

THE ROLE OF LAND CONSERVANCIES IN GREAT LAKES RESTORATION

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¹ www.cadmusgroup.com. The views expressed herein are mine alone and not those of The Cadmus Group, Inc., or its clients.

Good afternoon.

I want to thank Tom, Rachel and Julie-and all those working on this annual summit for the Heart of the Lakes Center for Land Conservation Policy. It is a privilege to be here in my adopted state of Michigan to address my friends and fellow land conservationist on two matters near and dear to my heart: the land conservancy movement and watershed protection in the Great Lakes basin.

I am honored to serve on the Board of the Potomac Conservancy which undertakes land protection, watershed restoration and policy advocacy focused on the Potomac River and, more broadly, the Chesapeake Bay into which the river flows.² I will be speaking more about the work of the Potomac Conservancy in the context of land protection and Great Lakes restoration.

As a former director of Michigan's Office of the Great Lakes for eight years, with related service as a member of the Great Lakes Commission, the board of the Great Lakes Protection Fund and the Water Quality Board of the International Joint Commission (IJC), I have a particular professional interest in the Great Lakes which I have continued

² www.potomac.org

to maintain during my service as administrator of the National Water Program at EPA and in my present job as an environmental consultant.

I would be remiss if I did not mention that I also have the good fortune to be married to a woman who grew up on the shores of Lake Michigan, in Milwaukee, Wisconsin!

Finally, a number of my colleagues in our Great Lakes office in Wisconsin are working with the Land Trust Alliance to bring conservancies and watershed groups together with the view towards increasing their involvement and effectiveness in Great Lakes restoration activities. Cadmus is assisting the Michigan Dune Alliance (an initiative Julie Stoneman, Peg Kohring of the Conservation Fund and I worked on in its infancy), The Land Legacy Conservancy, the Black Swamp Conservancy in Ohio and the Shirley Heinze Land Trust in Indiana. These conservancies, and many others here today, are well positioned to tackle the most pressing challenges in the basin including but not limited to removal of invasive species, protection of critical habitat and reductions in polluted runoff.

I understand that Michigan land conservancies are already moving into the water quality area, for instance, by using dollars from the state's nonpoint pollution control program to purchase easements in watersheds with approved Clean Water Act Section 319 plans, another example where the boundaries between land protection and water quality are being transcended to the benefit of both.

So from my personal and professional perspective, coming here today to discuss these issues is very exciting, indeed.

Today, I will briefly describe the history and phenomenal growth of the private, not-for-profit land conservancy movement in the United States which I view as one of the three most significant nongovernmental movements in civil society for the benefit of conservation and environmental protection. The others are the Green Building and Corporate Social Responsibility movements.

I will also tell you why I believe the land conservancy movement reflects a uniquely American genius, a real strength upon which we should build. And I will argue that the nature of present threats and obstacles to better water quality and aquatic ecosystem health demand that water quality managers, conservationists and environmentalists engage each other and establish strategic partnerships with land conservancies of all kinds if we are to achieve the ultimate object of the Clean Water Act: “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”³

Moreover, I hope to describe what I believe to be the crucial role for land trusts in protecting and restoring the Great Lakes and its critical nearshore areas and tributaries.

Land protection American style

Will Rogers is reported to have said: “Buy land. They ain’t makin’ any more of the stuff.” Throughout the nation forests, prairies, farms and ranches, are gobbled up in a

³ Section 101(a)

real estate boom which, until very recently, defied gravity. Intense development paves over ground at an impressive rate. In the Chesapeake Bay watershed, encompassing parts of six states and the District of Columbia, population growth has increased impervious surfaces-roads, sidewalks, roofs and parking lots-from 611,017 to 860,004 acres between 1990 and 2000. At that rate an additional 250,000 acres will become impervious by 2010. We see this trend throughout the country.

As imperviousness spreads, rain is prevented from soaking into the ground and instead delivers the water at increased velocity, along with accumulated pollutants, into nearby streams, rivers and lakes. Pollutant loads increase in sync with stormwater and agricultural runoff. Erosion destroys streams and aquatic life and causes water temperature to rise.

Climate change or variability, whatever the cause, will intensify this problem of polluted runoff. A recent paper published by researchers at the University of Wisconsin-Madison predicts that extreme precipitation events will become 10 to 40 percent stronger in southern Wisconsin with possible increases in combined sewer overflows (CSOs) and beach closings.⁴

⁴ “Great Lakes’ Study Ups Chances for Waterborne Disease,” Water & Wastewater News, October 10, 2008, <http://www.wwn-online.com/articles/638322>, accessed October 10, 2008. The article is authored by Jonathan A. Patz, et al., and appears in the October 7th issue of the American Journal of Preventive Medicine.

The Soil and Water Conservation Society (SWCS) held a workshop in Milwaukee in November 2006, called “Planning For Extremes,”⁵ which found that design storm events in the Midwest had increased in magnitude by as much as 46 percent with increases in soil erosion ranging between 4 to 95 percent and runoff from 6 to 100 percent which “may be evident on cropland in some locations.”

More than 50 percent of Americans now live in coastal counties, including those around the Great Lakes. Thus, the very waters we love are threatened by our quest to live ever closer to them in ever greater numbers.

Fortunately, a segment of American society seems to be responding to this challenge across the land. There has been a remarkable proliferation of private land trusts and conservancies which protect more and more acreage through a variety of market-based tools including acquisition of conservation easements, outright purchase of fee simple interests and civic education. This movement embodies principles of philanthropy, collaboration, non-confrontation, social solidarity and stewardship at the scale of landscapes and watersheds.

⁵ Soil and Water Conservation Society, *Planning For Extremes: A Report from a Soil and Water Conservation Society Workshop Held in Milwaukee, Wisconsin, November 1-3, 2006*, p. 10, available at www.swcs.org

In his 1835 masterpiece, *Democracy in America*, Alexis de Tocqueville, reported on his observations of the American scene after an extensive tour of the new Republic. Of special interest to our discussion is the following passage:

Americans of all ages, all conditions, and all dispositions constantly form associations. They have not only commercial and manufacturing companies, in which all take part, but associations of a thousand other kinds, religious, moral serious, futile, general or restricted, enormous or diminutive. The Americans make associations to give entertainments, to found seminaries, to build inns, to construct churches, to diffuse books, to send missionaries to the antipodes; in this manner they found hospitals, prisons, and schools. If it is proposed to inculcate some truth or to foster some feeling by the encouragement of a great example, they form a society. Whenever at the head of some new undertaking you see the government in France, or a man of rank in England, in the United States you will be sure to find an association.⁶

Tocqueville saw voluntary, intermediate associations, mediating between individuals and government, as unique institutions which, even in the early 19th century, flourished among Americans. By the way, Tocqueville actually visited Michigan but was overwhelmed by the mosquitoes as he tells the story.

To my mind, the incredible growth of the private land conservancy movement is confirmation of the insights of Alexis de Tocqueville persisting into the 21st century. It represents the collaboration of private citizens, sometimes in partnership with government, utilizing voluntary, market-based means to achieve socially beneficial goals of land and water conservation.

⁶ Alexis de Tocqueville, *Democracy in America*, ed. Phillips Bradley (New York, 1945) II, p. 106

The first land trust was established in 1891 in Massachusetts by the landscape architect Charles Eliot to preserve 20 acres of woodland. By 1950 there were still only 53 such trusts in 26 states. Today, they exist in all 50 states.

In 1951 The Nature Conservancy⁷ was incorporated as a nonprofit entity and is now the largest environmental organization in the world. The amazing growth of this institution, with all its ups and downs, has been superbly chronicled by Bill Birchard in his fine book, a study in conservation and organizational management, entitled, *Nature's Keepers: The Remarkable Story of How the Nature Conservancy Became the Largest Environmental Organization in the World* (2005).⁸

The 2005 National Land Trust Census⁹, conducted by the Land Trust Alliance (LTA), documents the truly remarkable growth of these institutions over the previous five years. Total acres conserved by local, state and national trusts and conservancies doubled to 37 million acres. This is an area 16 ½ times the size of Yellowstone National Park, says LTA. The number of land trusts grew to 1,667, a 32 percent increase over the same period of time.

Rand Wentworth, the president of LTA, said that the Census results “took my breath away.”

⁷ www.tnc.org

⁸ See my review of this book, G. Tracy Mehan, III, “In Land We Trust: The conservative approach to preservation,” *The Weekly Standard*, September 5/September 12, 2005, pp. 33-35.

⁹ www.lta.org

If the nation's land conservancies maintain the current rate of 6 million acres conserved a in five years, a total of 43 million acres could be protected by 2010, an area the size of Florida. By 2015 49 million acres would be conserved.

At the Potomac Conservancy, we now hold easements on approximately 11,000 acres on tributaries in the headwaters of the river, largely in targeted sub-watersheds like Cedar Creek, the site of the famous Civil War battle, which also happens to be a pretty good trout stream in the Shenandoah Valley.

We have only been in existence since 1993. Originally, the Conservancy's founders were paddlers and kayakers who initially focused on the scenic Potomac Gorge. Today, we are trying to impact water quality for both the river and the Chesapeake Bay by focusing more broadly on watershed protection in the headwaters and advocacy for stormwater protection in urban areas.

The very existence of the Heart of the Lakes Center for Land Conservation Policy,¹⁰ a truly collaborative network of land conservancies, is further evidence of the strength of this organic movement in American society.

Land conservancies can engage, educate and motivate private landowners and local communities, in a way that no federal or state government agency ever could. They build trust through patience, solidarity, sound information and a bit of cash! They serve as brokers or intermediaries between private and public funding sources and individuals

¹⁰ www.heartofthelakes.org

unfamiliar with the details of tax and real estate law. Call it the Special Forces model of conservation.

The land and water interface

36 years after enactment of the Clean Water Act (CWA), we can certainly see much progress in terms of water quality, including the clean-up of the Great Lakes. As former EPA Administrator William Ruckelshaus once quipped, while all our waters may not be swimmable and fishable, at least there not flammable!

You can find a vivid portrait of the infamous “Bubbly Creek,” an arm of the Chicago River, in Upton Sinclair’s 1906 classic muckraking novel, *The Jungle*, in which he excoriated the wretched conditions in the stockyards and packing houses in the Windy City. Bubbly Creek was described as so polluted that “Bubbles of carbonic acid gas will rise to the surface and burst, and make rings two feet wide.” Grease and filth caked solid and the creek looked “like a bed of lava.” “Chickens walk about on it, feeding, and many times an unwary stranger has started to stroll across, and vanished temporarily.”¹¹

Today you might spy a four-pound coho salmon in the creek which swam up from Lake Michigan or consider buying a million-dollar home nearby.¹²

Such gains in water quality over the past three and a half decades are due primarily to regulation of and investment in traditional point sources of pollution, municipal and

¹¹ See Chapter 9

¹² Alby Gallun, “Flushing out Bubbly Creek,” *Chicago Business*, July 25, 2004

industrial entities with big discharge pipes regulated under the CWA and state law. Of course, Chicago did things a bit differently at first, changing the direction in which the river flowed, away from Lake Michigan and sending its pollution down the Illinois and Mississippi Rivers to the Gulf of Mexico!

Nevertheless, today more than twice as many Americans are served by advanced or secondary wastewater treatment compared to three and a half decades ago. Billions have also been spent on tanks and tunnels to capture and treat big rainstorm events, the so-called combined sewer overflows or CSOs.

That said, as of 2002 45 percent of assessed miles of rivers and streams were still “impaired.” That is, they are not supporting or meeting water quality standards based on designated uses such as fishing, swimming, drinking, etc. Moreover, 47 percent of assessed acres of lakes, ponds and reservoirs were also impaired as were 32 percent of assessed square miles of bays and estuaries.¹³

Many of these impairments are caused by pollution coming from *unregulated* diffuse, nonpoint sources such as row crop agriculture. The hypoxic or “dead” zone in the Gulf of Mexico is caused by over-enrichment from nutrients, mostly nitrogen, 90 percent of which comes from nonpoint sources in the Mississippi and Ohio River basins.¹⁴

¹³ For these data see U.S. Environmental Protection Agency, *National Water Quality Inventory: Report to Congress-2002 Reporting Cycle*, Executive Summary, EPA-841-R-07-001, October 2007, available at <http://www.epa.gov/305b>, accessed October 9, 2008.

¹⁴ National Research Council, *Mississippi River Water Quality and the Clean Water Act: Progress, Challenges, and Opportunities* (The National Academies Press 2008), p. 40.

We are also confounded in dealing with urban wet weather and stormwater issues which implicate impervious surfaces such as roads, parking lots, sidewalks and roofs.

Technically, stormwater pollution is defined as coming from point sources under the CWA, but the regulatory program is challenged by uncertainty as to standards and measurements given the large number of sources scattered across the urban landscape.

The program faces many obstacles because it is dealing with a problem *after the fact* in that development and impervious surfaces are primarily matters of local governmental control of land use practices at the front end of the process.

A parking lot might be as much as 95 percent impervious. Even a residential lawn might be 40 percent impervious due to soil being compacted during construction and landscaping.

In areas around Chesapeake Bay we find a 41 percent increase in imperviousness for every 8 percent increase in population. I have seen similar figures for the Chicago suburbs.

Thus, there is growing interest in low-impact, non-structural or Green Infrastructure approaches to retain water on site, thereby recharging groundwater, filtering out pollutants and reducing the velocity of run-off. These same techniques can save developers and municipalities money. Rooftop gardens, rain barrels, rain gardens, vegetated swales, restored wetlands and urban reforestation are examples of what is commonly referred to as Low-Impact Development (LID). I know that that Traverse

City, Lansing and the Southeast Michigan Council of Governements (SEMCOG) are all leaders in this area to name just a few here in Michigan.

The various watersheds within the jurisdiction of the Milwaukee Metropolitan Sewerage District (MMSD), and tributary to Lake Michigan, reflect our current predicament. 37 percent of the annual bacteria pollutant load to these waters is from rural nonpoint sources and 56 percent from urban stormwater.¹⁵ In other words, traditional point source discharges, the big pipes in the water, have little to do with this problem.

The simple truth is that our present problems with water quality, whether you are looking at its rural or urban aspects, involve pollution originating on the landscape and not the factory or treatment plant. It is a systemic problem involving the entire surrounding watershed or drainage basin.

I recently participated in a Dialogue on Sustainable Water Infrastructure in the United States which issued a report outlining three principles, ten recommendations and 20 steps on a Sustainable Path for the 21st century.¹⁶ I want to highlight just one principle relevant to our discussion here today.

¹⁵ Timothy Bate, William Krill, Troy Deibert, Leslie Shoemaker, and Kevin Kratt, "Milwaukee;s Next Step:: Watershed Restoration Plans (*Instead of TMDL's*), Figure 1. This is a paper will be delivered at the WEFTEC conference in Chicago next week. It was authored by a member of the staff of MMSD and experts from three supporting consulting firms. A copy is in my possession.

¹⁶ R. Bolger, D. Monsma, R. Nelson, *Sustainable Water Systems: Step One-Redefining the Nation's Infrastructure Challenge. A report of the Aspen Institute's Dialogue on Sustainable Water Infrastructure in the U.S.* (May 2009). The report may be found at <http://www.aspeninstitute.org/policy-work/energy-environment> (last viewed on November 4, 2009).

“The first principle is that the traditional definition of water infrastructure must evolve to embrace a broader, more holistic definition of sustainable water infrastructure that includes both traditional man-made water and wastewater infrastructure *and* natural watershed systems,” states our report. Moreover, the “natural infrastructure” includes “rivers, lakes, streams, groundwater aquifers, floodplains, floodways, wetlands and watersheds that serve or are affected by water and wastewater systems.”

In other words, our natural landscape provides us with the most cost-effective and efficient system for recycling, reusing and filtering water all while protecting habitat and biodiversity, sequestering carbon and enhancing aesthetic values.¹⁷ This sounds like a natural fit and a fine mission statement for land conservancies and Heart of the Lakes.

The case of the Great Lakes

As I mentioned earlier in my remarks, water quality is more than just a matter of turning dirty water into something approaching distilled water. It involves the complete aquatic ecosystem—the chemical, physical and biological integrity of the waters of concern.

Throughout the Great Lakes scientific and policy communities, there is an increasing awareness of and focus on the nearshore areas¹⁸ which manifest the adverse impacts of “extreme stress from a combination of sources that include contaminants, invasive

¹⁷ For further discussion of the Aspen Institute’s report, see G. Tracy Mehan, III, *Redefining Water Infrastructure for the 21st Century*, Roll Call, July 20, 2009, <http://www.rollcall.com/news/36979-1.html> (last viewed on November 4, 2009).

¹⁸ “Nearshore” may be narrowly defined as a zone in which certain processes or effects manifest themselves, I believe effective policy responses must encompass not just the nearshore but also Great Lakes tributaries and connected watersheds at a scale necessary for effective management and mitigation of relevant stressors.

species, nutrient loading, shoreline and upland land use changes and hydrologic modifications.”¹⁹ In fact, “the combined effects of a whole suite of stresses from a variety of human-induced sources have overwhelmed the ecosystem’s self-regulating mechanisms” which were once supplied by healthy nearshore communities and tributaries.

Great Lakes riverine and nearshore ecosystems yield most of the fishery production and are sensitive to the quality and quantity of habitat. These areas, including floodplains, wetlands and riparian buffer zones, also provide water quality benefits, i.e., reduced pollution from stormwater or agricultural runoff through filtration, buffering and natural treatment. They regulate and maintain natural flow regimes.

The local, land-based nature of pollution and other stressors to nearshore areas and tributaries present opportunities for land conservancies and other watershed organizations to do what they do best. That is, they can protect and restore natural features and landscapes, prioritizing those which have the greatest water quality and ecological benefit. Not every land trust or conservancy has to have exactly the same goals. But to whatever extent possible, it would be optimal if each conservancy could align its mission with water quality goals in their priority watersheds of which, presumably, the Great Lakes basin is one.

¹⁹ J. Bails, A. Beeton, J. Bulkley, M. DePhilip, J. Gannon, M. Murray, H. Regier, and D. Scavia, *Prescription for Great Lakes Ecosystem Protection and Restoration (Avoiding the Tipping Point of Irreversible Changes)*, December 2005, pp. 1-2. This paper was supported by the Wege and Joyce Foundations.

In calling for a paramount role for private land conservancies in the quest for restoration of the Great Lakes, I do not mean to absolve government from its responsibilities.

Rather, I view success as a matter of addition rather than subtraction. We need solid public-private partnerships. Government should be active in its proper sphere, private and nonprofit parties in theirs. Catholics call this the principle of subsidiarity, a concept not inconsistent with the Founding Fathers' view of federalism.

All around the country we see both wastewater and drinking water systems adopting land protection as a crucial part of their efforts at source water and watershed protection.²⁰

Just across Lake Michigan, in Milwaukee, its Metropolitan Sewerage District (MMSD) has partnered with The Conservation Fund²¹, one of the nation's largest land trusts, to buy and restore floodplain lands to meet its responsibilities for flood control while generating other benefits in terms of water quality, wetlands habitat and restoration of the natural flow regime. Its award-winning "Greenseams" program now protects over 1,800 acres and has identified an overall target of 15,000 acres.²²

²⁰ A fine overview of these activities and recommended steps can be found in The Trust for Public Lands and American Water Works Association, *Protecting The Source: Land Conservation and the Future of America's Drinking Water* (2004) which updates an earlier 1997 study. While initially focused on drinking water systems, it also discusses interesting projects related to stormwater and other urban wet weather issues.

²¹ www.conservationfund.org

²² For more information see <http://v2.mmsd.com/Greenseams.aspx>, accessed October 7, 2008. The figure for 2008 was based on an email from Kevin Shafer, Executive Director of MMSD, to me on October 10, 2008 in my possession. Mr. Shafer offered the 15,000 acre goal figure in a recent presentation at WEFTEC in Orlando, FL on October 13, 2009

Let me suggest to you that this kind of partnership needs to become much more common if we are to succeed at maintaining and restoring our aquatic ecosystems and protecting human health.

Conclusion

As one whose profession is water quality, but whose avocation is land protection, I hope I have outlined a constructive role for land trusts in restoring the Great Lakes, its tributaries and nearshore areas.

Of course, even the greatest idea or vision requires solid execution. “God is in the details,” said the great German-American Architect Ludwig Mies van der Rohe²³ Working through the details of protecting land and water, the entire watershed as it were, will require intense collaboration between water managers and land conservancies, all levels of government and the community as a whole.

The toughest challenge will be managing ourselves, not just the resources entrusted to our care. Thank you for your attention. I look forward to our discussion.

²³ Yes, it is God, not the devil. Evidently, some attribute the quotation to the French writer, Gustave Flaubert. However, Mies van der Rohe is commonly cited for it in this country (www.google.org).

