. *Id.*

185. LIMITED JOINT POWERS AGREEMENT METRO, FLOOD DIVERSION PROJECT 10 (2011), *available at* http://www.fmdiversion.com/pdf/08%2012%202011%20-%20Limited%20Joint%20Powers%20Agreement.pdf.

186. *See History*, *supra* note 171.

187. RED RIVER RETENTION AUTHORITY, http://www.redriverretentionauthority.net/ (last visited Oct. 24, 2014). The RRRA likens itself as an "advocate" for aiding smaller local sponsors through the federal regulatory process. *Id.*

188. Scoll, *supra* note 154, at 28.

189. RED RIVER RETENTION AUTHORITY, *supra* note 187 and accompanying text.

peak flood stages.[190] Former wetlands are the most ideal retention areas.[191]

The difference in planning strategies between the Corps/Diversion Authority and the RRRA can be summarized as follows:

> [T]he political tension between the constituencies for larger, urban, Corps-backed projects, on the one hand, and for smaller, more rural, distributed retention, or other prevention projects, on the other . . . [is] supported by two very different federal agencies . . . . The Corps' flood control mission is carried out through large construction projects. Its command structure is hierarchical, centered in Washington. The [United States Department of Agriculture], whose subsidy programs fund many water district activities, is rural and agricultural in focus. Its decision making is largely local.[192]

As noted, varying financial support will affect which project alternatives the Corps implements.[193] For the Diversion project, federal and nonfederal funds would be used to create a flood retention and flood staging area just upstream from the diversion.[194] But in this instance, the Diversion project's retention area is not quite on par with the distributed retention contemplated by the RRRA; the retention area is but one large isolated area of floodwater storage, designed primarily to hold back floodwater just before it reaches Fargo-Moorhead.[195] On the other hand, supporters of "basin-wide retention" want to prevent the destruction of the "last natural flood plain

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190. Charles Anderson & Al Kean, *Red River Basin Flood Damage Reduction Framework* 25 (Red River Basin Flood Damage Reduction Work Group Technical and Scientific Advisory Comm., Technical Paper No. 11, May 2004), *available at* http://www.rrwmb.org/files/FDRW/TP11.pdf.

191. *Id.* (describing the mechanisms by which wetlands collect and dissipate excess water).

192. Scoll, *supra* note 154, at 27.

193. FINAL FEASIBILITY REPORT, *supra* note 137, at 34 (indicating that the Corps considers cost and implementability, among other things, when deciding which course of action is best).

194. *Id.* at ES-12.

195. *See What Is The Difference Between Retention, Staging and Storage?*, FMDAM.ORG (Mar. 22, 2014), http://fmdam.org/what-is-the-difference-between-retention-staging-and-storage/ (describing how staging works).

[upstream from] the city" by lauding for distributed retention throughout the basin to help equalize the effects of flooding.[196]

Beyond the Corps' federal financial contribution to the upstream retention area (more accurately to the project's overall cost),[197] other retention projects elsewhere in the RRB stand alone, and do not receive funding from the Corps or the Diversion project's nonfederal sponsors.[198] Therefore, funding those projects must come from other federal and local sources—although still requiring the Corps' approval depending on the nature of the project.[199]

Taken together, the Corps' stance on RRB flood protection bears remnants of its old ways. The Corps' Diversion project, although necessary in utility, shows signs of weakness in comprehensive flood protection. Make no mistake, the Diversion project is integral to the protection of Fargo-Moorhead citizens.[200] In terms of costs to benefits, a diversion solution made the most economical sense.[201] But has the opportunity to do more passed? Or would remediating the existing plan to include complimentary means of flood reduction challenge the Corps' ability to rationalize flood retention cost-benefits, risk, uncertainty, etc.? On the one hand, the RRRA has the semblance of a comprehensive flood reduction organization, if phrases like "basin-wide retention,"

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196. Marcus Larson, *Letter: Retention an Important Flood Control Component*, FMDAM.ORG (Mar. 22, 2014), http://fmdam.org/letter-retention-an-important-flood-control-component/.

197. *See* FARGO-MOORHEAD METROPOLITAN AREA FLOOD RISK MGMT. PROJECT, REPORT SUMMARY FOR CIVIL WORKS REVIEW BOARD 11 (2001), *available at* http://www.usace.army.mil/Portals/2/docs/civilworks/CWRB/fargo/fargo_repsum.pdf (explaining that "buyouts, relocations, ring levees and easements will be used to mitigate for the upstream impacts to landowners.").

198. *See* Scoll, *supra* note 154, at 25 (describing a culture of self-reliance with respect to towns mitigating the effects of floods).

199. *See* Clean Water Act, 33 U.S.C. § 1344(a) (2012). The Corps settled on the current upstream retention plan because downstream flood damage necessitated upstream storage. *See* DRAFT FEASIBILITY REPORT, *supra* note 179, at ES-14. The National Research Council posited a fundamental question when it reviewed the Corps' planning strategies in the late 1990s; it raised questions about what is counted as benefits and what is counted as costs. *See id.* It stated that it is "clearly problem[atic] when land purchased . . . is counted as a cost while the benefits of open space and ecosystem restoration are ignored." NEW DIRECTIONS, *supra* note 17, at 72.

200. *See* FINAL FEASIBILITY REPORT, *supra* note 137, at ES-5, ES-6.

201. *Id.*

"distributed storage," or "coordinated flood reduction" are given significant weight. The RRRA's mission of systematic retention is not inconsistent with the flood reduction goals of the Corps.[202] Yet on the other hand, the Diversion project may be best characterized as a sharply focused ambition of the Corps, despite the reality that the stakeholder interests also represented by the Corps/Diversion Authority would also benefit from the RRRA's efforts, and basin-wide flood retention generally. If basin-wide flood retention is compatible with the Diversion project, then perhaps the Corps has thrown out the baby with the bath water by leaving out comprehensive flood retention.[203]

V. THE SCOPE OF THE DIVERSION PROJECT DESIGN

Why did the Corps not choose distributed retention as a joint-solution to flooding in the RRB? The most likely answer is that taking on an entire basin was, in fact, unattainable. The Corps' narrow formulation of upstream floodwater retention, as part of the greater Diversion project, may have been limited due to the Corps' institutionalized approach to water management.[204] Instead of focusing on systematic floodwater retention throughout the entire RRB (the sole mission of the RRRA), the Corps limited its flood retention efforts solely to the staging and storage area located just upstream from Fargo and Moorhead.[205]

In the 1990s, the National Research Council (NRC) discussed why comprehensive floodwater management might not survive the Corps' procedural process.[206] It found three common disagreements between federal interests, represented by the Corps, and rural/local project sponsors, as measured by

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202. *See* RED RIVER RETENTION AUTHORITY, *supra* note 187.

203. *See* Tarlock, *supra* note 43, at 1317 ("Cost-sharing has also narrowed the geographic scale of Corps planning at a time when many are asking it to expand planning to a watershed or river basin scale.").

204. Scoll, *supra* note 154, at 26.

205. *See* Goldfarb, *supra* note 90, at 490 ("[W]atershed management activities differ as to organizational locations and structures, scope of management responsibilities, and primary functional concerns based on congressional authorizations and historic missions.").

206. *See* NEW DIRECTIONS, *supra* note 17, at 72.

RRRA's retention efforts in the RRB.[207] It should be noted that even though the Diversion Authority represents the local sponsors in this instance, and has worked collaboratively with the Corps,[208] the RRRA represents the basin's divergent viewpoints on flood control, and is considered a local counterpart in this context.

The NRC described the first impediment as a "divergence between national and local benefits,"[209] meaning that what is considered beneficial for the Corps' purposes (and thus congressional purposes) might not be beneficial to local area interests. For example, Minnesota Senator Collin Peterson said, on flood retention, "[f]rankly, we're over-building and spending a bunch of money that we don't need to spend," alternatively arguing that floodwater "impoundment projects" are building momentum elsewhere.[210] Although a comprehensive water retention system would be ideal,[211] its inclusion did not pass the Corps' formal cost-benefit analysis,

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207. *See id.*

208. *About the Authority*, *supra* note 4.

209. NEW DIRECTIONS, *supra* note 17, at 72. The Corps found that the national benefit of a flood retention area immediately preceding Fargo-Moorhead would have the most immediate and predictable impact on Fargo-Moorhead, as well as downstream communities. *See generally* FINAL FEASIBILITY REPORT, *supra* note 137, at ES-7 (detailing the impacts of the revised LPP plan).

210. *See* Charles L. Anderson & Larry Lewis, *Siting and Design of Impoundments for Flood Control in the Red River Basin* 1–2 (Flood Damage Reduction Work Group, Working Paper No. 4), *available at* http://www.rrwmb.org/files/FDRW/TP04.pdf; Mikkel Pates, *Farmers Oppose Diversion*, AGWEEK (Mar. 17, 2014, 9:31 AM), http://www.agweek.com/event/article/id/22901/; Mikkel Pates, *Farmers Question Future in Face of F-M Diversion Plan*, INFORUM, http://www.inforum.com/content/farmers-question-future-face-f-m-diversion-plan (Mar. 23, 2014, 11:09 PM). "Impoundments are projects that store flood water," including the most opportune "native prairie site[s] with a wetland complex [that has] adjacent restorable wetlands that may provide flood control or mitigation opportunities." Anderson & Lewis, *supra.*

211. *See* FINAL FEASIBILITY REPORT, *supra* note 137, at 27–28 ("Without a comprehensive flood risk management project in the area, the . . . region will continue to be subject to flooding and will rely on emergency responses to ensure the safety of the community."); *see also infra* Part V.B. (discussing systematic retention as a long term flood solution).

notwithstanding local support for distributed storage as opposed to a strict diversion design.[212]

The second issue the NRC found is how funding constraints limit the Corps' ability to consider certain project designs when it reviews project alternatives.[213] Amidst the Diversion project's initial design phase, a reporter from Minnesota Public Radio reiterated the woes of local officials regarding their desire for Congress to move forward with the diversion design: "[l]ocal officials say they've done everything they can to show Congress they're serious about the project. Voters in Fargo and Cass County [North Dakota] approved sales tax increases to help fund the local share of the project."[214] On the other hand, Minnesota officials have been reluctant to "commit funds to the diversion until it wins federal funding," which has "upset some on the North Dakota side who want assurance Minnesota will pay a share of the project's cost."[215] Thus, negotiating federal and local funds appears to be something of a back and forth waltz between Congress, the Corps, and local project sponsors. Washington needs assurances that local sponsors are willing to fund their share of the project before it commits federal dollars; nonfederal sponsors are loath to commit funds to a project that is uncertain to win congressional approval; the Corps wants to submit a feasible project to Congress, backed by local sponsors. The victims of this sort of brinksmanship are the Fargo-Moorhead communities, who rely on the project's "long-term flood protection" in recent decades where floods have

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212. FINAL FEASIBILITY REPORT, *supra* note 137, at ES-6 (detailing the plan that brings "the greatest net national economic benefit consistent with protecting the Nation's environment.").

213. NEW DIRECTIONS, *supra* note 17, at 72; *see also Peterson Pushes Flood Plan for Farm Bill*, AGWEEK (July 6, 2010, 10:09 AM), http://www.agweek.com/event/article/id/16668/ (noting that Senator Collin Peterson has "broaden[ed] the focus from the diversion alone to watershed management that embraces doable water retention projects. Both strategies are necessary for permanent flood control to work."). The Corps has little incentive to take on basin-wide water retention projects. *See* NEW DIRECTIONS, *supra* note 17, at 55.

214. Dan Gunderson, *Army Corps Sends Fargo-Moorhead Flood Diversion Plan to Congress*, MPR NEWS (Dec. 20, 2011, 3:24 PM), http://www.mprnews.org/story/2011/12/20/fargo-moorhead-diversion.

215. *Id.*

increasingly worsened.[216] In light of this, it seems reasonable that the Corps recommends a project that garners local support. If the Corps' civil works are to benefit anyone, it must recommend a design that is both favored locally and is favorable enough to win commitment from the right financial pockets, as well as Congress. As of late 2011, North Dakota was a "yes," Congress a "maybe," and Minnesota a "we'll see."[217] In a paradoxical sense, one can be certain that financial uncertainty will continue to be an ongoing dilemma in the face of annual flood events until funding is worked out. However, the signing of the WRRDA by President Obama in 2014 has been touted as a "critical step" in securing federal funding.[218]

The third issue mentioned by the NRC is an offshoot from the last. The NRC described that differences will arise when political funding sources lobby for certain project design characteristics over others.[219] Momentum for the Corps' Diversion project has taken a considerable amount of politicking.[220] The locally supported diversion design has Congressmen from North Dakota pounding the pavement on Capitol Hill to protect Fargo and other communities immediately downstream.[221] MPR News reported Senator Kent Conrad "making the case to his colleagues in Congress that $2 billion is a smart investment" considering a catastrophic flood could sustain losses nearing $8 to 10 billion.[222] Senator Conrad

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216. *Id.*

217. *Id.*

218. *Project Status*, *supra* note 41.

219. NEW DIRECTIONS, *supra* note 17, at 72; *see* David Kolpack, *Fargo Official: House Bill Important for Diversion*, MPR NEWS (Oct. 24, 2013), http://www.mprnews.org/story/2013/10/25/politics/fargo-official-house-bill-important-for-diversion (noting comments from residents living within the Diversion project's flood staging area). North Dakota Senators Hoeven and Heitkamp said "they're sympathetic to the complaints from upstream residents." *Id.* Furthermore, "Hoeven, a Senate conferee for the farm bill, said he's pushing for a provision in the [sic] that bill that would help those and other rural residents with water retention, water storage and flood protection." *Id.*

220. *See* Gunderson, *supra* note 214 (describing the precarious political context that surrounds federal appropriation for the diversion).

221. *Id.*

222. *Id.*

further stated that "building a diversion or other permanent flood control works here is very much in the public interest."[223]

But, one might ask, whose public interest? The answer depends on vantage points. One angle, adopted by rural RRB citizens situated near Fargo-Moorhead, was that before the controversial upstream retention design was introduced, both upstream and downstream communities were opposed to the diversion design.[224] In the Diversion project's original form, upstream and downstream communities would have experienced significant losses, which were projected to reach as far as Canada.[225] The Corps and the Diversion Authority's position that the original design be the preferred flood control strategy pitted upstream *and* downstream communities against the apparent self-interests of Fargo and Moorhead, creating an us-versus-them mentality.[226] But the advent of the upstream staging area, as part of the project's new design, would decouple the solidarity of upstream and downstream

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223. *Id*. (quoting Senator Kent Conrad of North Dakota).

224. *See* Dan Gunderson, *Latest Diversion Project for Fargo-Moorhead Faces Fierce Opposition*, MPR NEWS (May 25, 2011), http://www.mprnews.org/story/2011/05/24/flood-diversion ("The first diversion plan would have caused increased flooding downstream, affecting communities all the way to the Canadian border."); *Why Are Upstream Impacts Rather Than Downstream Impacts Being Proposed?*, FMDAM.ORG (Mar. 13, 2012), http://fmdam.org/why-are-upstream-impacts-rather-than-downstream-impacts-being-proposed/ ("[O]fficials have been disingenuous in presenting the assumed damage to structures upstream and downstream . . . . [O]fficials are pitting upstream owners against downstream owners to divert attention away from the benefits being orchestrated for Fargo land developers."). When the Corps changed the plan to include an upstream retention area, it caused "[u]pstream interests, opposed to the new retention/staging component on their doorstep, [unable] to make common cause with downstream communities, whom they saw as beneficiaries of the project's redesign." Scoll, *supra* note 154, at 27.

225. *See* Scoll, *supra* note 154, at 26.

226. *See* Kristen M. Daum, *Army Secretary Sends Red River Diversion Plans to Congress*, DIVERSION DISCUSSION (Apr. 3, 2012, 5:55 PM), http://www.diversiondiscussion.areavoices.com/?p=586 (recognizing that "[s]everal communities south of Fargo-Moorhead have expressed concern over the project's plan to temporarily store water upstream of the diversion, which could displace at least a few hundred homes and residents" causing upstream officials to request an "increase [of] the allowable river flows through downtown Fargo-Moorhead" so that the staging system is used less frequently).

communities.[227] The Corps could lessen the burden on downstream communities by including an upstream staging area, but this would eviscerate upstream communities' hopes for flood protection. One upstream citizen felt lost "in a bureaucratic no man's land" stating that "[t]his Fargo nice and North Dakota nice stuff just doesn't play . . . . [I]t's been quite arrogant, the way they treat us. They don't ask, they tell. And after awhile I guess you do get a bit cynical."[228]

Through litigation, discussed later, upstream citizens would eventually question the range of alternative flood solutions explored by the Corps.[229] Moreover, the Diversion project's absence of a companion distributed retention design to benefit the entire RRB could mean that scaled down watershed organizations would be responsible for implementing basin-wide water retention projects. This could mean that the RRRA and other substate and state-level agencies are left as the primary vehicle for water retention initiatives in the RRB.

A. A CLOSER LOOK AT THE CORPS' RECOMMENDATION

Of many possible diversion channel designs, the Corps' study revealed "three plans of significance to decision makers."[230] The Corps' final flood plan precipitated into a diversion design that would balance its preferred plan (the plan with the highest NED or the "NED plan" set forth in the *P&Gs*) with what is known as the Locally Preferred Plan (LPP).[231] The NED plan "provides the greatest net national economic benefit consistent with protecting the Nation's environment."[232] The NED plan will always be the Corps' plan of choice unless local project sponsors can demonstrate otherwise.[233] For instance,

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227. *See* Gunderson, *supra* note 224 (discussing the controversy surrounding the Corps' project).

228. Gunderson, *supra* note 214.

229. *See, e.g.*, Complaint, Richland/Wilkin Joint Powers Auth. v. U.S. Army Corps of Eng'rs (D. Minn.) (No. 13-CF-02262) [hereinafter Complaint], *available at* http://fmdam.org/wp-content/uploads/2013/08/Richland-Wilkin-Joint-Power-Authority-Complaint-vs-United-States-Army-Corps-of-Engineers.pdf.

230. FINAL FEASIBILITY REPORT, *supra* note 137, at ES-6.

231. *Id.*

232. *Id.*

233. *See id.* at attach. 1 ("The NED plan must be recommended for implementation unless there are overriding reasons for recommending

the NED plan may be suspended if "the non-Federal sponsor identifies a constraint to a project's physical size or a financial constraint and if the net benefits are increasing as the constraint is reached."[234] The Diversion project would meet this categorical exemption.[235]

The LPP was the preferred plan of the Diversion Authority, Fargo, and Moorhead, that would address the immediate needs of the Fargo-Moorhead metropolitan area (although the LPP would include the upstream staging area that would engulf several rural communities).[236] The NED plan was one of two diversion designs on the Minnesota side of the Red River.[237] The LPP would divert floodwaters around Fargo-Moorhead on the North Dakota side.[238] The LPP would be less effective at reducing flood stages[239] than the Minnesota-NED plan; however, the LPP would benefit a larger downstream area and directly serve the Fargo-Moorhead metropolitan communities.[240] The other Minnesota plan was a diversion design developed to set the federal cost-share between federal/nonfederal project sponsors.[241] This plan became known as the Federally Comparable Plan (FCP)—essentially, a modification of the original Minnesota-side NED plan.[242] The FCP was an unprecedented deviation from the typical NED

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another plan, based on other Federal, state, local and international concerns.").

234. CAROL HOLLAWAY, U.S ARMY CORPS OF ENG'RS INST. FOR WATER RES., PROJECT PLANNING IN COLLABORATION WITH GOVERNMENT ENTITIES 27 (2007), http://www.iwr.usace.army.mil/Portals/70/docs/iwrreports/07r2.pdf.

235. *See id.* (clarifying that the Locally Preferred Plan is a categorical exemption).

236. FINAL FEASIBILITY REPORT, *supra* note 137, at 105.

237. *Id.* at ES-6, ES-7.

238. *See id.* at 105.

239. Flood stages are "[a] height . . . at which a watercourse overtops its banks and begins to cause damage to any portion of the defined reach." DEBARRY, *supra* note 20, at 667.

240. Letter from Meredith W. B. Temple, Acting Chief of Eng'rs, U.S. Army, to Sec'y of the Army, Fargo-Moorhead Metropolitan Area Flood Risk Management Project, North Dakota and Minnesota 2 (Dec. 19, 2011) [hereinafter Fargo Chief's Report], available at http://www.usace.army.mil/Portals/2/docs/civilworks/CWRB/fargo/fargo_chiefsrep.pdf.

241. FINAL FEASIBILITY REPORT, *supra* note 137, at ES-6, ES-7.

242. *See id.*

plan recommended by the Corps. A report issued by the Corps in July, 2011, compared the three plans:

> Normally the NED plan establishes the basis for federal cost sharing of [an LPP], but in this case the LPP provided fewer total annual economic benefits than the NED plan . . . . [However, t]he FCP is a plan that provides comparable total annual economic benefits to the LPP . . . [and] was used as the basis for federal cost sharing instead of the NED plan.[243]

In terms of economic benefits, the FCP was a downward adjustment from the NED plan.[244] The Corps considered the downward adjustment necessary to marry the economic benefits found in the LPP with the Corps' NED plan, hence a "federally comparable plan."[245] For evaluative purposes, creating an even basis in benefits between the FCP and the LPP would assist the Corps in conducting its cost-benefit analysis.

Significantly, whichever plan the Corps selects is also the plan that caps the federal contribution to a project's total cost.[246] Here, the Corps' contribution to the FCP would cap the federal contribution to the entire project.[247] Likewise, project alternatives that capture less net NED at a greater cost (the LPP in this instance) will require additional financial contributions from nonfederal project sponsors.[248] That said, if

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243. *Id.*

244. *Id.*; *see also* Fargo Chief's Report, *supra* note 240, at 2 ("Since the LPP provides *fewer average annual benefits than the NED plan*, a comparable smaller scale plan with similar outputs to the LPP was identified along the NED alignment to set the Federal cost share. This plan was identified as the [FCP] and serves as the basis to determine the project cost sharing apportionment.") (emphasis added).

245. *See* FINAL FEASIBILITY REPORT, *supra* note 137, at ES-6, ES-7.

246. *Id.*

247. *Id.*

248. NEW DIRECTIONS, *supra* note 17, at 59 (referring to a cost-sharing case study for a flood damage reduction project on the Napa River). The original project called for "conventional" flood reduction through structural measures. *Id.* However, Napra River residents voted to finance a non-structural plan through sales tax revenues. *Id.* The new plan became the LPP even though there was "higher nonfederal cost of the nonstructural plan, and a higher total cost than the conventional plan, which was identified as the NED plan by the Corps . . . ." *Id.* In that instance, Napa River residents were able to lobby for a nonstructural LPP—starkly different from the structural LPP that project stakeholders have advanced for the RRB. *Id.* Either result supports the proposition that stakeholder determination influences which plan the Corps recommends to Congress. *See id.*

the Corps recommended the LPP, then the nonfederal sponsors would be responsible for 100 percent of the excess design and construction costs over the Corps' contribution to the FCP.[249] The Chief of Engineers for the Corps explained that the FCP "serves as the basis to determine the project cost sharing apportionment. Federal investment in the flood risk management features of the LPP is capped at the investment that would have been made for the FCP . . . ."[250]

The metropolitan sponsors were more than willing to take on the additional cost.[251] Shortly after metropolitan stakeholders promised the necessary funds to cover additional expenses for the LPP, the Corps discarded either Minnesota alternative.[252] Instead, the Corps recommended the LPP to meet the needs of the Fargo-Moorhead stakeholders.[253] The Corps stated:

> The environmentally preferable plan is the Minnesota diversion channel [FCP] . . . . It has fewer impacts to wetlands, tributaries and fish passage when compared to other alternatives in the final array of alternatives. It was not selected because it did not address flooding from all five of the tributaries in the metropolitan area, which was a desired outcome of the non-federal sponsors.[254]

The Corps acknowledged that many environmental benefits would be lost if the LPP were recommended.[255] However, the LPP was recommended because it could protect against flood-prone tributaries near Fargo, which was desired by stakeholders who were willing to pay for the added

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249. Fargo Chief's Report, *supra* note 240, at 2.

250. *Id.*

251. Kolpack, *supra* note 176 (asserting that money spent preventing flood damage is money well-spent).

252. *See* DEP'T OF THE ARMY, RECORD OF DECISION, FARGO-MOORHEAD METROPOLITAN AREA FLOOD RISK MANAGEMENT PROJECT, NORTH DAKOTA AND MINNESOTA 2 (2012), *available at* www.fmdiversion.com/pdf/DA%20 Packets/2012/AUTHORITY-BOARD-MTG-AGENDA-04-12-2012.pdf.

253. *Id.*

254. *Id.*

255. *Id.*; Memorandum from William R. Taylor, Director, Office of Envtl. Policy and Compliance, to Theodore A. Brown, Chief, Planning and Policy Div., U.S. Army Corps of Eng'rs 1–2 (Oct. 24, 2011) (on file with the United States Department of the Interior) [hereinafter Memorandum of William R. Taylor], *available at* http://www.usace.army.mil/Portals/2/docs/civilworks /CWRB/fargo/fargo_stagncy_coms.pdf (stating that diversion alternatives would have adverse ecological impacts, but the FCP Minnesota plan is less damaging than the LPP North Dakota plan).

protection.[256] Despite this alluring aspect, the Corps' formal valuation process revealed that both economic and environmental benefits of the LPP were less than the Minnesota NED plan in terms of cost-benefit.[257] However, the benefits conferred on the metropolitan area, albeit at a disproportionately greater cost, admittedly exceeded the benefits purported in the NED plan (i.e., the LPP would protect against five tributaries), but the Corps could not justify the LPP's cost-benefit, unless project stakeholders were willing to increase their financial contribution.[258]

Thus, there exists the inescapable reality that the Corps' planning process might lop off, versus carve out, exemptions for local project preferences. The "Locally Preferred Plan" is really a misnomer. There are those, such as the U.S. Fish & Wildlife Service[259] and upstream communities,[260] who would argue that the Diversion project is not the preferred plan at all, and that maybe "local" is a relative term which should also mean "regional." On the other hand, proponents argue that the Diversion project directly benefits Fargo and Moorhead, is nonfederally funded by Fargo and Moorhead, and ergo, is really just a community's solution to a community problem.[261] For instance, facing the possibility of yet another flood event in 2013, local leaders would use a "communitywide campaign" to

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256. FINAL FEASIBILITY REPORT, *supra* note 137, at 42.

> North Dakota alignments cross five tributaries (Wild Rice, Sheyenne, Maple, Lower Rush, and Rush Rivers); Minnesota alignments cross none. Tributary crossings introduce additional environmental impacts. Tributary crossings provide flood risk reduction for flood events on the tributaries as well as the Red River. The North Dakota alignment benefits a greater geographic area and removes 50 more square miles from the 1-percent chance event floodplain than the Minnesota alignment. The sponsors and a majority of stakeholders preferred a North Dakota alignment.

Id.

257. *See* FINAL FEASIBILITY REPORT, *supra* note 137, at ES-6.

258. *Cf. id.*

259. *See supra* note 255 and accompanying text.

260. *See* Gunderson, *supra* note 214.

261. *See, e.g.*, Kolpack, *supra* note 176 ("[T]he canal is the only way to protect the Fargo metropolitan area from catastrophic floods like the one in 2009.").

bolster support for the Diversion project, which to them, could "fix the area's nagging problem once and for all."[262]

B. THE EFFECT ON UPSTREAM COMMUNITIES AND DISAGREEMENT IN RETENTION STRATEGIES

The Diversion project has shaken RRB citizens' support from the beginning.[263] It has spawned local buzzwords like "the opposition" which means those generally opposed to the project; it has spurred the creation of whistleblower news organizations such as FMDam.org, whose mission is to "investigate and disseminate news, research, commentary and editorials" on the Diversion.[264] But opinions were sharply divided at the inception of the upstream staging area.[265] Initially, small upstream communities within the staging area found little common ground with their metropolitan beneficiaries.[266] Since then, the communities have proffered their own ideas on how to alleviate adverse effects from the upstream staging area.[267] The principal supporters of the LPP were Fargo-Moorhead and those within the immediate floodplain areas who found safe harbor from nearby tributaries.[268] The Corps justified the LPP and upstream staging area as a means to reduce flooding downstream, even though increased flooding upstream within the storage area would cause collateral damage to the communities within.[269]

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262. *Id.*

263. *See id.* ("[Opponents] think[] a series of smaller, less costly anti-flood measures would better serve Red River communities.").

264. *Mission Statement*, FMDAM.ORG, http://fmdam.org/mission-statement/ (last visited Sept. 19, 2014).

265. *Is the Real, Hidden Purpose for the Staging Area to Serve as a Water Supply for Fargo?*, FMDAM.ORG (Mar. 12, 2012), http://fmdam.org/is-the-real-hidden-purpose-for-the-staging-area-to-serve-as-a-water-supply-for-fargo/ (calling the stated purpose of the staging area "counter-intuitive"); *see also* McFeely *infra* note 272.

266. *See* Gunderson, *supra* note 224. *But see infra* Part VI.B.

267. Becky Parker, *Concerned Citizens in Red River Valley Gather to Discuss Flood Control*, WDAY (Jan. 23, 2014, 9:32 PM), http://www.wday.com/content/concerned-citizens-red-river-valley-gather-discuss-flood-control.

268. *See* Scoll, *supra* note 154, at 27 ("The cities of Fargo and Moorhead were, of course, strongly supportive.").

269. FINAL FEASIBILITY REPORT, *supra* note 137, at ES-13 ("In order to eliminate downstream impacts, upstream staging and storage of

Some argued that if long term flood solutions,[270] like systematic water retention and detention, had been incorporated during the initial project design,[271] the upstream LPP staging area would have experienced improved flood protection while reducing the chances of drowning out upstream communities.[272] That is, had the Corps specifically coordinated basin-wide retention initiatives as part of the Diversion project from its inception, inundation of communities within the flood staging area could have been reduced, or at a minimum, early coordination may have helped the communities plan for the event through retention and detention projects of their own. Indeed, that very discussion dates back to the 1990s when local "conflict between draining and retaining water flared with lawsuits and a moratorium on new projects that stopped work on flood storage for several years."[273] Since then the Diversion project has beckoned a "broader discussion about flood control" in light of its design

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approximately 200,000 acre-feet immediately upstream of the diversion channel inlet would be required.").

270. RED RIVER BASIN COMM'N, 2012 ANNUAL REPORT 9–10 (2012), *available at* www.redriverbasincommission.org/Reports/2012_Annual_Rpt.pdf (discussing how the Long Term Flood Solutions Project focuses on efforts to look at basin storage strategies to reduce flows on the tributaries and the Red River).

271. U.S. ARMY CORPS OF ENG'RS, ST. PAUL DIST., FINAL FARGO-MOORHEAD FEASIBILITY REPORT AND ENVIRONMENTAL IMPACT STATEMENT app. U-4 (2011) [hereinafter FINAL FEASIBILITY REPORT APPENDIX], *available at* http://www.fmdiversion.com/pdf/CorpsReports1/Appendix_U_SDEIS_Public_and_Private_Summarized_Comments_and_Corps_Responses.pdf (arguing for a basin-wide perspective).

272. *See Retention Study Underway*, F-M AREA DIVERSION (Dec. 2012), http://www.fmdiversion.com/newsdetails.php?ID=68 ("An initiative is underway which could lead to retention efforts being incorporated into flood control plans in the Red River Basin. These efforts to retain water in various locations would also complement and improve the performance of the Fargo-Moorhead Area Diversion Project."). *Contra* Mike McFeely, *Study Says Retention Can't Replace F-M Diversion "Staging Area"*, KFGO BLOG (Nov. 21, 2013, 1:01 PM), http://kfgo.com/blogs/so-many-opinions-so-little-time/953/study-says-retention-cant-replace-f-m-diversion-staging-area/ ("[W]ater retention along the tributaries of the Red River cannot replace the proposed Fargo-Moorhead Area Diversion Project's upstream 'staging area,' nor can solely holding back water provide the benefits for the F-M metro area the diversion will provide.").

273. Dan Gunderson, *As Red River Diversion Advances, a Call for Floodwater Retention*, MPR NEWS (Mar. 25, 2010), http://www.mprnews.org/story/2010/03/25/red-river-valley-flood-retention.

features,[274] which could rehash the draining-retaining debate of the 1990s.

Although the LPP itself would add some benefit to water retention initiatives, it was a drop in the bucket compared to the twenty percent net flow reduction the Red River Basin Commission (RRBC) envisioned through basin-wide retention planning[275] (even though some diversion supporters argued basin-wide retention was purposefully left out,[276] and that a twenty percent net flow reduction alone would be insufficient to save Fargo-Moorhead).[277] But given the structure of the Corps' project planning process, a lack of comprehensiveness could have been expected.[278]

A review of the preceding discussion reveals the following. First, under the Corps' own admission, the Minnesota plans mitigated environmental losses to a greater degree, and had the support of other federal agencies.[279] But the LPP supporters were willing to cover the additional costs it would take to shield Fargo-Moorhead from an infrequent, although costlier flood event.[280] This can be viewed as an implicit limitation of cost sharing.[281] In the eyes of metropolitan project stakeholders, widening the scope of the project would not significantly benefit them.[282] Second, the Corps narrowed its

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274. *Id.*

275. LONG TERM FLOOD SOLUTIONS, *supra* note 140, at 119 ("Retention to achieve the potential 20 percent flow reduction on the main stem should be aggressively pursued upstream of Fargo-Moorhead to decrease the duration, scope, and level of floods in the Fargo-Moorhead area, downstream communities, and rural areas.").

276. *See* Mark Bordshaug, *Letter: Selective Criticism Misleads*, INFORUM (Nov. 4, 2013, 10:01 PM), http://www.inforum.com/content/letter-selective-criticism-misleads.

277. McFeely, *supra* note 272.

278. *See* NEW DIRECTIONS, *supra* note 17, at 70 (identifying three distinct paths the Corps is likely to follow).

279. Memorandum of William R. Taylor, *supra* note 255, at 1 (submitting that any diversion alternative will have adverse ecological impacts, however, the FCP Minnesota plan is less damaging than the LPP North Dakota plan).

280. Fargo Chief's Report, *supra* note 240, at 3 ("The recommended LPP would significantly reduce risk to the Fargo-Moorhead metropolitan area from a flood which has a 1-percent chance of occurrence in any year . . . .").

281. NEW DIRECTIONS, *supra* note 17, at 73.

282. *See* FINAL FEASIBILITY REPORT APPENDIX, *supra* note 271, at app. U-4 ("Some comments questioned the scope of the study and the focus on the Fargo-Moorhead Metro area instead of a basin-wide study . . . . While

project studies to only consider measures that would chiefly benefit the metropolitan area because of its immediate flood risk.[283] The Corps viewed systematic storage alternatives, such as retention sites, as inefficient, but with further deliberation stated that standing alone, "[if] several storage sites were created over a large area, the system could have substantial cumulative benefits for relatively small and frequent flood events."[284] However, this point was overturned because, among other things, a system of storage sites would not protect against a large and infrequent flood, and would be "less effective in reducing flood risk in the Fargo-Moorhead Metro area."[285] However, it remains to be seen whether a different project design,[286] or several well placed upstream storage sites, in combination with the Diversion project, could have spared upstream communities some of their current hardships had retention been strongly considered as a viable option during the initial planning stages.

C. EARLY FORMULATION OF A DIVERSION DESIGN

Basin-wide retention planning, as a long term flood solution, rarely meets formal federal cost-benefit criteria to receive federal funding.[287] For this reason, some project options are never considered.[288] For example, the Corps determined that implementing a system of retention sites would have to be incremental, cover an extended geographical area, and would also take a very long time to implement.[289] The Corps'

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alternatives were considered from a basin-wide perspective . . . [t]he Corps of Engineers and other local, state and federal agencies are studying flood risk throughout the Red River Basin under *separate efforts*.") (emphasis added); *id.* at U-10 (explaining that an expansive retention design "would not substantially reduce flood risk to the Fargo-Moorhead area."); McFeely, *supra* note 272.

283. FINAL FEASIBILITY REPORT APPENDIX, *supra* note 271, at U-4.

284. *See id.*

285. *Id.*

286. *See* Parker, *supra* note 267.

287. LONG TERM FLOOD SOLUTIONS, *supra* note 140, at 106.

288. NEW DIRECTIONS, *supra* note 17, at 72.

289. FINAL FEASIBILITY REPORT APPENDIX, *supra* note 271 (suggesting that incremental installation of flood storage sites would result in delayed flood protection, and that a large geographical area was outside the intended scope of the FM Diversion project).

explanation suggests that comprehensive retention was an infeasible component of the Diversion project from the outset.[290] Citizens raised concern about the narrow scope of the Corps' EIS study during one of the Diversion project's public comment periods.[291] The study team decided that a system of stand-alone retention sites in upstream watersheds involved more risk (in terms of monetizing flood protection) than a diversion design, and that either option would require comparable funding.[292] The Corps chose the Diversion project, instead of a retention system, because the former involved less flood risk.[293] However, sole reliance on one strategy over another might illicit such a disjunctive solution.[294]

Viewing basin-wide retention as either the principle solution, or as a secondary initiative to the Diversion project,[295] does not remedy the situation, it merely understates the issue. Basin-wide storage designs should have been an integral component of the Diversion project design from the outset. To suggest that comprehensive design alternatives were not a "necessity"[296] for the Diversion project and the RRB generally, is really a matter of what is at stake.

The real question is: could the RRB have been an exception? There are a few features of the RRB that may have supported a Corps-backed basin-wide retention plan. First, nearly seventy-five percent of the original wetlands formerly holding water in the RRB have been drained.[297] This has essentially diminished the RRB's capacity to store water naturally.[298] In fact, the Corps is adept at restoring habitats that "mimic prediversion waterflows"[299] and even oversees wetland operations via permitting. Thus, a Corps-administered

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290. *See id.*

291. *Id.* at U-3.

292. FINAL FEASIBILITY REPORT, *supra* note 137, at 39–40.

293. *Id.* at 40.

294. *Id.* at 38–40 (eliminating different plans as alternatives).

295. *See* Bordshaug, *supra* note 276 (stating that flood reduction through a system of upstream storage sites has traditionally been viewed as a secondary benefit to the primary goal of diverting water around Fargo-Moorhead).

296. NEW DIRECTIONS, *supra* note 17, at 55.

297. Andrew P. Manela et al., *Waffles Are Not Just for Breakfast Anymore*, 61 J. WATER & SOIL CONSERVATION 52A, 54A (2006).

298. *Id.*

299. Karkkainen, *supra* note 45, at 968.

system of retention sites might have worked well to mimic the RRB's former holding capacity.[300] The ability of rural nonfederal sponsors to finance this sort of undertaking is conjectural at this point.[301] Second, the RRB is "relatively small" compared to other basins,[302] which support the policy of developing basin-wide solutions in terms of purchasing power and man power. A larger basin will probably require more of each. That said, there may be an endogenous amount of RRB water organizations that could unite around a common goal of distributed water retention, much like how members of the Diversion Authority rallied for a diversion design. Third, outside of Fargo and Moorhead, the RRB's geographical features are contiguous—more or less "very flat" and "homogenous in terms of land use."[303] Some of the obstructions one might face in a more densely populated area might preclude a distributed water retention system, but not for the RRB.[304] Fourth, the RRB has many local water organizations working to aid rural areas in structuring their water management practices.[305] Although a number of these organizations must work within their jurisdiction, they are familiar with the RRB's flood retention efforts.

D. UPSTREAM COMMUNITIES ARE CHALLENGING THE BREADTH OF ALTERNATIVES RECOMMENDED BY THE CORPS AND MINNESOTA APPROVAL IS STILL PENDING

Ongoing litigation, the result of which could retroactively change the design of the Diversion project, has become a significant form of recourse for upstream communities within the staging area.[306] A pending suit of great importance here involves two upstream counties (Richland County, North Dakota and Wilkin County, Minnesota, or "the Counties") acting collectively under a Joint Powers Authority

300. *Id.*

301. *See* BOB FREITAG ET AL., FLOODPLAIN MANAGEMENT: A NEW APPROACH FOR A NEW ERA 113–14 (2009).

302. Hearne, *supra* note 101, at 842.

303. *Id.* at 843.

304. Negotiating land easements on valuable farm land would likely be a major hurdle. *See infra* note 330 and accompanying text.

305. Hearne, *supra* note 101, at 842.

306. *See* text accompanying *infra* notes 307–11.

agreement.[307] The Counties are directly impacted by the staging area upstream from Fargo-Moorhead.[308] The Counties challenge the Corps on its failure to "advise Congress of suitable alternative plans of flood control."[309] Specifically, the Counties believe that the cost-benefit analysis of the original LPP was "arbitrarily manipulated" to canvas its cost-benefit inequities, "which originally showed that the [LPP] would cost significantly more than the benefits."[310]

A basin-wide approach is a focus of the Counties' complaint: "rather than taking such an approach, the Corps, heavily influenced by the City of Fargo, ultimately rejected more moderate alternatives (which would not have resulted in upstream flooding) on the grounds that they did not eliminate (as opposed to dramatically reduce) the risk of flooding in Fargo-Moorhead."[311] The Counties were quick to point out that the 1998 mediation settlement agreement stipulated a future policy objective of comprehensive basin-wide flood reduction.[312]

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307. Complaint, *supra* note 229. Specifically, the Joint Powers Authority represents over "20 cities, townships and a school district in addition to the county members." *Id.* at 8.

308. *See* Letter from Don Moffet, Chairman, Richland Cnty. Water Res. Dis., to Aaron Snyder, U.S. Army Corps of Eng'rs (June 24, 2013) (on file with U.S. Army Corps of Engineers) ("The Richland County Water Resource Board understands and agrees that Fargo needs protection; however, all other options should be considered and all viable options taken to protect those [counties] to the south of the project and to protect the money of all taxpayers.").

309. Complaint, *supra* note 229, at 3. According to the Counties, the Fargo Chief's Report should have made mention to plans other than the LPP, and that the Environmental Impact Statement did not contain adequate information to inform Congress of suitable alternatives. *Id.* at 3–4. *See* Richland/Wilkin Joint Powers Authority v. U.S. Army Corps of Eng'rs, No. 13-2262 at 3 (D. Minn. Aug. 14, 2014) [hereinafter Preliminary Injunction] (granting the Diversion Authority's motion for a preliminary injunction). The Counties brought a separate state court action "against the Diversion Authority (but not the Corps) seeking to enjoin the construction of the O-H-B ring levees on the ground that the diversion project has not yet been approved through the State of Minnesota's environmental review process." *Id* at 2–3. The court determined that the Counties seek "essentially the same relief" in both actions. *Id*. at 3. *See infra* Part VI.B (on O-H-B ring levees).

310. Complaint, *supra* note 229, at 4.

311. Preliminary Injunction, *supra* note 309, at 11.

312. The agreement, among other things, stipulated that "[t]he comprehensive watershed planning process should be used to address changes

Furthermore, the Counties believe that affirmations of a basin-wide policy objective were made to Congress during the course of the Diversion project's development.[313] The crux of the Counties' argument is that a systematic flood reduction strategy was not wholly considered as a wholesale option, nor part and parcel of the Corps' Fargo-Moorhead flood initiative.[314] As a result, once the Corps decided to incorporate a storage area upstream from Fargo-Moorhead, the Counties were left defenseless against the inundation.[315] On this point, the Counties argue that after the original project design had

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to the flow regime resulting from increased development and land use change." MEDIATION AGREEMENT, *supra* note 85, at 19.

313. *Fargo-Moorhead Metro Area Flood Control and Red River Basin Flood Control Issues: Hearing Before the Subcomm. on Energy and Water Dev. of the S. Comm. on Appropriations*, 111th Cong. 10 (2009) (prepared statement of Colonel Jon Christensen, Dist. Commander, St. Paul Dist., Army Corps of Eng'rs) [hereinafter Statement of Colonel Jon Christensen], *available at* http://www.gpo.gov/fdsys/pkg/CHRG-111shrg55140/pdf/CHRG-111shrg55140.pdf.

> The Corps of Engineers initiated the Fargo-Moorhead Metropolitan Feasibility Study at the request of the city of Fargo, North Dakota and the city of Moorhead, Minnesota in September 2008. The goal of the study is to develop a regional system to reduce flood risk . . . . The study will evaluate several alternatives, including non-structural measures, relocation of flood-prone structures, levees and floodwalls, diversion channels, and flood storage . . . . First, we will develop a number of stand alone alternatives, those being nonstructural measures, levees and floodwalls, and diversion channels. Second, we will combine the stand alone alternatives to form combination alternatives. Finally, we will take advantage of the work being conducted as part of the Fargo-Moorhead Upstream Feasibility Study to assess the potential benefits that flood storage may provide . . . . If there appears to be a federally justifiable plan the remaining alternatives with the greatest potential of becoming the National Economic Development plan will be carried forward and optimized, potentially leading to a Report of the Chief of Engineers . . . . Local input will be the foundation for the alternatives and the basis for future plan development.

Id.

314. *See* Complaint, *supra* note 229, at 13 (recognizing that uncoordinated projects might cause more problems than they correct; "[t]he mediated settlement reflected Minnesota's agreement with the Corps and other State and Federal entities that flood control projects would be evaluated from a basin wide perspective. Selection of the Locally Preferred Plan violates the mediated settlement agreement"); Preliminary Injunction, *supra* note 309, at 11 ("The Joint Powers further alleges that the Corps then failed to consider a variety of options for flood storage . . . .").

315. *See* Preliminary Injunction, *supra* note 309, at 4.

been narrowed to a diversion design alone, but before the decision was made to include an upstream staging area into the original project design (due to unanticipated hydrological effects downstream),[316] that screening out a remedial basin-wide retention plan a second time showed the Corps' indifference to the communities.[317]

Furthermore, the Counties argue that the new upstream staging area cannot stand on its own without authorization under Minnesota state law.[318] The Flood Control Act of 1944 mandates the following with respect to all federal works:

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316. Gunderson, *supra* note 224 (reporting that "the first diversion design would have caused increased flooding downstream, affecting communities all the way to the Canadian border.").

317. The Complaint, *supra* note 229, at 19, states:

> Months after issuing its draft environmental impact statement, the Corps of Engineers discovered that the Locally Preferred Plan would also cause unacceptable downstream flood damage. This damage would result from the failure of the project to incorporate design features that would eliminate such damage, features that had arbitrarily been eliminated in the environmental review—including the elimination of smaller distributed storage options, elimination of waffle plan options [see *infra* note 328] and the decision to eliminate and develop over fifty square miles of natural floodplain, and the failure to configure flow through Fargo in Moorhead in the most effective way.

See also Statement of Colonel Jon Christensen, *supra* note 313, at 10 (referring to the Fargo-Moorhead Metropolitan Feasibility Study's goal to "develop a regional system to reduce flood risk"). Ironically, the town of Oxbow, North Dakota was included in the study. *Id.* Currently, Oxbow is one of the communities preparing for the adverse effects of the upstream staging area. *See id.*

318. *See, e.g.*, U.S. ARMY CORPS OF ENG'RS, ST. PAUL DIST., FARGO MOORHEAD METROPOLITAN AREA FLOOD RISK MANAGEMENT PROJECT app. E-2 (2013), *available at* http://www.fmdiversion.com/pdf/CorpsEA/Appendices/Appendix%20E%20-%20Public%20Comments.pdf [hereinafter SUPPLEMENTAL EA APPENDIX E] ("As the responsible government unit (RGU), the DNR is responsible for determining the extent to which federal [environmental review] documents address state scope and content requirements."); Complaint, *supra* note 229, at 4–5 ("The Environmental Impact Statement failed to address significant Minnesota regulatory requirements, thereby forcing the State of Minnesota to conduct a lengthy and costly environmental review process, a process which could have been significantly truncated or eliminated, if a less costly and less damaging alternative were selected."); Preliminary Injunction, *supra* note 309, at 6 (stating that Minnesota "prohibits state action 'significantly affecting the quality of the environment . . . so long as there is a feasible and prudent alternative . . . .'") (citing MINN. STAT. § 116D.04 subdiv. 6 (2013)).

> In connection with the exercise of jurisdiction over the rivers of the Nation . . . it is hereby declared to be the policy of the Congress to recognize the interests and rights of the States in determining the development of watersheds within their borders . . . to facilitate the consideration of projects on a basis of comprehensive and coordinated development . . . .[319]

Pursuant to this power, the MN DNR has been reluctant to sign off on modifications to the Diversion project without first investigating environmental impacts.[320] Disagreement over the staging area's environmental impacts is still an ongoing issue.[321] However, despite current litigation and federal requirements that the project have state authorization, the Diversion project continues its scheduled development.[322]

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319. Flood Control Act of 1944, Pub. L. No. 78-534, 58 Stat. 887. Minnesota further requires supplemental planning on the local level. MINN. R. 6120.5900 subpt. 1 (2008).

320. *See* MINN. DEP'T NATURAL RES., ENVIRONMENTAL ASSESSMENT WORKSHEET 14 (2013), http://files.dnr.state.mn.us/input/environmentalreview/fm_flood_risk/fm_seaw_accessible_sa_cmts_signature_v2.pdf.

321. *Compare* SUPPLEMENTAL EA APPENDIX E, *supra* note 318, at 30 (explaining that despite the unlikelihood that the Diversion project would cause geomorphological changes, "the Minnesota Department of Natural Resources continued to be concerned that the Project could disrupt geomorphic process and cause bank instability"), *with* MINN. DEP'T NATURAL RES., FARGO-MOORHEAD FLOOD RISK MANAGEMENT PROJECT DRAFT SCOPING DECISION 1, 12, 14 (2013), http://files.dnr.state.mn.us/input/environmentalreview/fm_flood_risk/2013_0408_draft_scoping_decision_for_public_comment.pdf (discussing social and economic effects, and "a potential for significant increase in impacts to wetlands in the staging area").

322. Press Release, United States Army Corps of Eng'rs, St. Paul Dist., Corps of Engineers Releases Final Environmental Assessment Package for Changes to Proposed Fargo, N.D./Moorhead, Minn., Diversion Channel (Sept. 20, 2013) (on file with author), *available at* http://www.mvp.usace.army.mil/Media/NewsReleases/tabid/9473/Article/488697/corps-of-engineers-releases-final-environmental-assessment-package-for-changes.aspx ("Col. Daniel C. Koprowski, commander of the U.S. Army Corps of Engineers, St. Paul District, signed a 'Finding of No Significant Impact' for a final Environmental Assessment, or EA, Sept. 19, completed for the proposed Fargo, N.D./Moorhead, Minn., Metropolitan Area Flood Risk Management Project.").

VI. FEDERAL FUNDING OF SINGLE-PURPOSE PROJECTS WILL CONTINUE TO PREVENT COMPREHENSIVE FLOODPLAIN MANAGEMENT

A. PROPOSED FLOOD RETENTION STRATEGIES

No matter what issues the upstream litigation resolves, one thing is still certain: basin-wide retention planning must be resilient.[323] The Counties carry a message that many RRB citizens share. They are weary that the Corps' recommended plan has "not been studied sufficiently" and will have a "much greater negative effect than estimated."[324] Their trepidations are persuasive, and emphasize many points about the Corps' recommendation to Congress.[325]

First, the Corps' current flood planning framework continues to discourage comprehensiveness.[326] The RRB presents an opportunity to capitalize on basin-wide flood retention projects, by exploiting economies of scale inherent in water retention systems.[327] However, the risk in investing in a system like this is often a major setback even for rural communities who realize its value:

> [D]ownstream communities seeking to mitigate the risk of flooding are not likely to choose or invest in agricultural conservation practices that manage water runoff over conventional approaches without hard numbers. What is needed [is] the quantification of the risk reduction achieved by these practices and the estimation of their costs relative to conventional flood mitigation approaches of dams, dikes, and impoundments.[328]

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323. LONG TERM FLOOD SOLUTIONS, *supra* note 140, at 5.

324. MNDAK UPSTREAM COALITION, http://www.mndakupstreamcoalition.com (last visited Oct. 24, 2014).

325. *See id.*

326. *See* NEW DIRECTIONS, *supra* note 17, at 55 ("There are no particular incentives for the Corps to emphasize basinwide planning, which results in a lack of comprehensiveness in the Corps' planning processes for type A projects.").

327. *See id.* ("[S]ubstantial economies of scale can be achieved through the use of multiple-purpose projects or reservoirs.").

328. Manela et al., *supra* note 297, at 53A (advocating for a "Waffle concept" design as an effective flood control strategy for the Red River Basin). The authors of this article describe the Waffle concept:

> Under watershed or basin-wide implementation of the Waffle concept, spring runoff is temporarily stored in the waffle-like topography of the landscape—low relief fields, depressions, and ditches—in the event of extreme flood risk. [A]fter the flood crest and the risk of

On the other hand, researchers have concluded that a system of water storage in the RRB, due to the amenability of its topography and infrastructure,[329] is both economically feasible and sustainable.[330] The Corps decided against that alternative—what became known as the "Waffle" concept—for reasons analogous to those detailed above:

> The "Waffle" concept was specifically explored as a water storage alternative . . . . On a basin-wide scale, the "Waffle" could produce flood stage reductions over a large area, and cumulative benefits to the basin. However, the "Waffle" would not substantially reduce flood risk to the Fargo-Moorhead area. In addition, the "Waffle" would be costly to implement and could likely not be implemented in a period of less than 10 years. Like other storage alternatives considered, the study team determined that the "Waffle" approach was relatively ineffective and inefficient. Other alternatives were found to be more effective at reducing flood risk in Fargo-Moorhead and more efficient in that they could be implemented for a lower cost. A flood storage system does provide some level of flood risk reduction, particularly for the smaller, more frequent flood events;

> downstream flooding have passed, the stored water would be released in a controlled manner.

Id. at 55A.

329. *See id.* at 54A (stating further that "[t]hese storage areas, supplemented by roads and drainage structures, could act as a network of channels and control structures to slowly release stored water into the Red River after the flood crest passes.").

330. *See id.* at 56A (relying on statistics of a major flood event in 1997, researchers determined that with a Waffle design, "doubling or tripling the amount of acreage to account for uncertainty would compare favorably to the roughly $2 to $4 billion in damages that could have been avoided. Conventional approaches would have cost far more even if a sufficient number of dikes, dams, and impoundments could have been constructed to store the necessary amount of water."). *Contra* Steve Shultz & Jay Leitch, *Landowner Compensation for Dispersed Temporary Water Storage to Mitigate Low Frequency Flooding* 1 (Universities Council on Water Res./Nat'l Inst. of Water Res. Annual Conference (Hazards in Water Resources), Working Paper No. 42, 2007), *available at* http://opensiuc.lib.siu.edu/cgi/viewcontent.cgi?article=1017&context=ucowrconfs_2007.

> The land rental costs associated with Waffle storage . . . do not include any program administration fees or implementation costs. The land rental costs are particularly large since the most optimal storage locations (from a hydrological standpoint) are where land values in the RRB are highest . . . . These resulting high land rental costs are shown to limit the economic feasibility of Waffle storage, particularly since more than $600 million has been spent on flood mitigation projects in the RRB since the large-scale flood event of 1997.

Id.

> however, the level of risk that remains for the larger, less frequent flood events is not a tolerable level of risk. Flood storage alternatives, including the "Waffle Project," do not effectively address the identified problem of flooding in the Metro area.[331]

Again, the amount of time it would take to implement a comprehensive project of this magnitude fell outside the Corps' planning parameters.[332] It is plausible, however, that had the Waffle design (or some other flood storage alternative) took effect at the start of the project's planning phase, that the upstream communities may have averted danger.[333]

Second, the Waffle design is just one of many systematic water retention strategies. The current paradigm is to move from the traditional approach of channel conveyance to restoring the natural flow of rivers,[334] and designing distributed flood retention systems to mimic the natural water-releasing function of pervious wetlands.[335] Wetland-like storage can be achieved through technical measures (large construction projects and other unnatural designs like the Waffle concept) and nontechnical measures, like the natural retention capacity of existing wetlands or prairie potholes.[336] Research suggests that the "natural capability of a catchment" in combination with nontechnical and technical flood reduction measures (such as the Waffle) is a comprehensive way to slow runoff and reduce peak flows during the flood season.[337]

Now consider that the Corps' decision on a diversion design was made, in large part, due to other storage design alternatives (not limited to the Waffle design) posing too much

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331. FINAL FEASIBILITY REPORT APPENDIX, *supra* note 271, at U-10.

332. *See id.*

333. *See* Complaint, *supra* note 229, at 13–14.

334. *See* INT'L JOINT COMM'N, *supra* note 138, at 21; *cf.* Hearne & Kritsky, *supra* note 93, at 910 (finding that local water management districts "that enter into more joint powers agreements are less concerned with traditional drainage and water movement activities.").

335. *See* Quentin B. Travis & Larry W. Mays, *Optimizing Retention Basin Networks*, 134 J. WATER RESOURCES PLANNING & MGMT. 432, 432 (2008).

336. *See* Christian Reinhardt et al., *Decentralised Water Retention Along the River Channels in a Mesoscale Catchment in South-Eastern Germany*, 36 PHYSICS & CHEMISTRY EARTH 309, 310 (2011).

337. Jens Bölscher et al., *Flash Flood Retention in Headwater Areas of the Natzchung River Using Small Retarding Basins*, *in* FLOODS: FROM RISK TO OPPORTUNITY 153, 154 (Ali Chavoshian et al. ed., 2013).

risk and uncertainty.[338] In 1995, the NRC identified risk assessment as a serious issue for the Corps under its *P&G*s, and indicated the same in 1999.[339] Lately the NRC has advised the Corps that it should continue to use the *P&Gs*, but to pay significant attention to its undervaluation of a project's environmental outputs.[340] The Council made its recommendation in terms of environmental restoration projects, asserting that "the Corps has not adequately emphasized the fact that restoration measures often yield traditional NED benefits (e.g., when wetland rehabilitation reduces flood peaks and thus provides NED flood damage reduction benefits)."[341] This draws an uncanny parallel to the Diversion project's absence of distributed retention, and the Corps' justification for dismissing that solution altogether.[342]

Third, cost sharing tends to promote single purpose projects.[343] The Diversion project is a good example. For instance, the permissible range of federal cost sharing with local sponsors is set at a minimum of thirty-five percent, not to exceed fifty percent.[344] In application this can create a sliding

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338. *See* FINAL FEASIBILITY REPORT APPENDIX, *supra* note 271, at U-10.

339. AMERICAN RIVER BASIN, *supra* note 35, at 211–12; NEW DIRECTIONS, *supra* note 17, at 8.

340. *See* COORDINATING COMM., U.S. ARMY CORPS OF ENG'RS, U.S. ARMY CORPS OF ENGINEERS WATER RESOURCES PLANNING: A NEW OPPORTUNITY FOR SERVICE 5–6 (2004).

341. *Id.* at 6.

342. *See* FINAL FEASIBILITY REPORT APPENDIX, *supra* note 271, at U-3.

343. *See* NEW DIRECTIONS, *supra* note 17, at 55. Lower-income communities typically struggle to find federal assistance for flood damage reduction projects. *Id.* In part, this is because lower income communities typically score low on the "flood plain inventory," a tool used to determine the values of various types of structures within communities of the affected flood plain. James J. Comiskey, *Overview of Flood Damages Prevented by U.S. Army Corps of Engineers Flood Control Reduction Program and Activities*, 130 J. CONTEMP. WATER RES. & EDUC. 13, 16 (2005). Metropolitan areas would have a clear advantage over smaller rural communities under this analysis.

344. *See* Water Resources Development Act, Pub. L. No. 104-303, § 202(a)(1), 110 Stat. 3658, 3673 (1996); *see also* Memorandum from Major General Russell L. Furhman, Director of Civil Works, for Commanders, Major Subordinate Commands, Policy Guidance Letter (PGL) No. 51, Flood Control Cost Sharing (July 18, 1997), *available at* http://planning.usace.army.mil/toolbox/library/PGL/pgl51.pdf ("In accordance with Section 202(a)(1) of WRDA 96, the minimum non-Federal cost share for structural flood control projects will be 35 percent. The maximum non-Federal cost share will continue to be 50 percent."); Fargo Chief's Report, *supra* note 240, at 4 (stating that the

scale of control over project selection because local funding authorities—those represented by the Diversion Authority—have the financial clout to essentially purchase desirable projects.[345] Conversely, rural communities have fewer "capabilities" in terms of money and less political power to construct legitimate flood reduction projects for themselves.[346] The Diversion Authority realized that working together was the only way it could coordinate the Diversion project and allocate fiscal responsibility.[347] The Diversion Authority enhanced its capabilities "by bringing together more people and a wider variety of stakeholders" to lobby the Corps for a single purpose diversion design.[348] Some of the small communities upstream are also expanding their capabilities, under the guise of the MnDak Upstream Coalition, plaintiff to the upstream litigation against the Corps.[349]

B. THE OXBOW, HICKSON, BAKKE RING LEVEE: DISPLACING FLOOD WATER AROUND COMMUNITY INTERESTS

Three impacted upstream communities, Oxbow, Hickson, and Bakke, North Dakota, (O-H-B) are among those affected by the staging area.[350] After the decision to include an upstream

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nonfederal sponsors of the Diversion project must "[p]rovide a minimum of 35 percent, but not to exceed 50 percent of total FCP flood risk management costs.").

345. *See* NEW DIRECTIONS, *supra* note 17, at 57–58; *cf.* Thomas C. Beierle, *The Quality of Stakeholder-Based Decisions*, 22 RISK ANALYSIS 739, 744 (2002) (describing instances where stakeholder decisions are generally cost effective and thus high-scoring under its empirical analysis; but in low-scoring cases, "one of the principal criticisms of stakeholder processes rang true: more expensive solutions were required to satisfy the interests of the parties involved. One example is the Corps stakeholder process to develop a disposal plan for waste from a water-treatment plant in Ohio's Three Rivers Watershed. Unresolved differences between urban residents, who would benefit from the proposed disposal plan, and rural citizens, who would bear the risks, led stakeholders to recommend a plan that was 'less impressive, less efficient, and more costly but also more politically acceptable' than what the Corps originally proposed").

346. *See* FREITAG ET AL., *supra* note 301.

347. *See id.* at 114.

348. *Id.*

349. *See* MNDAK UPSTREAM COALITION, *supra* note 324.

350. Erik Burgess, *Minnesota Questions Legality of Building Levees Around Oxbow, Hickson, Bakke*, INFORUM (Jan. 20, 2014, 9:38 PM), http://www.inforum.com/content/minnesota-questions-legality-building-levees

staging area came down, the Mayor of Oxbow told project developers that his citizens "deserve the same type of protection [that project designers] are building for Fargo."[351] Their protests are fairly straightforward. The Corps' solution for Fargo-Moorhead should not dump the issue on nearby communities without protecting them too.[352] The proposal is to use a "ring levee" concept that would "be between 9 and 12 feet high" around the O-H-B communities.[353] Opinions are mixed, but skeptics are concerned that the O-H-B levee allows "for periodic staging of water, for an indeterminate amount of time."[354]

Financing the O-H-B levee and the project's tentative authorization is also hotly contested. Minnesota determined it would issue an EIS for the Diversion project's new design changes.[355] In a letter to project officials, state officials from Minnesota found that the project's construction could be considered "prejudicial" under Minnesota's Environmental Policy Act:[356]

> If . . . the O-H-B Levee is a segment of the larger Diversion Project (e.g., a phased or connection action), the commencement of construction prior to completion of the state final EIS and adequacy determination would be a violation of Minnesota law. We would appreciate understanding the Diversion Authority's position and reasoning on this issue. Specifically, is the O-H-B Levee a stand-alone project or is it a part of the larger Diversion Project, and what

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-around-oxbow-hickson-bakke.

351. *News: Ring Levee Concept Outline for Landowners*, F-M AREA DIVERSION, http://fmdiversion.com/newsdetails.php?ID=72 (last visited Oct. 10, 2014).

352. *See id.*

353. *Id.*

354. Marcus Larson, *Response to Oxbow Mayor Jim Nyhof*, FMDAM.ORG (Jan. 27, 2014), http://fmdam.org/response-to-oxbow-mayor-jim-nyhof/.

355. *See* Letter from Jill Townley, EIS Project Manager, Minn. Dep't Natural Res., to Darrell Vanyo, Chair, Fargo-Moorhead Diversion Bd. of Auth. (Jan. 14, 2014), *available at* http://fmdam.org/wp-content/uploads/2014/01/2014-01-14-MN-DNR-letter-to-Darell-Vanyo.pdf.

356. *Id.* ("Prejudicial actions are those that limit alternatives or mitigative measures or predetermine subsequent development. In other words, actions that makes one option, including the option of not building the project, more or less likely to be chosen."). *See* MINN. R. 4410.3100 (2009) ("An action prejudices the ultimate decision on a project if it tends to determine subsequent development or to limit alternatives or mitigative measures.").

> is the reasoning the Diversion Authority has applied in reaching its determination?[357]

Supporters of the Diversion project argue that the O-H-B levee is independent of the Diversion project,[358] thus legal under Minnesota law, although original project designs, prior to discovering negative hydrological impacts downstream, did not include flood protection measures for the O-H-B communities.[359]

Raising additional skepticism among critics is a specific agreement entered into between the Diversion Authority and the city of Oxbow to construct the ring levee project,[360] which provided that "cost of the construction of the levee will be a Metro Flood Project cost."[361] The O-H-B levee has the appearance of a consolation prize for the upstream communities. Only after the Diversion project incorporated upstream storage, which would inundate the O-H-B communities, did project developers discuss additional protective measures specifically for those communities.[362]

It is doubtful that O-H-B citizens would ever renounce the protective measure, considering the alternatives—uninhabitable floodplain, or to independently construct a costly flood protection project on their own. The Diversion Authority's agreement with one of the O-H-B communities describes the

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357. Letter from Jill Townley to Darrell Vanyo, *supra* note 355.

358. Burgess, *supra* note 350.

359. Archi Ingersoll, *Mark Dayton Wants Fargo-Moorhead Flood Diversion Work Halted*, PIONEER PRESS, http://www.twincities.com/localnews/ci_26407867/mark-dayton-wants-all-work-fargo-moorhead-flood (last updated Aug. 26, 2014) ("Minnesota Gov. Mark Dayton is urging the federal government to stop its work on Fargo-Moorhead's flood diversion plan, including any approval of funding, until Minnesota can complete an environmental review of the $1.8 billion project.").

360. CITY OF OXBOW, N.D & METRO FLOOD DIVERSION BD. OF AUTHORITY, MEMORANDUM OF UNDERSTANDING 3 (2013), *available at* http://www.fmdiversion.com/pdf/FC%20Packets/2013/06-12-13_Oxbow_MOU_Item%20No.%205.pdf.

361. *Id.* at 9 ("The Diversion Authority agrees that the cost of the construction of the levee will be a Metro Flood Project cost. The Diversion Authority intends to use a combination of funding provided sales tax revenues of the city of Fargo and of the county of Cass and by appropriated funds of the state of North Dakota to finance the obligations described in this memorandum of understanding.").

362. *See id.*

benefits from the levee in a fairly circuitous way.[363] The agreement between Oxbow and the Diversion Authority states that "sales tax revenues of the city of Fargo and the County of Cass [which includes the O-H-B communities] will be used as the principal source of funds to repay bonds sold to finance the local share of the Metro Flood project costs."[364] To do so will involve a "special improvement district" to "include all lands that receive a benefit from the Metro Flood Project."[365] A draft of the agreement stipulates the party's expectations:

> [P]roperty protected by the O-H-B levee will be included in said assessment district; however, the Diversion Authority intends that such property owners be treated as if no benefit is received from the Metro Flood Project except to the extent that such property benefits from an enhancement of the flood protection (or, rather, flood risk reduction) provided by the O-H-B Levee, such as enhancement from 100-year to 500-year flood risk reduction.[366]

Compared to a later draft:

> [P]roperty protected by the O-H-B levee will be included in said assessment district; however, the Diversion Authority intends that such property owners be treated as if no benefit is received from the Metro Flood Project. In the event that any property protected by the O-H-B levee is assessed for construction of the Metro Flood Project, the Diversion Authority agrees to pay all such assessments.[367]

In perhaps a way to shield itself from the perception that the O-H-B levee is not a component of the Diversion project, the draft agreement above stated the project's benefits as enhanced "flood protection" against an infrequent, yet potentially devastating flood (from a 100-year to 500-year flood risk reduction).[368] In reality, the levee is not protecting the communities from a devastating flood; it is protecting them from the storage area.[369] The O-H-B levee benefits the

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363. CITY OF OXBOW, N.D & METRO FLOOD DIVERSION BD. OF AUTHORITY, DRAFT MEMORANDUM OF UNDERSTANDING 4 (2013), *available at* http://www.oxbownd.com/uploads/MOU--City_of_Oxbow_non_red_lined.pdf (presenting a draft version of the final Memorandum of Understanding).

364. *Id.*

365. *Id.* at 5.

366. *Id.* (quoting Section 2.6.1.).

367. CITY OF OXBOW, N.D & METRO FLOOD DIVERSION BD. OF AUTHORITY, *supra* note 360, at 9 (quoting Section 2.8.1.).

368. CITY OF OXBOW, N.D & METRO FLOOD DIVERSION BD. OF AUTHORITY, *supra* note 363, at 5.

369. *See id.*

communities when the upstream staging area is engaged.[370] Future flood protection is an interesting way to characterize how the O-H-B levee benefits the communities[371]—considering that the levee only benefits the communities after the upstream storage area is activated—and that the goal of the storage area is to protect Fargo-Moorhead and downstream interests.[372]

No matter how the Counties' litigation with the Corps is resolved, or how the MN DNR interprets project developers' motivation to construct the levee, tension between the Diversion project and rural interests are likely to grow. The Diversion Authority's financial contribution to protect the O-H-B communities was an exceptional outcome, considering that other affected communities in the RRB did not also receive the same protection.[373]

The Diversion project's follies indicate that comprehensive flood solutions are still a fractured enterprise. It is plausible that earlier formulation of a distributed retention design could have helped the communities decide where to displace the water, rather than be displaced by it. Some dissenters are likely still holding onto that possibility. In their search for assistance, some rural community interests are relying on other federal sources for funding, realizing that federal dollars are not likely to come from the Diversion project.

C. FUNDING COMPREHENSIVE BASIN-WIDE RETENTION

Flood risk reduction in the RRB has come in the form of other federal support. Currently, small watershed flood reduction projects are funded by the Natural Resource

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370. *See id.*

371. Burgess, *supra* note 350 ("A spokesman for the MnDak Upstream Coalition stated that, '[t]he Diversion Authority is trying to claim, 'Well, this gives them 500-year flood protection.' Well, why would they be interested in giving Oxbow 500-year flood protection? And Comstock?' . . . 'It's very disingenuous for them to say this is a separate component.'").

372. Letter from Jill Townley to Darrell Vanyo, *supra* note 355, at 2 ("According to the MOU, the O-H-B Levee is necessitated because the Oxbow community will be 'impacted by the periodic staging of water upstream of the physical structure' of the Diversion Project and the O-H-B Levee is designed to mitigate the additional flooding within the Oxbow community associated with the Diversion Project.").

373. *Id.*

Conservation Service (NRCS),[374] an agency of the United States Department of Agriculture (USDA).[375] The NRCS combines its conservation efforts with rural flood reduction efforts,[376] to promote both flood prevention[377] and watershed protection.[378] Its source of funding comes in the form of the Farm Bill,[379] but for the last decade the Farm Bill has been a constrained source of funding for the high demand of rural flood reduction.[380]

Comprehensive flood retention presents an anomalous situation. The Corps' framework prevents it from widening the scope of its flood reduction efforts to include basin-wide retention.[381] On the other hand, the Farm Bill has typically provided federal funds for basin-wide flood reduction efforts.[382] The 2014 Farm Bill would include nearly $500 million toward rural water management initiatives, which could potentially be

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374. In 1935, Congress pronounced that "the wastage of soil and moisture resources on farm, grazing, and forest lands . . . is a menace to the national welfare." Soil Conservation Act of 1935, Pub. L. No. 74-46, 49 Stat. 163. This Act established the first Soil Conservation Service, later to become the Natural Resource Conservation Service or NRCS. *Id.*

375. Natural Resources Conservation Service, 7 C.F.R. § 610 (2009); *State Technical Committees*, NAT. RESOURCES CONSERVATION SERVICE, http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/technical/stc/ (last visited Nov. 15, 2014).

376. *State Technical Committees*, *supra* note 375.

377. *See* Flood Control Act of 1944, Pub. L. No. 78-534, 58 Stat. 887.

378. *See* Watershed Protection and Flood Prevention Act of 1954, Pub. L. No. 83-566, 68 Stat. 666.

379. *See* Food, Conservation, and Energy Act of 2008, Pub. L. No. 110-234, 122 Stat. 923.

380. *See* NATURAL RES. CONSERVATION SERV., MINNESOTA ACCOMPLISHMENTS REPORT 10 (2012), *available at* https://prod.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_023094.pdf. *But see Hoeven: Farm Bill Signed into Law*, U.S. SENATOR JOHN HOEVEN FOR N.D. (Feb. 7, 2014), http://www.hoeven.senate.gov/public/index.cfm/news-releases?ID=beddc626-b8f8-4b22-88f8-c1aee2a613dd ("The farm bill includes rural water management and flood protection. It includes $500 million for the Regional Conservation Partnership Program (RCPP) that can be used in part to support flood protection in the Red River Valley, as well as other conservation, rural development and energy programs.").

381. *See, e.g.*, CARTER & STERN, *supra* note 31, at 5 (initiating a Corps Project may require congressional action).

382. *See Hoeven: Farm Bill Signed into Law*, *supra* note 380. Congress has recently reauthorized the Farm Bill, giving more hope to comprehensive flood protection in the RRB. *See id.*

used "in part" to create RRB retention projects.[383] Before the Farm Bill's passage the RRBC noted in its 2013 Annual Report that the RRRA would work to secure funds through the NRCS, but the RRBC identified a need for $1.5 billion to achieve its Long Term Flood Solutions Goal.[384] This means rural flood fighters with few funding options in lieu of the Farm Bill will have to work vigorously to find additional funding. But with minimal federal funding available, it is a substantial hardship for small rural communities to raise the funds necessary to implement local flood retention projects of their own.[385] So considering that federal funding for rural retention projects is lacking, and that the planning limitations of Corps-backed projects excludes comprehensive flood reduction, rural flood communities seem to be at an impasse.

Since the final decision on the Diversion project was made, the Corps has made efforts to collaborate with various RRB stakeholders to address flood-related issues.[386] These include ongoing studies that look at flood storage in the RRB,[387] with the Corps serving more or less in an advisory role.[388] Particularly, joint powers organizations in the RRB are working with the Corps to develop water storage projects.[389] The RRRA, the Corps, and the NRCS have entered into a Memorandum of Understanding to promote "early coordination

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383. *See Hoeven Working to Advance Permanent Flood Protection for Red River Valley*, U.S. SENATOR JOHN HOEVEN FOR N.D. (Feb. 10, 2014), http://www.hoeven.senate.gov/public/index.cfm/news-releases?ContentRecord_id=b2e6bb79-a38f-400b-ab3e-2ee76d59c537.

384. *See* RED RIVER BASIN COMM'N, 2013 ANNUAL REPORT 14 (2013), *available at* http://www.redriverbasincommission.org/Annual_Report_2013.pdf.

385. *See Grafton, N.D., Seeks Cheaper Flood Protection*, JAMESTOWN SUN (Oct. 22, 2013, 8:03 AM), http://www.jamestownsun.com/content/grafton-nd-seeks-cheaper-flood-protection-federal-funds-uncertain-city-opts-scaled-back.

386. *See* WILLIAMS & BROWN, *supra* note 75, at 1; *see also* NEW DIRECTIONS, *supra* note 17, at 7 (suggesting that the Corps should make informed adjustments to the final project to reflect changes in environmental and social conditions).

387. *See* FINAL FEASIBILITY REPORT APPENDIX, *supra* note 271, at U-4 (noting the Red River Basin-wide Watershed Study and the Fargo-Moorhead and Upstream Area feasibility study).

388. *See Board Meeting*, RED RIVER WATERSHED MGMT. BOARD 3 (Sept. 18, 2012), http://www.rrwmb.org/userfiles/file/Sep2012%20min.pdf.

389. *See id.*

and participation . . . on proposed non-federal and federal flood water retention structures and projects" so that the RRRA could "significantly streamline the [Corps'] permitting process."[390] However, even under the Corps' facilitation, project studies have been constrained by other funding priorities.[391] The Corps and RRB stakeholders are told to rely on prior reconnaissance studies for collecting information on present retention strategies,[392] with the possibility of "[a]dditional study efforts [being] considered as stakeholders express interest in them and as funding allows."[393]

It is likely that federal funding of comprehensive flood solutions will continue to be an issue for rural RRB stakeholders. Hopeful for the future, RRRA chairmen say that Farm Bill funding, "leveraged with state, regional, and local monies, certainly will accelerate the ability to move forward with projects now and in the near future."[394] But even among the vast array of flood fighting strategies, RRB citizens are fixated on a Diversion project, even though, presently, the RRBC is "linking" with the Diversion Authority on retention projects that might specifically benefit the LPP.[395] The Diversion Authority's collaboration with the RRBC for additional retention projects makes the Corps' omission of basin-wide retention, as part of the greater Diversion project, even harder to swallow.

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390. *Id.* at 3.

391. *See, e.g.*, U.S. ARMY CORPS OF ENG'RS, ST. PAUL DIST., RED RIVER OF THE NORTH BASIN: RECONNAISSANCE STUDY, MINNESOTA/NORTH DAKOTA/SOUTH DAKOTA 63 (2014), *available at* http://www.mvp.usace.army.mil/Portals/57/docs/Civil%20Works/Information%20Papers/March%2014/dSA%20RRN%20Basin%20Recon-3-14.pdf ("Due to other funding priorities, no reconnaissance studies are underway at this time.").

392. *Id.* ("Reconnaissance studies are 100 percent federally-funded and are limited in cost to $100,000 each. Therefore, they must make use of available, existing information.").

393. *Id.*

394. John Finney & Gary Thompson, *LETTER: Retention's Role in Flood Protection Grows*, GRAND FORKS HERALD (Mar. 15, 2014, 4:30 AM), http://www.grandforksherald.com/content/letter-retentions-role-flood-protection-grows.

395. RED RIVER BASIN COMM'N, *supra* note 384, at 14.

VII. CENTRALIZING THE CORPS' ACTIVITY IN COMPLEX RIVER BASIN SYSTEMS

In a 2003 article, Professor Daniel P. Loucks posed the question, "[h]ow can the federal government provide expertise, vision and leadership, where needed, without violating states rights and without diminishing the planning and management initiatives that river basin commissions, local non-governmental organizations and citizen groups, may have assumed?"[396] Unfortunately, interstate river basin management has many moving parts, so the answer will likely depend on the situation. Loucks answered his question with many alternatives, but his summary of federal participation is illustrative:

> [I]f mistakes are to be avoided by not taking into account the suite of needs and objectives of the entire basin when making local decisions, some entity needs to be responsible for providing this integrated perspective. Clearly federal leadership and coordination are needed for integrated planning and management of multi-state river basins. Even if the management of water in multi-state river basins is overseen by river basin commissions, such commissions cannot function adequately without federal participation and the authority to coordinate the multitude of federal, state and local agencies typically involved in water management. The alternative is management by lawsuits . . . .[397]

For the RRB, the Corps might find itself better suited to serve the RRB in an advisory capacity, serving local communities via small stakeholder groups. North Dakota and Minnesota utilize an "equivalent entity" known as the Red River Joint Water Resource District (RRJWRD), and the Red River Basin Flood Damage Reduction Work Group, respectively.[398] These groups are focused on individual flood reduction projects throughout their jurisdiction, mainly concerning rural project stakeholders.[399] These groups have

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396. Loucks, *supra* note 5, at 22.

397. *Id.* at 27.

398. *Board Meeting*, *supra* note 388, at 3.

399. *See* RED RIVER JOINT WATER RES. DIST., 2007–2009 WATER MANAGEMENT STRATEGY 3 (n.d.), *available at* http://www.redriverjointwrd.org/uploads/4/0/1/1/4011927/rrjwrdstrategy.pdf (defining its strategy as "[p]rovid[ing] an inventory of specific actions (projects, programs, and studies) that will help the RRJWD meet its water management and development goals."). *See generally* RED RIVER WATERSHED MGMT. BD., PROJECT CATALOG: MINNESOTA RED RIVER BASIN FLOOD DAMAGE REDUCTION PROJECTS (2008),

survived under the philosophy that consolidating substate watershed efforts helps to strengthen comprehensive water management.[400] With this in mind, the Corps' could act as a "service provider to local, state, and federal agencies,"[401] depending on the geographical scope of the project. Undoubtedly, the Corps will have to continue giving local project sponsors flexibility to choose projects that are "worth the costs" to them,[402] but the Corps should also keep in mind what those costs mean to non-project stakeholders. If the Corps facilitated discussion between various stakeholders and government entities, such as the RRWMB and the RRJWRD, and provided technical expertise that would complement (if not advise) the groups' work,[403] a project's value could be "relative to each project"—instead of a sole reliance on NED.[404]

Currently, the Corps is taking an approach that tends to balance its national objective and the objectives of project stakeholders.[405] The process in which the Corps selected the LPP is a good example (although perhaps too heavy on the project stakeholder side). On one hand, leaving too many projects to too many substate entities, for instance watershed districts, might create "cumulative environmental effects"[406] that require federal usurpation. This situation ultimately led to the 1998 Mediation agreement between the MN DNR, the Corps, and RRWMB after the DNR initiated a joint-EIS with the Corps.[407] On the other hand, taking too much control of projects might hinder the "shared vision" observed by many collaborative basin groups.[408]

Professor Loucks advises that a federal agency that cannot "coordinate the multitude of federal, state and local agencies

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available at http://www.rrwmb.org/files/ ProjectCatalog2008.pdf (listing several projects in rural areas).

400. *About the RRJWRD*, RED RIVER JOINT WATER RES. DIST., http://www.redriverjointwrd.org/about-the-rrjwrd.html (last visited Oct. 24, 2014).

401. NEW DIRECTIONS, *supra* note 17, at 70.

402. *Id.*

403. *See id.*

404. *Id.*

405. *See id.*

406. MEDIATION AGREEMENT, *supra* note 85, at 2.

407. *Id.* at 2–3.

408. NEW DIRECTIONS, *supra* note 17, at 70.

typically involved in water management" will discover how a "lawsuit by any single stakeholder interest group can stop an entire basin-wide effort."[409] The upstream litigation is an impeccable example of Loucks's point, and should be heeded by the Corps.

Can individual projects administered by watershed districts eventually lead to comprehensive water retention? The answer is "it depends." Watershed districts are at the ground level and work very closely with managing local water resources. However, comprehensive flood protection will likely lose its efficiency unless there is truly coordination. That is, there must be a legitimate vision that "managing the whole is better than managing or correcting the sum of its parts."[410] While Corps' engineers continue designing the Diversion project, the Corps may decide that incorporating retention strategies might advance broader RRB policy objectives: comprehensive retention, a diversion, increased stakeholder participation, and a one-shot opportunity for basin-wide funding.[411] But until interstate watershed management is standardized, this idea might be impractical.[412] It is likely that comprehensive retention projects will be left to groups like the RRRA and its equivalents, and the Corps as the RRB's federal shepherd.

VIII. CONCLUSION

Perhaps if the Corps had adjusted the way it participated in RRB flood protection early on, by assisting watershed districts in planning for the Diversion project, in addition to a diversion design, a comprehensive water retention system could have been constructed. The project scope might have encompassed a larger geographic area, potentially reducing community losses associated with the upstream staging area. Furthermore, early project coordination with various RRB water institutions might have brought about basin-wide flood retention planning, with derivative benefits to the communities

409. Loucks, *supra* note 5, at 27.
410. DEBARRY, *supra* note 20, at 4.
411. *See id.*
412. *See* Goldfarb, *supra* note 90, at 494.

protected by the Diversion project. At any rate, RRB citizens can only look ahead.

The main issue with floodwater is that no one wants it to be their problem. But at the same time, it has to be put somewhere. An argument can be made for the farmer who drains water onto the property of another not using his land for agriculture, so that the farmer may begin planting his crop sooner. However, adjacent farmers with this line of reasoning create a labyrinth of water management problems. The Diversion project's development experienced similar woes. When the Corps changed the original project design so that it would reduce downstream impacts, it was decided the loss would fall on upstream communities. If there is one thing to be learned from the RRB case study, it is that near-sighted flood planning rarely pays off. The Diversion project will be viewed as a monumental structure in the history of the RRB, protecting Fargo-Moorhead citizens and surrounding communities for many years to come. But will it also be remembered as a missed opportunity for comprehensive flood planning? The efforts of the RRRA and various substate watershed institutions will be a deciding factor.