

THE ROLE OF LAND TRUSTS IN GREAT LAKES RESTORATION

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Good morning.

I want to thank Mike Strigel and all the organizers of this Great Lake Gathering here in Milwaukee. It is the second one which I have been privileged to address regarding my perspective on land trusts and their evolving role in watershed protection and in the restoration of Lake Michigan specifically. I was pleased to speak at the first, very successful gathering in Green Bay, located on the world's largest freshwater estuary.

I am thrice blessed to participate in these important programs here in Wisconsin. First, I had the good sense to marry a woman from Milwaukee, the former Mary Falk. All of our seven children consider Wisconsin home, especially that part of paradise on Big Portage Lake in Land O' Lakes, WI (Vilas County), where we vacation almost every summer. I am pleased to report that your colleagues at the Northwoods Land Trust, Wisconsin's 2007 Land Trust of the Year, are active and doing their part to protect the north woods and lake country.²

Second, 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.³ I will be speaking more about the work of the Potomac Conservancy in the context of land trusts and Great Lakes restoration.

² www.northwoodslandtrust.org

³ www.potomac.org

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

Today, I will briefly describe the history and phenomenal growth of the private, not-for-profit land trust movement in the United States which I view as one of the three most significant 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 trust 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 and establish strategic partnerships with land trusts of all kinds 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."⁴

Finally, I hope to describe what I believe to be the crucial role for land trusts in protecting and restoring Lake Michigan and its nearshore areas and tributaries in Wisconsin.

⁴ Section 101(a)

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 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. I 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.⁵

⁵ “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

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 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.

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

Jonathan A. Patz, et al., and appears in the October 7th issue of the American Journal of Preventive Medicine.

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

Tocqueville saw voluntary, intermediate associations, that mediate between individuals and government, as unique institutions which, even in the early 19th century, flourished among Americans.

To my mind, the incredible growth of the private land trust 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.

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

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.

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 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.”

If the nation’s land trusts maintain the current rate of 6 million acres conserved acres in five years, a total of 43 million acres could be conserved 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 targeted the scenic Potomac Gorge. Today we are trying to impact water quality for both the river and the Chesapeake Bay by focusing

⁹ www.lta.org

more broadly on watershed protection in the headwaters and advocacy for stormwater protection in urban areas.

The very existence of the Gathering Waters Conservancy,¹⁰ a collaborative or network of over 50 land trusts here in Wisconsin, is further evidence of the strength of this organic movement of land trusts in American society.

Land trusts can engage, educate and motivate private landowners in a way that no government agency ever can. 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 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

¹⁰ www.gatheringwaters.org

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 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

¹¹ See Chapter 9

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

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

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 plagued by uncertainty as to standards and measurements given the large number of sources scattered across the urban landscape.

The program also suffers 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.

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.

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.

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).

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.

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.

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 areas¹⁶ which manifest the adverse impacts of “extreme stress from a combination of sources that include toxic contaminants, invasive species, nutrient loading, shoreline and upland land use changes and hydrologic modifications.”¹⁷ 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.

¹⁶ “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.

¹⁷ 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.

The local, land-based nature of pollution and other stressors to nearshore areas and tributaries present opportunities for land trusts 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 has to have exactly the same goals. But to whatever extent possible, it would be optimal if each trust could align its mission with water quality goals in their priority watersheds of which, presumably, Lake Michigan is one.

In calling for a paramount role for private land trusts 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 view 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.¹⁸

Here in Milwaukee, MMSD has partnered with The Conservation Fund¹⁹, one of the nation's largest land trusts, to buy and restore floodplain lands to meet its responsibilities

¹⁸ 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.

¹⁹ www.conservationfund.org

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 is on track to protect 1,800 acres by the end of 2008.²⁰

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, Lake Michigan and the entire basin.

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 Rohe²¹ Working through the details of protecting land and water, the entire watershed as it were, will require intense collaboration between water managers and land trusts, 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.

²⁰ 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.

²¹ 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).

