The Buffalo River Restoration Project and the Path to Success in Planning Multi-Level Environmental Remediation Efforts

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ABSTRACT

The Buffalo River Restoration Project is a comprehensive, multi-entity pollution cleanup effort in downtown Buffalo, New York and on Lake Erie's Harbor. The Great Lakes Restoration Initiative and the Great Lakes Legacy Act were established in the last quarter-century to aid in reversing much of the industrial degradation that fills the history of Great Lakes (or now some "Rust Belt") cities. For the Buffalo River, this means removal of contaminated sediment that has covered the riverbed and floor of the harbor for more than a century and a rejuvenation of aquatic and plant life in the impact area. Federal programs like GLRI enable federal agencies, New York State, and non-profit organizations to work together in cleaning up polluted locations around the United States' side of the Great Lakes pursuant to an agreement with Canada. This environmental remediation should be inspiring, assuming it results in the restoration of a natural, vibrant habitat in and around the aquatic ecosystem on Erie Harbor. The greatest measurable success the BRRP could achieve would be the eventual delisting of the Buffalo River area from USEPA's Great Lakes Area of Concern. Environmental advocates should hope that the Restoration Project, as its utility and health as a natural ecosystem restore itself post-pollution cleanup. In order for the BRRP to be a success story in the narrative of all of North American environmental remediation work, efforts of these programs must carry on through the 21st century, regardless of political obstacles threatening the efficacy of governmental environmental stewardship.

The Buffalo River Restoration Project and the Path to Success in Planning Multi-Level Environmental Remediation Efforts

The Buffalo River Restoration Project (hereinafter, "BRRP") is a comprehensive effort currently underway, cleaning up about six miles of the waterway that runs into Erie Harbor. Buffalo River has been on the United States Environmental Protection Agency's ("USEPA") list of Great Lakes Areas of Concern ("AOC") for more than two decades as an eventual target for environmental remediation. Buffalo's AOC went through very little in the way remediation efforts for more than the first fifteen years of its AOC status. However, this restoration project was borne from interest in multiple parties around 2005 and set into movement about five years thereafter. The multi-phase effort is being spearheaded under the auspices of the USEPA, with significant participation from the U.S. Army Corps of Engineers ("USACE"), the New York State Department of Environmental Conservation ("NYSDEC"), local non-profit Buffalo Niagara Riverkeeper ("Riverkeeper"), and corporations, chiefly Honeywell. While popular notion holds that the involvement of too many actors may lead to bureaucratic delays, the BRRP began in a timely fashion and has thus far gone according to plan. At least, by the metric of moving into implementation, the past decade's progress of the BRRP is about as functional as its participants could hope. So for the BRRP, the proverb about "too many chefs" is a myth. Its fortes are actually all of the ingredients like participation from the most authoritative entities, the most passionate and motivated local groups, and responsible cost-sharing.

Calling the BRRP's work a success is premature as 2011 and the Project's first phase end, even if witnessing some work happening in the harbor feels promising. However, that "success" thus far never could have come together if not for thorough preparation and money. Financial contribution to the comprehensive project is as diverse as its range of participants.

And the future of environmental cleanups is now endangered by federal budget cuts to the likes of the Environmental Protect Agency. In a couple of years, downtown Buffalo might like a vibrant, rejuvenated ecosystem, or at least that would be the hopes of environmental advocates. Buffalo River restoration would deserve to be seen as a forerunner for other Great Lakes locales to follow. But unless federal and state governments can back their own participation in an uncertain future, in terms of a stable budget and the environment, it might be a tale of a bygone era. This is why, not so much for the sake of the Buffalo River but the bigger picture, the BRRP needs to serve as an impressive reminder that a healthy environment must remain a priority in America.

The goal of this paper is to consider: the state of the Buffalo River in the scope of Great Lakes environmental legislation, what (or who) the Buffalo River Restoration Project is, how the project aims to rectify some problems, the nature of all of the participants in the BRRP, why it's achieved as much as it has, and what the future holds for similar environmental remediation efforts.

1. The Buffalo River

Most historians consider the source of the name of the city of Buffalo itself (though tracing of the etymology remains unresolved).[1] Buffalo and its people should consider the welfare and serviceability of the Buffalo River to be inextricable from the future status of the city. The Great Lakes were officially recognized as National Treasures by the U.S. and Canada in 2004.[2] The

[1] *See* Frederick Houghton, *The Name Buffalo*. 24 BUFFALO HISTORICAL SOCIETY PUBLICATIONS 63 (1920) at 69, which notes that bison probably never appeared in the area, nobody has ever traced the name back, and a possible explanation would be that it was the home of an individual American Indian whose name was Buffalo or some translation thereof.
[2] Exec. Order No. 13,340, 69 C.F.R. 98 (2004).

Buffalo River has been something of an anthropocentric resource for at least a few centuries before.[3]

In the early 20th century, New York State began an overhaul of the Buffalo River and a similar deepening of the Niagara River to its north.[4] A tremendous effort approved by the state's voters via a referendum on the ballot, this project cost over a hundred-million dollars in 1908.[5] The deepening of the Buffalo River was heralded by one conservationist for developing "the man-made river reaching to the sea."[6] He contended that "no other city in the United States will be able to compete with Buffalo as a manufacturing centre."[7] The Buffalo-Niagara effort was compared as less famous, but more important (for New Yorkers) than the contemporaneous Panama Canal construction was to Americans.[8] Its magnificence was enjoyed, yet not so revered by more industrial-minded users. From the early days of settlement, the Buffalo River and its tributaries were a conveniently-located waste disposal system for industry.[9] Steel was a major industry in Great Lakes cities through the early 20th century, and factories on Erie Harbor

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[3] *See* Great Lakes National Program Office, *Buffalo River Ecological Restoration Master Plan Final ERMP Section 1-3: Introduction, Existing Conditions, Development Process,* Environmental Protection Agency, July 2011, *available at* http://www.buffaloriverermp.ene.com/Documents/Download/7b5d64cf-b7c9-4115-babc-63e8bf4a2d1e?name=Section%201-3%20Introduction%2C%20Existing%20Conditions%2C%20Development%20Process.pdf at 1-1.

[4] James Oliver Curwood, *THE GREAT LAKES: THE VESSELS THAT PLOUGH THEM, THEIR OWNERS, THEIR SAILORS, AND THEIR CARGOES: TOGETHER WITH A BRIEF HISTORY OF OUR INLAND SEAS* 130 (1st ed. 1909).

[5] *Id.*

[6] *Id.*

[7] *Id*. at 131.

[8] *Id.*

[9] *Buffalo River Ecological Restoration Master Plan, supra* note 3, at 1-1.

released heavy metal particles into the air that also settled in the river.[10] Much of the earliest and heaviest particulate is what remains at the bottom of the Buffalo River channel today. [11]

The dynamic of Buffalo's relevance, during the century between then and now, has shifted with the nature of the American economy. Buffalo's population similarly dissipated, at a lower level in the early 21st century than during the early 20th century.[12] Perhaps in this era of America's economic reckoning and reconstruction, it is still too late to return to yesteryear; the nature of the national and regional economies have shifted. Nonetheless, those who appreciate the history of the Buffalo River should agree that the Buffalo-Niagara waterways have in a way earned stewardship from its citizens, a concept as old as the Original Testament of the Bible.[13] Beyond that, that the health and functionality of Buffalo's environmental landscape is also vital to injecting positivity into the city's aura.[14]

2. Great Lakes Areas of Concern

a. Establishing the issue

The United States and Canada signed The Great Lakes Water Quality Agreement ("GLWQA") in 1978.[15] The commitment was made between the two nations to reverse degradation of their shared ecosystem, and a protocol update in 1987 gave some direction to the

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[10] *Id.* at 1-2.
[11] *See id.*
[12] *See generally* Statistical Abstract of the United States, *Population of the Largest 75 Cities: 1900 to 200,* U.S. CENSUS BUREAU, *available at* http://www.census.gov/statab/hist/HS-07.pdf, ranking the city of Buffalo as the 8th-most populous city in 1900, decreasing by about one-sixth and becoming the 58th-most populous city by 2000 (not accounting for suburban sprawl and growth of metropolitan areas).
[13] *E.g.* Ezekiel 33:18-19; Ezra 9:10-11 for two of many verses on treating the land in kind in the Hebrew Bible.
[14] *See* Kenneth E. Boulding, *The Economics of the Coming Spaceship Earth*, RESOURCES FOR THE FUTURE 3 (1966).
[15] *See* Michael J. Donohue, *The Case for Good Government: Why a Comprehensive Review of the Great Lakes Water Quality Agreement is Needed*, 2 TOL. J. GREAT LAKES' L. SCI. & POL'Y 1 (1999) at 1.

agreement.[16] Shortly thereafter, the USEPA began to develop a list of aquatic ecosystems along the Great Lake Basin where any of fourteen enumerated "beneficial uses" of a body of water had been impaired by some form of "physical, chemical or biological" degradation.[17] In order to be classified as an AOC, an area would have to face at least one beneficial use impairment ("BUI"). Targeted sites with enough degradation would get a Remedial Action Plan ("RAP"), a comprehensive consideration for remediation and monitoring of the hazards.[18] Some two dozen rivers, bays, lakes, and estuaries on the U.S. side were named AOCs by the end of the 1980s (currently, thirty AOCs in the US or straddling the border are listed).[19] In 1989, the Buffalo River was found to have five (currently six) uses impaired, and another three to five uses possibly or likely impaired.[20] Subsequently, 6.2 miles of the waterway was classified as an AOC impact area. Periodic RAP statements were issued by the NYSDEC through the 1990s, raising interest and leading into 2000s-era greater contribution from other parties.[21]

b. The Buffalo River as an Area of Concern

Buffalo is a long-standing industrial town and was once a premier port on the eastern and U.S. end of the Great Lakes. So it is unsurprising that the river connecting downtown Buffalo

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[16] *Id.*
[17] John D. Hall, Kristin O'Connor, and Joanna Rainieri. *Progress toward delisting a Great Lakes Area of Concern: the role of integrated research and monitoring in the Hamilton Harbour Remedial Action Plan*. 113 ENVTL. MONITORING AND ASSESSMENT 227 (2006) at 230.
[18] *See* Great Lakes Navigation, *Remedial Action Plan Section 401*, U.S. Army Corps of Engineers Great Lakes and Ohio River Division, *available at* http://www.lrd.usace.army.mil/navigation/glnavigation/remedialsection401 (last visited Dec. 3, 2011).
[19] Great Lakes National Program Office, *Great Lakes Area of Concerns* (available on United States Environmental Protection Agency's website) *at* http://www.epa.gov/glnpo/aoc/ (last visited Nov. 17, 2011).
[20] *See* BUFFALO RIVER REMEDIAL ACTION PLAN 2005 STATUS REPORT, Buffalo Niagara Riverkeeper (2005) at 9.
[21] *See generally* BUFFALO RIVER REMEDIAL ACTION PLAN 2002 STATUS REPORT, New York State Department of Environmental Conservation (2002); *cf. generally* BUFFALO RIVER REMEDIAL ACTION PLAN 2008 STATUS REPORT, Buffalo Niagara Riverkeeper (2008).

and Erie Harbor has been heavily degraded through innumerable commercial uses over the course of more than a century.[22]

The Buffalo River RAP noted a variety of impairments to the area.[23] The RAP lists the loss of fish and wildlife habitats in the impact area, a degradation of aesthetics, degradation to benthic feeders on the sea floor, restrictions on consumption from the fisheries due to deformities and hazards, and restrictions on dredging.[24] Possible or likely impairments include some level of eutrophication, degradation of plankton, and deformities or a suffering in quality of other wildlife populations.[25]

Industrial pollutants found in the contaminated include polychlorinated biphenyls (PCB) and heavy metals like mercury and lead.[26] PCB was popular during the early- to mid-20th century, until its production was banned by Congress in 1979.[27] Heavy metals are typically first airborne in exhaust and quickly settle, sinking to the bottom if they land in a body of water.[28] They can be common to many industries from steel refining to petrochemicals, especially lead

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[22] *See generally* Daniel E. Everett, *et al.* BUFFALO RIVER DREDGING DEMONSTRATION, U.S. Army Corps of Engineers (1996), noting the current impact area as a "recipient of pollution" since the city's industrial development of the city in the 19th century.
[23] *See generally* 2005 STATUS REPORT, *supra* note 20.
[24] *See* BUFFALO RIVER AREA OF CONCERN BENEFICIAL USE IMPAIRMENTS, Environmental Protection Agency (2005) *available at* http://epa.gov/glnpo/aoc/buffalo.html#Beneficial_.
[25] *See id.*
[26] *Feasibility Study for the Buffalo River, supra,* note 26, at ES-7; *see also* Rebekah Williams, *Riverkeeper Awarded $600K for Buffalo River Restoration*, GROWWNY (Sep. 23, 2010).
[27] *See generally* Nancy J. Lowry, *Polychlorinated Biphenyl Compliance Issues in the 21ST Century: Poorly Recognized and Potentially Devastating*, SAVANNAH RIVER NATIONAL LAB (2007).
[28] *See generally* Clyde W. Sweet, Aaron Weiss, and Stephen J. Vermette, *Atmospheric Deposition of Trace Metals at Three Sites Near the Great Lakes*, 103 WATER, AIR, & SOIL POLLUTION 423 (1997).

prior to its discontinuation as a fuel and paint additive.[29] PCB is named as the primary cause of several BUIs.[30]

Eutrophication, a condition where dissolved oxygen in the water is decreased, is typically caused by nitrates and phosphates.[31] In the case of the Buffalo River, a full state of eutrophication never bloomed, but sewage-related runoff was the main contributor to this type of elevated nutrient levels.[32] In large part, though, nutrient overload will have an impact throughout the water column and in the aquatic ecosystem, and is less likely to be mitigated by dredging than the target: contaminated sediment removal.[33]

3. What is the Buffalo River Restoration Project?

a. Phases of action

In late 2010, a restoration partnership released their plan for remediating the impact area. Phase 1 of dredging is the USACE Sediment Removal process, which began in the summer of 2011.[34] The USACE traditionally dredged a relatively small amount from the Buffalo River every few years as regular maintenance measures to keep the depth of the navigation channel predictable.[35] The 2011 Strategic Navigational Dredging was estimated to remove about six times the volume of sediment as is considered routine, just during Phase 1.[36]

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[29] *See generally id.*
[30] *Buffalo River Ecological Restoration Master Plan, supra* note 3, at 2-1.
[31] K.N. Irvine, *et al.*, *Assessment of Potential Aquatic Habitat Restoration Sites In The Buffalo River Area of Concern*, 35 JOURNAL OF GREAT LAKES RESEARCH 83 (2005) at 92.
[32] *Id.*at 89.
[33] *See generally Feasibility Study, supra* note 26, at 4.
[34] Andrew Delmonte, *Dirty Work – Historic Buffalo River Restoration Underway*, THE GOOD NEIGHBORHOOD, Sept. 2, 2011, *available at* http://thegoodneighborhood.com/2011/09/02/dirty-work-historic-buffalo-river-restoration-underway/.
[35] U.S. ARMY CORPS OF ENGINEERS, BUFFALO DISTRICT. *Buffalo River Strategic Navigational Dredging Fact Sheet May 2011* (2011) at 2.
[36] *Id.*

Phase 2 removal of loosened sediment will be a project operated by the USEPA as part of the Great Lakes Legacy Act ("Legacy Act") Removal. [37] All contaminated sediment will be moved to a secure container in Erie Harbor. [38] The removed top layer of contaminated sediment from the channel will be loading onto an adjacent barge, which will then move out to Erie Harbor.[39] Additionally, the head of the ship canal on the Inner Harbor will be capped with a clean layer of sediment.[40]

A confined disposal facility ("CDF") maintained by USACE sits in Lake Erie on the Outer Harbor.[41] A one-hundred foot wall containing mostly sand surrounds the perimeter of the CDF.[42] This will serve not only as a physical barrier as water and sediment stir in the CDF, but more importantly to trap and filter contamination from moving across the CDF and out into Lake Erie.[43] Water flowing through the perimeter wall sand filter "meets New York State water quality standards," so degradation of Lake Erie (or the northwestern portion of it) should not be of any greater concern than ordinary.[44]

b. Benefits, risks, and desired results

Sediment that will settle to the bottom in the future should in theory be much cleaner than that which the industrial era left at the bottom of the river.[45] This new sediment is expected to

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[37] Delmonte, s*upra* note 34.
[38] *Id.*
[39] Donna Evans-Deyermond, *What's New: Buffalo River Corridor*, BUFFALO SPREE (Apr. 2011) at 76.
[40] *Id.*
[41] *Id.*
[42] *See Great Lakes Confined Disposal Facilities*, U.S. ARMY CORPS OF ENGINEERS GREAT LAKES AND OHIO RIVER DIVISION (April 2003) at 9.
[43] *Id.*
[44] *See* US Army Corps of Engineers Buffalo District, *Buffalo River Restoration*, YOUTUBE, http://www.youtube.com/watch?v=r1Pz563tkYM.
[45] *Cf. id.*

create a more habitable base for vegetation and benthos.[46] Capping had been considered as an alternative to dredging more of the Buffalo River AOC.[47] The Feasibility Study noted that "ongoing natural processes, such as the deposition of cleaner sediments, will continue to provide risk reduction by further burying and isolating sediments with elevated chemical concentrations that are left in place."[48] Capping is may be a much simpler process, but the pollutants remain, albeit as less of a concern.

Through the first half of 2012, restrictions on usage of the Buffalo River are expected to be enforced as strict as ever because of the nature of disturbing contaminated sediment during mechanical dredging.[49] These restrictions represent an abundance of caution towards the hazards of reanimated, re-suspended sediment that was once buried at the bottom of the channel. Environmental Assessments suggested that "dredging will not have any adverse impact on drinking water," or, for example, that cutaneous contact with reanimated while swimming did not pose humans any health risk.[50] Traditionally, when concerned citizens rally opposition to dredging, this fear is what motivates them, and this is a risk, amongst others.[51] Dredging does reintroduce once-inert pollutants to the environment , which is a hazard for workers and the neighboring community, particularly in the event of an accident.[52] However, the USACE found

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[46] *Id.*
[47] *Feasibility Study*, *supra* note 26, at 29.
[48] *Id.*
[49] *See Fact Sheet, supra* note 33, at 4.
[50] *See Fact Sheet, supra* note 33, at 4; *see also* Judy L. Crane, Assessment and Remediation of Contaminated Sediments (ARCS) Program, GREAT LAKES CONTAMINATED SEDIMENTS PROGRAM (1993), *available at* http://www.epa.gov/greatlakes/arcs/EPA-905-R93-008/EPA-905-R93-008.html, noting that fishing and swimming is generally banned in AOCs but occasionally occurs in spite of prohibitions.
[51] J. Paul Doody and Bradford S. Cushing, *Handbook of Complex Environmental Remediation Problems* 4.33 (Jay Lehr, *et al.*eds., 1st ed. 2001) .
[52] *Id.*

that all of these are merely potential – as opposed to actual – risks.[53] In 1969, the Buffalo District served as a pilot for the first CDF program.[54] Their final report at the time found no "substantial impacts on water quality or benthic" ecosystems from the sort of mechanical dredging of contaminated sediments.[55] In the following years, Congress authorized similar USACE open-water dredging tests around the Great Lakes region.[56]

Effectively the third and final phase of this Restoration Project, habitat restoration along the riverbend and ship canal will be accelerated by Riverkeeper and other partners.[57] Much of the riverbank is also degraded, and foundational instability associated with Phase 2 dredging of the sides of the Buffalo River channel will not help matters. Riverkeeper will be working to restore soil and prevent erosion along the riverbank.[58] Additionally, the group will rebalance the riverfront biodiversity by removing invasive species and planting native vegetation.[59]

4. The involved partners: Federal, state, nonprofit, and private

a. Two federal agencies in two departments, one state agency, and collaboration

In the early 2000s, the USACE studied the feasibility of a dredging project in the Buffalo River AOC impact area.[60] An increasing frequency of sampling of sediment was occurring in the early 2000s, and the local NYSDEC office and the USEPA conducted a more formal and

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[53] *See* Jan A. Miller, *Confined Disposal Facilities on the Great Lakes*, U.S. ARMY CORPS OF ENGINEERS GREAT LAKES AND OHIO RIVER DIVISION (Oct. 1998) at 1.
[54] *Id.*
[55] *Id. at 2.*
[56] *Id.*
[57] Williams, *supra* note 26.
[58] *Id.*
[59] *Id.*
[60] *See* 2005 STATUS REPORT, *supra* note 20.

thorough Feasibility Study.[61] This Feasibility Study consisted of collecting and analyzing sediment and its contaminants at hundreds of points along the shore of the impact area, shifting between agencies and entities throughout its three-year duration.[62]

The USACE has been arguably the foremost actor in terms of civil works projects and specifically aquatic management across American interests for nearly a century.[63] Mapping the history of responsibilities of governments is never simple; consider how the USEPA became the other leading figure in aquatic management. Pollution control around Buffalo River and Erie Harbor predates the founding of the USEPA by about 150 years and that managing the channel of the Buffalo River for about 60 years prior.[64] Then again, the USEPA has held authority since its founding; since before either era of the GLWQA.[65] In this regard, it is expectable that the USACE and USEPA are leading the respective phases of the dredging operation.

Similarly, the NYSDEC was not founded until 1970.[66] Since then, it has also been intimately involved in the environmental welfare of New York's Great Lakes locales since the beginning of GLWQA-era projects.[67] The NYSDEC's Region 9 is located in Buffalo.[68] Its

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[61] 2008 STATUS REPORT, *supra* note 21, at 11; *cf.* K.N. Irvine, et al. *Contaminated Sediment in the Buffalo River Area of Concern – Historical Trends and Current Conditions*, Sediment Quality Assessment and Management (2003).
[62] 2008 STATUS REPORT, *supra* note 21, at 11.
[63] *See generally* Daniel A. Mazmanian & Mordecai Lee, *Tradition Be Damned! The Army Corps of Engineers Is Changing.* 35 PUBLIC ADMINISTRATION REV. 166 (1975).
[64] *See* William D. Ruckelshaus, *Environmental Protection: A Brief History of the Environmental Movement in America and the Implications Abroad*, 15 ENVTL. L. 455 (1984-1985) at 456; *see also* Curwood 130.
[65] *Cf.* Ruckelshaus *supra* note 64*; see generally* Donohue *supra* note 15.
[66] *See* New York State Department of Environmental Conservation, 25 YEAR PLAN FOR THE GREAT LAKES (1992).
[67] *Id.*
[68] Regions, *New York State Department of Environmental Conservation, available at* http://www.dec.ny.gov/about/50230.html (last visited Nov. 17, 2011).

jurisdiction includes all of the state bordering on Lake Erie.[69] This Region 9 office has been heavily involved in the planning of the Restoration Project. In 2005, Region 9 headed a collaborative assessment of the severity of the BUIs including a water quality analysis, and observations of the benthos, fish and vegetation in the impact area.[70] Besides expected collaborator Riverkeeper, this assessment was also aided by researchers at Buffalo State University and Ohio's Youngstown University.[71]

b. Riverkeeper and non-profit stewardship

Recognizing that the time was right with local motivation and a federal interest in a remediation effort, USACE established a cost-sharing agreement with western New York non-profit Buffalo Niagara Riverkeeper in 2005.[72]

Buffalo Niagara Riverkeeper is a concerned citizens group founded shortly after and in response to 1989's RAP publishing.[73] According to the mission statement, "RIVERKEEPER leads Buffalo Niagara's efforts to safeguard our water for present and future generations," thinking globally, but acting on Erie's New York waterways, "to protect and restore water quality and quantity and to connect people with water."[74] By 2003, the organization was named the AOC's coordinator by the USEPA's Great Lakes National Program Office.[75] That title meant the organization would receive "funding and authority from the USEPA for coordinating"

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[69] *Id.*
[70] Irvine, *et al.*at 1.
[71] *See generally id.*
[72] *Id.*
[73] History, *Buffalo Niagara Riverkeeper, available at* http://bnriverkeeper.org/about/history/ (last visited Nov. 17, 2011).
[74] Press release, Buffalo Niagara Riverkeeper, Niagara Habitat Conservation Strategy, May 20 2011.
[75] *See id.;* Great Lakes National Program Office, *Buffalo River Area of Concerns* (available on United States Environmental Protection Agency's website) *at* *http://epa.gov/glnpo/aoc/buffalo.html* (last visited Nov. 17, 2011).

the Restoration Project. The ultimate goal: remediation and delisting of the AOC as it returned to optimal status.

c. Honeywell as a corporate participant; other Erie businesses not so involved

The rationale for corporate participation is somewhat unclear, perhaps because of the public image businesses seek, or because their degree of willingness to participate may vary. Honeywell is the main corporation to partner for some degree of planning and funding.[76] The company has also been identified as at least partially responsible for some chemical and industrial contamination of Erie Harbor.[77] It has apparently been working to improve its image and balance the degradation for which it was cited.[78] Other partial polluters identified include ExxonMobil, PVS Chemicals, and one-time Midwestern behemoth Bethlehem Steel, none of whom are identified as restoration partners.[79] In a 2008 preassessment of Buffalo Niagara, the Department of Interior noted that the USEPA designated ExxonMobil (then Mobil Oil) and PVS Chemical locations as toxic dischargers.[80] In 2009, before all participants had signed on, NYSDEC (in conjunction with the U.S. Fish and Wildlife Service) issued a notice of intent "to pursue a claim for damages caused by a history of contamination" to the three companies who engaged in commercial activities on the river.[81] It remains unclear why no action was taken or if

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[76] Liz Pacheco, *Buffalo River gets a new image as long road to restoration begins*, GREAT LAKES ECHO, Oct. 11, 2011, *available at* http://greatlakesecho.org/2011/10/11/buffalo-river-gets-a-new-image-as-long-road-to-restoration-begins/; *see also* Kevin J. Bargnes, *Reclaiming the Buffalo riverfront,* The Buffalo News, Aug. 16, 2011, *available at* http://www.buffalonews.com/city/article524659.ece.

[77] *Id.*

[78] *Id.*

[79] *Id.*

[80] United States Department of the Interior, *et. al*, *Preassessment Screen for the Buffalo River in Buffalo, New York.* U.S. FISH & WILDLIFE SERVICE NEW YORK FIELD OFFICE (Apr. 2008) at 3.

[81] Press Release, New York State Department of Environmental Conservation, U.S. and New York to Pursue Claim for Natural Resource Damages to the Buffalo River (Jan. 15, 2009), http://www.dec.ny.gov/press/50692.html.

an undisclosed settlement was reached, or whether a settlement led Honeywell to participate in the GLLAPCT.[82]

5. **Why and how entities participate in restoration (or don't).**

The Great Lakes Restoration Initiative ("GLRI") is a federal statute which includes a provision that all such projects have contributions by "non-federal sponsors," – namely non-profit organizations but also potentially states or businesses – amounting to 35 percent of the funding for the overall project.[83] Part of the reason across-the-board participation has been crucial to moving forward with the Restoration Project is that Buffalo has willing partners to cover the costs.

Phase 1 of BRRP dredging, as a usually-routine USACE project, is only partially subject to the cost-sharing schema under the Legacy Act.[84] This mechanical effort of removing the larger quantity of contaminated sediment via clamshell will be funded in more than three-quarters by GLRI funds.[85] Slightly less than one-quarter of Phase 1 funding ($1.3 million) comes from the USACE's Operations and Maintenance Mission, the kind of project which the statute notes is ordinarily fully-funded.[86] Some previous components (e.g. the feasibility project) were funded in half by Riverkeeper.[87] That Phase 1 has been estimated by the USACE during 2011 to cost around six million dollars.[88]

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[82] *Cf.* Bargnes, *supra* note 76.
[83] Great Lakes Legacy Act of 2002, 33 U.S.C. §1268 (2002).
[84] *See* Evans-Deyermond, *supra* note 39.
[85] *Fact Sheet*, s*upra* note 35, at 2.
[86] *Id.*
[87] 2005 STATUS REPORT, *supra* note 20.
[88] Delmonte, s*upra* note 34.

Phase 2 will be a Legacy Act project, orchestrated by the USEPA as per the GLRI.[89] It is described in a presentation as an effort happening "with support" of the collaboration being called the Great Lakes Legacy Act Project Coordination Team ("GLLAPCT").[90] Along with the USACE and USEPA, this partnership consists of Riverkeeper, NYSDEC, Honeywell, Erie County, and the City of Buffalo.[91]

The actual sources of funding can be somewhat convoluted, and indirectly more federally-backed than the numbers will look on paper. For example, Riverkeeper has been able to continue its work BRRP twice through different federal grants in about a year.[92] Congressman Brian Higgins, who serves on the Great Lakes Task Force and represents the 27th district encompassing downtown Buffalo has secured funds for the organization.[93] Riverkeeper received more than $650,000 in a Great Lakes Restoration Initiative Grant in late 2010.[94] Again in late 2011, Riverkeeper was granted $167,000 via the National Oceanic and Atmospheric Administration for habitat restoration along the Buffalo River during Phase 2 restoration efforts.[95]

Erie County and the City of Buffalo are listed as participants in the GLLAPCT, although their names are often at the trail end of press releases, if included at all. Unsurprisingly – when following the money trail – this is because the two municipalities (as well as six Towns in the

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[89] *Buffalo River Restoration*, YOUTUBE, *supra* note 44.
[90] *Id.*
[91] News release, U.S. Army Corps of Engineers, Corps of Engineers to dredge Buffalo River, Mar. 23, 2011.
[92] *See* Press Release, Congressman Brian Higgins, Congressman Higgins Announces $167,000 for Buffalo Niagara RIVERKEEPER (Aug. 8, 2011), http://higgins.house.gov/2011/08/congressman-higgins-announces-167000-for-buffalo-niagara-riverkeeper.shtml.
[93] *Id.*
[94] *Id.*
[95] *Id.*

Buffalo area) are less involved financially.[96] The city, county, and town did all contribute more of an input to the planning phases, though.[97] They also take on a more complex role in securing the larger Buffalo Niagara ecosystem, such as ensuring that wetlands are still protected.[98] Presumably, the cost-sharing was established based on which entities were capable of contributing what level of funding. Erie County and the Towns focus heavily on preservations of the habitats around the waterways extending from the Buffalo River.[99] This is no criticism of lower levels of government, but recognition of the shared responsibilities of our modern governmental structures.

The Erie Canal Harbor Development Corporation ("ECHDC") was formed in 2005 under New York state government's Empire State Development Corporation.[100] The larger corporation aims to enable economic growth in various areas and industries around the state.[101] For this, it is at first glance curious that ECHDC is not a partner in the GLLAPCT. However, ECHDC is, in a way, a sister organization formed around the same time for a related purpose in the same area. ECHDC is primarily concerned with revitalizing the economy on the land in the most potentially-desirable in and around the inner and outer harbor. Some of the Corporation's work on Inner Harbor Development Project has included the relocation of naval vessels in the Harbor and construction of the Central Wharf, which will directly benefit the goal of improving accessibility to enjoyment of the Harbor when the BRRP is also completed. The President of ECHDC, Thomas Dee, praised the BRRP at a presentation hosted by his organization shortly

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[96] *Buffalo River Ecological Restoration Master Plan, supra* note 3, at 2-5.
[97] *Id.*
[98] *Id.*
[99] *Id.*
[100] *See generally* John M. Bacheller, *Commentary on State-Level Economic Development in New York: A Strategy to Enhance Effectiveness*, 14 ECON. DEV. Q. 5 (2000).
[101] *See* Branden Klayko, *Buffalo's Waterfront Shuffle*, THE ARCHITECT'S NEWSPAPER, (May 11, 2011), *available at* http://archpaper.com/news/articles.asp?id=5360.

before Phase 1 began.[102] Dee believes that with the goal of bringing the city of Buffalo towards competitiveness and relevance, the project is an "important step in making… the Buffalo River safe and accessible for everyone."[103]

a. Who should be paying for restoration projects?

Constitutional scholars might look to the Interstate Commerce clause or states' rights in justifying or opposing the BRRP on principle, respectively. [104] With specific regard to the Great Lakes, treaty powers of regulating an international resource and Congressional/executive interaction can complicate authority further.[105] The rise of the small-government/Tea Party movements circa 2008 has surely put a stall on some USEPA projects in other areas of environmental concern.[106] The next election cycle potentially stands to threaten all federal environmental regulation if a Republican ticket featuring the likes of Ron Paul, Rick Perry, or Michele Bachmann gets its way.[107] During USEPA activity in some states – especially when it involves burdens to local businesses – personalities or political perspectives can clash.[108]

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[102] Press Release, Erie Canal Harbor Development Corp., *ECHDC Hosts Presentation on Buffalo River Restoration Project*, WNYMEDIA.NET (May 10, 2011), http://www.eriecanalharbor.com/press/05-10-11Restoration.asp.
[103] *Id.*
[104] *See* Julia R. Wilder, *The Great Lakes as a Water Resource: Questions of Ownership and Control*, 59 IND. L.J. 463 (1983-1984) at 468.
[105] *See id.*
[106] *See generally* Dina Cappiello & Julie Pace, *Obama halts controversial EPA regulation,* ASSOCIATED PRESS, Sep. 2, 2011, *available at* http://news.yahoo.com/obama-halts-controversial-epa-regulation-143731156.html, when Mr. Obama relented to Republican demands and some corporate interests regarding USEPA's intent to augment regulations on smog.
[107] *See* John M. Broder, *Bashing E.P.A. Is New Theme in G.O.P. Race*, N.Y. TIMES, Aug. 17, 2011 at A1.
[108] *See generally* Elizabeth Shogren, *Secret 'Watch List' Reveals Failure To Curb Toxic Air*, NATIONAL PUBLIC RADIO, Nov. 7. 2011, *available at* http://www.npr.org/2011/11/07/142035420/secret-watch-list-reveals-failure-to-curb-toxic-air, where a former lawyer for USEPA notes jurisdictional clashes slowing down enforcement of the Clean Air Act; recalling state commissioners chasing out investigators from EPA regional offices.

Fortunately for the BRRP, New York is something of an environmentally-conscious state, at least in some aspects, more often when it is the politically efficacious thing to do. Its most recent political climate has struggled to balance environmental concern with more politically-pressing conflicts, though it would be an exaggeration to say that it has neglected protection of the environment entirely.[109]

6. Obstacles on the Buffalo River and elsewhere

7. Procuring funding

The BRRP went off the ground and is moving along according to schedule.[110] While it has had few specific obstacles or absolute standstills when it comes to gaining funding and moving forward, threats of budget cuts always loom. Seeking greater federal funding is a challenge in this political climate. The USEPA has seen significant cuts in 2011, threatening the federal funding to the GLRI. First, in President Obama's reported 2012 fiscal budget, the USEPA's funding was reduced $1.3 billion from the prior year to an operational budget of $9 billion. Specifically, the GLRI's funding was to be cut about one-sixth, to $350 million, where the USEPA remained cautiously optimistic that this degree of funding "will allow for continued ecosystem restoration efforts while exercising fiscal restraint."[111]

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[109] *See* Andrew J. Hawkins, *Cuomo's First Report Card*, THE CAPITOL, June 28, 2011 *available at* http://nycapitolnews.com/wordpress/2011/06/cuomo%E2%80%99s-first-report-card/ which gave the governor a grade of "B" on fulfilling his promise to, among other green efforts "reduce pollution and further environmental justice;" *cf.* EPL/ENVIRONMENTAL ADVOCATES *Voter Guide 2011*, *available at* http://www.eplvotersguide.org/vg2011_final_web.pdf (last visited December 10, 2011) wherein the average Republican legislators averaged a score of 62/100, and also warns that the Democratic governor's "next steps on fracking will cement his environmental legacy."

[110] *See* Evans-Deyermond, *supra* note 39.

[111] OFFICE OF MANAGEMENT AND BUDGET, *Fiscal Year 2012 Budget Of The U.S. Government* at 147.

Then, the outlook worsened. House Republicans were emboldened by July's debt debacle to target the USEPA for further decimation.[112] When the House Committee on Appropriations prepared its budget for the next fiscal year, they limited GLRI funds to $250 million.[113] A bipartisan group of Congress members representing several of the Great Lakes states have since urged the Congressional appropriations committee chair to increase the funding to $300 million, still $50 million short of what the executive branch had considered a tolerable cut earlier in the year.[114] When the Congressional "supercommittee" failed to reach a budget reduction deal in late 2011, it set into motion a blind across-the-board 9% cut to almost all federal programs.[115] This of course includes the USEPA, and some speculate that the agency will have to triage and prioritize its statute-mandated obligations before work that can be delayed.[116]

Meanwhile, obtaining non-federal funding for GLRI and GLLA work becomes yet another challenge. New York's lowered tax revenue following the recession of 2008 and failures in the state legislature have left New York struggling to close the budget gap every year, and the state faces an 18.6% deficit for the coming fiscal year, though nothing states that environmental

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[112] Malathi Nayak, *Analysis: Republicans turn sights on "activist" EPA*, REUTERS, Aug. 16, 2011; *see also* Leslie Kaufman, *Republicans Seek Big Cuts in Environmental Rules*, N.Y. TIMES, July 27, 2011 at A16.

[113] STAFF OF H. COMM. ON APPROPRIATIONS, 112TH CONG., MAKING APPROPRIATIONS FOR THE DEPARTMENT OF THE INTERIOR, ENVIRONMENT, AND RELATED AGENCIES FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 2012, AND FOR OTHER PURPOSES. (Comm. Print 2011).

[114] *See* Press Release, Congressman Sander Levin, *Levin Urges Investment in Great Lakes Restoration Initiative*, Nov. 1, 2011, http://levin.house.gov/press-release/levin-urges-investment-great-lakes-restoration-initiative.

[115] *See* Merritt Frey, *Supercommittee Failure Could be Superbad for EPA,* RIVER NETWORK, Nov. 21, 2011 *available at* http://www.rivernetwork.org/blog/11/2011/11/21/supercommittee-failure-could-be-superbad-epa-0, citing INSIDE EPA.

[116] *Id.*

programs are on the chopping block.[117] Meanwhile, some Buffalo's ills like industrial degradation of the environment makes it similar to other rust belt cities, but New York State has a more diverse economic profile than some of the states to its west. Just measuring what is a recovery has been a question that economists and politicians have struggled to frame. For example, many states are seeing better-than-expected tax revenues, including New York's neighbors (or Great Lakes neighbors) Pennsylvania, Michigan, and New Jersey, but some states may have adjusted their expectations too pessimistically in the first place.[118]

Getting enough funding to get off the ground has been the obstacle to restoration initiatives in other Great Lakes states like Michigan, Illinois, and Wisconsin.[119] An estimated 46 million cubic yards of contaminated sediment are to be dredged at Stateside AOCs.[120] But between the beginning of cleanups Legacy Act cleanups in 2004 and through 2009, less than a million cubic yards of contaminated sediment had been removed from a total of six AOCs.[121] Only one site, the Ashtabula River in Ohio, removed a comparable volume of contaminated sediment to the BRRP's undertaking (at least one-half million) by midway through 2010.[122] In a way, the Ashtabula effort was a success one step ahead of the BRRP, but now federal funding cuts stand to stall any region which seeks to follow them.

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[117] *See* Elizabeth McNichol, Phil Oliff and Nicholas Johnson, *States Continue to Feel Recession's Impact*, CENTER ON BUDGET AND POLICY PRIORITIES, June 17, 2011, *available at* http://www.cbpp.org/cms/?fa=view&id=711.

[118] Michael Cooper, *For States, a Glimmer of Hope on Deficits*, N.Y. TIMES, May 17, 2011 at A11.

[119] *See generally* Marc Tuchman, U.S. Great Lakes National Program Office & Susan Boehme, Illinois-Indiana Sea Grant, The Great Lakes Legacy Act: Successes & Challenges at State of Lake Michigan Conference (2009).

[120] *Id. at 2.*

[121] Bob Downing, *Cleanup efforts revive waterway - Industry partnerships support cleanup efforts*, AKRON BEACON JOURNAL (June 29, 2010), *available at* http://www.lakescientist.com/2010/ashtabula-river-restoration-sets-example-for-great-lakes-cleanups.

[122] *Id.*

8. Conclusion

To some Americans, environmental remediation or augmentation efforts are the duty of the government. Others believe in dedicated activists remaining on watch to secure what is right in their neighborhoods. And still yet, some citizens oppose any intervention at all, expecting that the free market and informed actors will strike the right balance. The dynamics of political power provides a variety of obstacles to completing any large-scale project in America, be they private, public, or any combination. Budget cuts have not yet proven painful (nor fatal) to the BRRP, but the political balance or availability of political capital could shift dramatically following 2012 elections.

Defining a success or pinpointing a mission accomplished in restoration or remediation efforts of aquatic ecosystems can be difficult or ethereal. Some scholars have been skeptical of programs achieving objective scientifically-measurable improvements, or when even they are reached, if that could be demonstrated by politicians or to constituents in an objective and efficacious manner.[123]

Developing interest and getting an idea from paper into progress can often be the hardest step for any, and the Buffalo River Restoration Project is well underway. Success is something that the river itself deserves. Buffalo was once a leader of industrial development, and now it is Buffalo's turn to be a leader of a city taking responsibility for the environmental mitigation of its dirty history. The story of the BRRP would end on a hollow note if Buffalo was unable to serve

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[123] John Flesher, *Great Lakes Restoration Initiative Money Still Flows -– For Now*. ASSOCIATED PRESS, Oct. 11 2011, *available at* http://www.businessweek.com/ap/financialnews/D9QA990G0.htm, quoting Joseph Koonce, biologist at Case Western University: "You could end up spending money on the wrong thing, and you'll never know that if you don't spend money to find out," and University of Michigan scientist Don Scavia: "Ecological restoration may not be all that visible. It will be hard to measure progress on a one-year budget cycle -- or a two-year election cycle."

as an example because, for political reasons, America's doors of opportunity closed on ambitious environmental remediation efforts like that which was enabled on the Buffalo River by legislation like the Great Lakes Legacy Act.