

KEYNOTE ADDRESS

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Sustaining Our Water Resources Through Collaboration
A Summit Connecting Water Leaders Across Watersheds

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Every environmental policy and law class taught in this country usually commences with a discussion of Garrett Hardin's classic 1968 essay, *The Tragedy of the Commons*.

Hardin paints the picture of a pasture open to all herdsman who will try to keep as many cattle as possible on the commons. This arrangement may work for a time, but one day comes the "day of reckoning." The inherent logic of the commons "remorselessly generates tragedy" because each herdsman seeks to maximize his gain." In brief, he simply will graze his animals until the last blade of grass is consumed and the land rendered barren to the detriment of all.

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The usual answer to this problem is often framed as a stark, binary choice between complete privatization or total regulation, presumably by a governmental body.

However, there has been a recent shift toward a middle ground, at least in certain circumstances and at certain geographic and sociological scales. New research reveals alternative approaches to rectifying the Tragedy of the Commons.

Elinor Ostrom of Indiana University, who just this year became the first woman to receive the Nobel prize in economics, has done pioneering research on a plethora of collaborative approaches to resources management around the world. She has demonstrated that user-managed fish stocks, pastures, woods, lakes and groundwater basins, in many countries and cultures, are able to establish norms of behavior, sophisticated rules for decision-making and even enforcement mechanisms.

The Economist magazine has found that an entire industry has sprung up to identify “new commons” such as the Internet.²

Ostrom points out that governing the commons requires elaborate conventions over who can use resources and when, notes The Economist. What you take out of a commons has to be proportional to what you put in. Usage has to be compatible with the commons’ underlying

² “Commons sense,” The Economist, August 2, 2008, p. 76.

health.³ Moreover, everyone has to have some say in the rules. “And people usually pay more attention to monitoring abuses and to conflict resolution than to sanctions and punishment.

Yet, scale matters, be it geographic, demographic or industrial. At some point, and America is way past it, there is a need to resort to government regulation at whatever level common sense, federalism and the principle of subsidiarity deem appropriate. That said, the bigger the challenge, the harder government must work to avoid becoming too big to fail, too much an end in itself, too removed from the people whom it serves and the resources it is supposed to manage and protect.

Today, we will be discussing collaboration and partnerships at huge scales, be it the Mississippi River basin, which drains 41 percent of the land mass of the U.S. into the Gulf of Mexico; the Chesapeake Bay, an international treasure encompassing six (6) states and the District of Columbia; as well as the federal sector and its many agencies involved with natural resources management for our entire nation.

Some of the models of watershed management, collaboration and partnerships, in these and other watersheds will be good and some bad. Some are promising but untested. All will be stimulating.

³ *Id*

The challenge is not just that of managing our water and land resources as important as that may be. Moreover, the truly daunting challenge is not necessarily scientific or technological, although these also deserve our attention.

The real challenge is that of “managing ourselves” to adopt a phrase of Richard N. L. Andrews of the University of North Carolina.⁴

According to Professor Andrews “environmental issues are issues not just of science or economics but of governance.”⁵

“They concern problems that are not being solved by science and technology alone, nor by the ‘invisible hand’ of markets or individual actions, and for which advocates therefore seek collective solutions through government action,” says Andrews.

For those of us who do prefer market-based approaches, be they the work of hands visible or invisible, Andrews is most certainly correct when he notes further that, while government action clearly comprehends regulations, public investments, scientific research, technical assistance and

⁴ Richard N. L. Andrews, *Managing the Environment, Managing Ourselves: A History of American Environmental Policy* (Yale 2006).

⁵ *Id* at p. xiv.

the like, “Government policies themselves, moreover, are often the causes of environmental problems as well as solutions to them.” *Quis custodiet ipsos custodiet?*⁶

Issues of governance, therefore, involve the governors as much as the governed. To appreciate this last point, consider the negative environmental impacts caused by some government subsidies. Realizing that one person’s subsidy is another’s valued government program, I will let you fill in the blank as to the most environment-unfriendly subsidy!

How do we promote or nurture productive collaborations or partnerships? I include in this category private partnerships in civil society which encompass not-for-profit activity such as land trusts and watershed organizations. I also include public-private partnerships which can either work in collaborative mode to either limit the need for or facilitate effective implementation of regulatory regimes. Given our governments’ fiscal challenges, not to mention an economy coming back to life and population growth in the years ahead, optimizing partnerships of all kinds, especially public-private partnerships is not just an option but a necessity.

Fortunately, Americans have a knack for this kind of thing. In his 1835 masterpiece, *Democracy in America*, Alexis de Tocqueville, reported on his observations of the American scene after an

⁶ “Who will guard the guards themselves’ or for our purposes, who will regulate the regulators? The quote is from Juvenal’s *Satires* in which he may have been more concerned with the problem of hiring guards to prevent infidelity among women whose husbands were out of town. See Eugene Ehrlich, *Amo, Amas, Amat andMore: How to Use Latin to Your Own Advantage and the Astonishment of Others* (Harper & Row 1985), p. 239.

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.⁷

Tocqueville saw voluntary, intermediate associations that mediate between individuals and government, as unique institutions which, even in the early 19th century, flourished among Americans. This American genius for voluntarism and collaboration is a strength which water managers in and out of government need to draw upon as they reach out to their watershed communities and form partnerships and collaborative ventures.

While there has been some commentary on the diminishment of this unique aspect of the American character, the idea of “bowling alone” as one authority described it, there are countless

⁷ Alexis de Tocqueville, *Democracy in America*, ed. Phillips Bradley (New York, 1945) II, p. 106

examples of citizens coming together to improve the quality of their water resources, sometimes independently, sometimes in concert with governmental entities including their local water and wastewater utilities. I would like to discuss just a few examples.

The Milwaukee Metropolitan Sewerage District (MMSD)⁸ provides a useful case history of the potential of utility leadership in leading in the area of watershed governance to address urban wet weather issues under the Clean Water Act. It is also an example of a utility pursuing a collaborative model. MMSD's long-term success may depend on an entirely new nongovernmental organization, a public-private, not-for-profit partnership, a kind of voluntary association, with a life of its own.⁹

MMSD provides wastewater and flood management services to 1.1 million customers in 28 communities, serving 411 square miles on the shore of Lake Michigan.

As with many older communities in the Northeast, Midwest and West Coast, MMSD had to respond to "urban wet weather issues," especially Combined Sewer Overflows (CSOs), releases of massive amounts of wastewater during big-storm events resulting from an infrastructure design in which sewage and stormwater are conveyed in the same pipes to treatment plants.

⁸See <http://v3.mmsd.com> for more information on MMSD.

⁹ What follows is based, in part, on numerous conversations with Kevin Shafer, Executive Director of MMSD over the past three years as well as his PowerPoint Presentation, April 28, 2008, entitled, "The Milwaukee Regional Partnership Initiative in the author's file. See also Milwaukee Metropolitan Sewerage District, *Fresh Coast Green Solutions: Weaving Milwaukee's Green & Grey Infrastructure Into A Sustainable Future*, undated, accessible at <http://v3.mmsd.com/Sustainability.aspx>.

When the pipes overflow, and to avoid disrupting biological treatment processes in the treatment plants, the wastewater is allowed to overflow into receiving waters.¹⁰ This was a common design at one time, supported by Clean Water Act grants for a time.

As a result of evolving federal policy, law and regulation, MMSD invested \$3 billion in “grey” infrastructure through the 1990s as part of its Water Pollution Abatement Program (WPAP), for structural work, i.e., large underground deep tunnels to hold overflows for treatment after the storm event subsided. It is currently finishing another \$1 billion investment.

Before WPAP came on line, MMSD experienced between 50 and 60 overflows per year with an annual average volume of 8 billion to 9 billion gallons of overflow. Presently, it has only two overflows per year with an annual average of one billion gallons of overflow.

Unfortunately, within the six (6) sub-watersheds in MMSD’s service, all tributary to Lake Michigan, 37 percent of the annual bacteria load comes from rural nonpoint sources and 56 percent from urban stormwater.¹¹ Beach closings still occur after significant storm events. These challenges now eclipse CSOs as the main obstacle to further gains in water quality

¹⁰ U.S. Environmental Protection Agency, *Report to Congress: Impacts and Control of CSOs and SSOs*, EPA 833-R-04-001, August 2004, available at www.epa.gov/npdes.

¹¹ Timothy Bate, William Krill, Troy Diebert, Leslie Shoemaker and Kevin Kratt, “Milwaukee’s Next Step: Watershed Restoration Plans (*Instead of TMDLs*), Figure 1, a paper delivered to WEFTEC, Chicago, IL, October 2008, in the author’s files. The authors included members of MMSD staff and outside consultants.

In addition, University of Wisconsin researchers are predicting that extreme precipitation events will become 10 to 40 percent “stronger” in southern Wisconsin due to climate change and variability. CSO events, with resultant overflows into Lake Michigan, will rise by 50 to 120 percent by the end of this century.¹²

MMSD decided to pursue a collaborative approach to watershed management, focusing on flow reduction coming from stormwater and nonpoint sources which are either insufficiently regulated or not regulated at all. It is also developing watershed restoration for its six (6) sub-watersheds. Ultimately, it hopes to incorporate at least some of these areas into a watershed-based permit to control all point and nonpoint sources across numerous municipal jurisdictions.¹³

MMSD is already promoting watershed-based, distributed “green” infrastructure approaches such as disconnection of downspouts, use of rain barrels, vegetated swales, cisterns, installation of green roofs and urban reforestation to supplement grey infrastructure and reduce flow through infiltration, retention and evapotranspiration at the site level. Subject to design, scaling and management, MMSD has documented capital cost savings from pursuing this approach.

¹² Jonathan A. Platz, MD, MPH, Stephen J. Vavrus, PhD, Christopher K. Uejio, MA, Sandra L. McLellan, PhD, *Climate Change and Waterborne Disease Risk in the Great Lakes Region of the U.S.*, American Journal of Preventive Medicine, November 2008, p. 451; “Great Lakes’ Study Ups Chances for Waterborne Disease,” Water & Wastewater News, October 10, 2008.

¹³ Watershed-based permits are (1) issued on a watershed basis, (2) focused on multiple pollutant sources, (3) targeted to achieve watershed goals, and (4) integrate permit development among monitoring, water quality standards, nonpoint sources and other programs. Patrick Bradley/LimnoTech, “NPDES Watershed Based Permitting,” Powerpoint to the Southeast Wisconsin Watershed Trust, July 13, 2009. Bradley was the leading EPA expert on this subject before joining LimnoTech in 2008.

It is already working with the Conservation Fund, one of the largest land conservancies in the nation, to buy and restore floodplains to manage flooding and reduce stormwater flows. This “Greenseams” program has acquired over 2,000 acres since 2002 and identified a total of 15,000 acres for purchase. MMSD has spent \$13.4 million from its capital improvements budget and has also received some grants for the program.

Kevin Shafer, the Executive Director of MMSD, came to realize that suburban communities, business, agriculture, environmental groups, universities and a range of stakeholders will have to be brought into the watershed process if the goal of transforming the landscape, in both its urban and rural aspects, is to be attained. This will be accomplished by means of “green” infrastructure for stormwater control and best management practices (BMPs) for agricultural nonpoint sources. Shafer eventually came upon Chicago Wilderness¹⁴ as a prototype of the kind of collaborative model MMSD needed to engage the larger community, including numerous local jurisdictions with a particular interest in stormwater compliance.

Chicago Wilderness is an alliance of organizations interested in protecting and restoring biodiversity in urban, suburban and rural areas in and around the Chicago metropolitan region. With its more than 240 members, this organization seeks to raise awareness and knowledge about nature, healthy ecosystems and biological resources, especially prairie landscapes; increase

¹⁴ <http://www.chicagowilderness.org>.

public participation and stewardship; build alliances among diverse constituencies; and facilitate applied natural and social science research, BMPs and the sharing of information.

Shafer and other leaders in Milwaukee's water community were able to initiate an extended process of consultation and deliberation among interested stakeholders with funding from a local foundation and facilitated by a local university professor.

MMSD, working with the Southeastern Wisconsin Regional Planning Commission (SEWRPC)¹⁵ had already embarked on a regional partnership, the Milwaukee Regional Partnership Initiative, to develop restoration plans for each of its six (6) sub-watersheds.

In time, something like a consensus was realized on a new entity akin to Chicago Wilderness: the Southeast Wisconsin Watershed Trust (SWWT),¹⁶ popularly known as the "Sweet Water Trust." Formed in 2008, it sought to focus on "integrated water resources management" across political boundaries and engage in "second level planning" to fulfill the regional plan previously developed and in conjunction with the individual "Watershed Restoration Plans" to be undertaken in each sub-watershed. To that end, it has established "Watershed Action Teams" under the direction of an expanded Executive Steering Council.

¹⁵ <http://www.sewrpc.org>.

¹⁶ <http://www.swwtwater.org>

One of its key goals is to “Identify/support land use practices and designs that enhance/improve water resources and promote and restore ecological benefits.” It also aims to “Forge and strengthen relationships to leverage funding and recommend policies to assist in the implementation of projects to produce lasting water resource benefits and cost savings throughout the Greater Milwaukee Watersheds and nearshore Lake Michigan.”

Among its primary purposes is “To build partnerships and enhance collaborative decision-making and joint project implementation engaging government, business, the building industry, agriculture, environmental, and other stakeholder organizations to obtain broad agreement and recommend where to invest funds to get the greatest benefit.”

SWWT’s membership includes individuals, units of government, nongovernmental organizations and the business community. It is hiring staff and has received a \$1.9 million grant from the Joyce Foundation.¹⁷ It also convenes a well-attended annual conference.

The Great Rivers Land Trust¹⁸ (GRLT) focuses on preserving open space and habitat in the Mississippi watershed, north of St. Louis, in the vicinity of Alton, IL. GRLT has for many years implemented the Piasa Creek Watershed Project to reduce sediment in the 78,000 acre watershed

¹⁷ “Sweet Water Trust and Its Environmental Partners Get Boost to Improve Water Quality in the Milwaukee River Basin,” Press Release, July 7, 2009, Southeast Wisconsin Watershed Trust. In a complementary move, Joyce is also providing the national environmental organization, American Rivers a \$375,000 grant, with a \$150,000 match from MMSD, to work with Milwaukee communities to adopt sustainable “green” infrastructure solutions to wet weather problems. “Milwaukee’s communities and clean water benefit from grant awarded to American Rivers,” Press Release, May 1, 2009, <http://www.americanrivers.org>.

¹⁸ www.greatriverslandtrust.com

located in several Illinois counties, providing multiple environmental benefits such as stormwater control, reduction of flash flooding, enhanced fish and wildlife habitat, and protection of sensitive ecosystems.

Since the early 1990s GRLT has partnered with the American Farmland Trust to conduct pilot projects to develop watershed plans, drawing in numerous and varied stakeholders in the process.

¹⁹ After the floods of 1993 on the Mississippi River, the local water company, Illinois American Water, wanted to relocate its water treatment plant to the top of a nearby hill. The new water quality permit would not allow for discharge of sediments back to the Mississippi. It looked like the company would have to spend a lot of money to build treatment lagoons and ship sediment to offsite landfills.

Eventually, Illinois American Water offered to fund GRLT's Piasa Creek Watershed Plan in order to maintain the previous permit conditions with regards to sediment. In effect, it was proposing a point-nonpoint source trading program to take advantage of the control cost differentials between end-of-pipe treatment with landfilling and land-based best management practices to control sediment runoff.

¹⁹ Much of this discussion is based on my own knowledge and recollection and the discussion in "Lessons Learned from Point-Nonpoint Source Trading. Case Study: Rivers Land Trust, Alley Ringhausen, Great Rivers Land Trust," *National Forum on Synergies Between Water Quality Trading and Wetland Mitigation Banking. Forum Report* (Environmental Law Institute December 2005), pp. 25-28. This report is available at www.eli.org.

With the approval of Illinois EPA, GRLT and Illinois American Water signed an agreement for a \$4.1 million, ten-year project to reduce sedimentation in the Piasa Creek Watershed by approximately 6,600 tons per year by the end of the contractual agreement. This agreement assumed a 2:1 ratio, double what the company was estimated to discharge over this time period.

GRLT formed another partnership with the local Soil and Water Conservation District for implementation of a variety of practices among farmers in the area. GRLT has met and exceeded all of its goals for the Piasa Creek Watershed Project.

Our colleague, Dr. Richard Sparks of the National Great Rivers Research and Education Center, reminded me that, initially, this program did leave something to be desired in terms of ongoing and follow-up assessment, a persistent challenge for watershed management generally.

To the credit of Lewis and Clark Community College in Godfrey, IL, whose president, Dale Chapman, you will be hearing from later today, a sediment monitoring station was installed five years after the trading program was started. Well, better late than never, as they say.

The U.S. Geological Survey and the College share the cost of this water-and-sediment gaging station. This is yet another permutation of the collaborative theme. This effort will aid in establishing the broader applicability of point-nonpoint trading.

Planning, assessment, measurements, data, monitoring-these issues will become more critical as we move to manage entire watersheds or basins. They all present management challenges at the landscape scale.

I have the pleasure of serving on the board of the Potomac Conservancy²⁰ which has a long tradition of including the protection of the Potomac and Chesapeake Bay watersheds as top priorities. The Conservancy's land protection program has acquired conservation easements on 11,000 acres in the upper reaches of the watershed and has an active policy advocacy program directed at local governments and stormwater control. Among its key partners are farmers, other land trusts, federal and state agricultural and wildlife agencies and local governments who control policies impacting the growth of impervious surfaces and stormwater flows.

The Potomac Conservancy now publishes an annual State of the Nation's River report and is an active player in Richmond and among various coalitions focused on the Bay and its tributaries. It aligns its work with the water quality objectives of the entire region and has recently ventured into the area of "emerging contaminants" in light of the discovery of intersex fish in the Potomac River.

²⁰ www.potomac.org

All three of the examples reveal an extremely rich, complex mosaic of private, public and not-for-profit players in the watershed game. This may be a case of form following function since we are now addressing a myriad of land-based issues implicating a host of actors-local governments, farmers, transportation departments, real estate developers-not just the big dischargers, the traditional industrial and municipal point-source dischargers.

I am focusing largely on water quality with these examples, but the lessons apply to so many environmental challenges today, all of which implicate numerous citizens, businesses, homeowners, military bases, hunters, fishers, woodlot owners, ranchers, foresters and farmers distributed across wide geographic areas.

With respect to water issues, be they quantitative or qualitative, the watershed is the appropriate integrating principal. We have known this a long time. Gravity and water are hard facts which we cannot deny in the effort to manage ourselves and our watersheds. It is now necessary to reinvent the watershed as a social reality as well.

Recalling Tocqueville's observations on the American genius for collaboration in so many different contexts, we need to ask ourselves what is it that has yielded successful watershed partnerships across the country including Milwaukee, Piasa Creek and the Potomac. My friend and colleague Pat McGinnis²¹ has offered the observation that it is a strong sense of place that is

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the common thread, a social reality which is at least a contributing factor. The sense of place stimulates the collective genius of the citizens in the quest for effective governance models be they voluntary or regulatory or some other hybrid.

The great American writer, Wallace Stegner, wrote a 1986 pamphlet for the Wisconsin Humanities Committee entitled, "The Sense of Place," in which he cited the great Kentucky writer, Wendell Berry: "If you don't know where you are, says Wendell Berry, you don't know *who* you are."

Stegner, who won both the Pulitzer Prize and the National Book Award for fiction, and may be best known to this audience for his great non-fiction work, *Beyond the Hundredth Meridian: John Wesley Powell and the Second Opening of the West (1954)*, describes the contrast between "placed" persons, such as Thoreau, Frost and Faulkner, and "displaced" persons such as Daniel Boone and other highly mobile and migratory Americans. His main point is that "a place is not a place until people have been born in it, have grown up in it, lived in it, known it, died in it-have both experienced and shaped it, as individuals, families, neighborhoods, and communities, over more than one generation."

"Some are born in their place, some find it, some realize after long searching that the place they left is the one they have been searching for," writes Stegner. "But whatever their relation to it, it is made a place only by slow accrual, like a coral reef."

“No place, not even a wild place, is a place until it has had that human attention that at its highest reach we call poetry,” says Stegner. “Only in the act of submission is the sense of place realized and a sustainable relationship between people and earth established.”

Today we will try to see (or is it hear?) and understand the poetry to be found in effective watershed collaborations and partnerships, those already existent and those yet to be formed, in two of America’s iconic bodies of water as well as within the governmental sector.

It should be a stimulating discussion and will, hopefully, shed light on what is good, bad and still untested in terms of public-private partnerships for the benefit of our citizens and the water resources upon whom they depend.

Thank you for participation here today.