ENVIRONMENTAL MANAGEMENT IN ECONOMIC HARD TIMES:

GETTING BACK TO THE FUNDAMENTALS

OPENING ADDRESS

BY

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MOVING FORWARD IN A TIME OF SCARCITY AND UNCERTAINTY

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Introduction

Good morning and thank you for inviting me to address this conference in which many outstanding professionals will grapple with the daunting realities of the Great Recession, persistent unemployment and growing resistance to governmental intrusion and costs. These trends impact environmental management in the public, private and not-for-profit sectors. We feel the pinch in our own firms, our own agencies and philanthropic organizations every day.

As professionals, we must carry on if we are to serve our mission to preserve and protect America's blessings of clean air, water and land. "When the going gets tough, the tough get going." Whether this phrase was coined by old Joe Kennedy[2] or the great football coach, Knute Rockne,[3] as some claim, these are definitely tough times requiring all of us to be resilient both personally and professionally.

Resilience is predicated upon "staunch acceptance of reality; a deep belief, often buttressed by strongly held values, that life is meaningful; and an uncanny ability to improvise." That was the view of Diane L. Coutu, a senior editor at the Harvard Business Review who specialized in psychology and business.[4]

Resilience is not the same thing as optimism. Coutu quotes James Collins, the celebrated author of the best-selling business book, *Good to Great,* citing the case of Admiral Jim Stockdale

[2] Businessman and father of President John F. Kennedy (1888-1969).
[3] For his biography see http://www.knuterockne.com/biography.htm.
[4] Diane L. Coutu, "How Resilience Works," Harvard Business Review (May 2002): 3

a prisoner of war who was tortured by the Vietcong for eight years. In response to Collins's enquiry as to who did not make it out of the camps, Stockdale replied, "Oh, that's easy. It was the optimists. They were the ones who said we were going to be home by Christmas….You know, I think they all died of broken hearts."

"But for bigger challenges, a cool, almost pessimistic, sense of reality is far more important," says Coutu.

Realistically, we must cultivate individual and organizational resilience, looking forward to better times and persevering with commitment and integrity. Today's program offers numerous examples of this positive attitude which will carry us through the current storm.

In difficult, confusing circumstances, both personal and professional, it is useful to recall the dictum of Peter Drucker, the godfather of modern management theory: First things first, one thing at a time. In other words, pay attention to the first things of importance-the fundamentals as it were-and maintain your focus over time.

Today, I will hedge my bets and describe several "first things" that we need to do in a complicated world of limited resources which demands multi-tasking every minute of every day.

I want to talk about fundamentals which should anchor the work of every environmental or natural resource professional. I hope to identify some new approaches, possibly outside your comfort zone, which require developing new skill sets which go beyond technical engineering, the natural sciences and purely legal or statutory requirements.

Specifically, I believe that engineers and other technical managers, both within private entities as well as public institutions, must more actively engage the general public, stakeholders, the regulated community and non-governmental organizations (NGO) with a view toward cultivating greater understanding, material and moral support and, just as importantly, fashioning effective public-private partnerships to achieve common goals. These kinds of collaborations are certainly time and labor intensive, but they can facilitate mutual learning, mobilization of resources from non-traditional sources and enhance the political and social legitimacy of both public and private entities.

The fundamentals: four standards

22 years ago, in 1990, I came across a stimulating, provocative book entitled, *The Environmental Protection Agency: Asking the Wrong Questions*[5] by Marc Landy (Boston College), Marc Roberts (Harvard's School of Public Health), and Stephen Thomas, (The Commonwealth Fund, later Fordham University).

The book offered penetrating criticism of the Agency's handling of such issues as the ozone standard, cancer policy and other matters such as Superfund. It is a constructive, stimulating read, and I commend it to you.

[5] Oxford University Press. An expanded edition, *The Environmental Protection Agency: Asking the Wrong Questions From Nixon to Clinton* (paperback), was also reissued in 1994 from which all quotes are taken.

However, it is not the substantive issues of the book which I want to focus on today but the standards by which the authors evaluated the Agency's performance. I found them to be relevant to any institution, public, private or not-for-profit and germane to our theme today.

These standards are[6]:

- Fidelity to technical merits
- Promoting civic education
- Responsiveness to the public
- Building institutional capacity

If you use "marketing and communications" for civic education, and "customers" or "stakeholders" for the public, you can see that these standards are applicable outside the governmental sector per se.

"Leaders of public agencies should serve as champions of the merits," argue Landy et al. "When political pressures push them to over-promise, politicians need to be reminded that they can suffer greater loss by failing to do the impossible than by making more limited commitments in light of inconvenient facts."

This standard is often violated by sins of omission, for example, when water or wastewater utilities' staff pretend that the infrastructure in their care is, oh, just fine, absent adequate rate structures or increases, and, sure, go ahead and take as much of the revenue as you need to maintain labor-intensive fire and police services, effectively starving the infrastructure of the

[6] *Id* at pp. 6-9.

resources necessary for clean and safe water. In these situations silence, or the failure to speak, does violence to the standard of promoting civic education.

"Government has the obligation to provide the civic education that strengthens the capacity of citizens for successful self-government," write the authors of *Asking the Wrong Questions.*

Public agencies are, or should be, "civic educators" which "encourage citizens to accept some degree of responsibility for a collective problem or to believe that someone else…can or will take care of it for them." Framing the right questions is key to civic education.

Responsiveness to the public should not be viewed exclusively in terms of success at the polls in any given election. That is sacrificing the strategic goal for tactical advantage, according to Landy, Roberts and Thomas.

Finally, developing capacity is "the long run institutional counterpoint to civic education."

"Perpetuaton of institutional memory, recruitment and retention of skilled personnel, and developing a capacity for honest and impartial judgment all require the attention of agency leaders, as does the communication of these strengths to the general public," write Landy et al.

That last point, of course, is easier said than done. Recall the old Steve Martin joke: How do you make a million dollars without paying taxes? First, get a million dollars. It's not that easy.

The authors of *Asking the Wrong Questions* believe that government must demonstrate leadership to promote three critical processes to meet these four standards even in the face of

the inevitable pluralism and diversity of views in the political realm. Specifically, they expect the government to pursue deliberation, integration and accountability.[7]

Deliberation and accountability are probably self-evident to most of us, but I understand deliberation and integration to require not only sustained interaction between federal, state and local agencies on the vertical axis, but also between the public, private and not-for-profit sectors along the horizontal axis.

We might call the latter kind of integration, on the horizontal axis, public-private partnerships. Resources and knowledge are limited in each sector. Yet, in partnership, there are synergies and shared learning to be gained through integration or collaboration as well as greater trust, social capital and even political credibility and legitimacy.

Let me offer some examples of integration and collaboration at the watershed scale, always a daunting challenge, one from the Great Lakes and another from the Mississippi River basin if time allows.

Integration and collaboration at watershed scale

Lake Michigan

The Milwaukee Metropolitan Sewerage District (MMSD)[8] is an example of a utility pursuing a collaborative or integrationist model. MMSD's long-term success may depend on an entirely

[7] *Id* at pp. 13-16
[8] See http://v3.mmsd.com for more information on MMSD.

new nongovernmental organization, a public-private, not-for-profit partnership 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 pressing "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. 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]

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. That adds up to $4 billion, but who is counting?

Prior to these investments 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.

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[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.

[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.

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.

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 plans 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 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

[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.

[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.

infiltration, retention and evapotranspiration at the site level. Subject to design, scaling and management, MMSD has documented capital cost savings from pursuing this approach.

It 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 2,350 acres since 2002.[14] 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 Wilderness[15]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 public participation and stewardship; build alliances among diverse constituencies; and facilitate applied natural and social science research, best management practices (BMPs), and the sharing of information.

[14] E-mail to G. Tracy Mehan, III, from Karen Sands, MMSD, April 10, 2012.
[15] http://www.chicagowilderness.org.

Shafer and other leaders in Milwaukee's water community were was 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.

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.

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.

Mississippi River

The Great Rivers Land Trust[18] (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

[16] http://www.swwtwater.org

[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.

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.

[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.

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.

Dr. Richard Sparks of the National Great Rivers Research and Education Center (NGRREC)[20], based in southern Illinois, informs 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, and its visionary president, Dr. Dale Chapman, a sediment monitoring station was installed five years after the trading program was started.

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[21] were crucial in both of these cases and will become more critical to managing entire watersheds or basins. They very real management challenges at landscape scale. They are, however, essential to meeting the four standards of technical merit, civic education, responsiveness and enhancing capacity over the long run. They also enable public deliberation, integration and, most importantly, accountability at the intersection of the vertical and horizontal axes of intergovernmental and public-private partnerships.

[20] www.ngrrec.org

[21] Regarding the importance of data and water monitoring for water management, see G. Tracy Mehan, III, *Water Data and Monitoring as Indispensable Tools to Manage Water Quality,* Environment Reporter, Volume 41, No. 32, August 6, 2010, pp. 1797-1802

Conclusion

These watershed case studies reveal an extremely rich, complex mosaic of private, public and not-for-profit players in the watershed game. Form follows function since it is essential to address 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.

These examples focus on water quality; but their lessons apply to many other 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.

One authority has described this novel, mixed approach as "social-political governance," a pattern of governance "in which the lines between public and private are blurred as the boundaries between them become fluid and permeable. Government acts less *on* other actors in a hierarchical relationship as it does *with* them in a more collaborative and communicative way; governing consists less of the state exerting control over others in society and more of an interaction among them. There is more shared responsibility and trust."[22] Moreover, this new, mode of governance actually recasts environmental regulation "as a more effective learning system."[23]

[22] Daniel J. Fiorino, *The New Environmental Regulation* (The MIT Press 2006), p. 19. Dr. Fiorino was a pioneer in voluntary, performance-based voluntary programs during his career at EPA. He presently runs the Center for Environmental Policy at American University.
[23] *Id* at p. 20.

With respect to water issues, be they quantitative or qualitative, the watershed is the appropriate integrating principal. We have known this for a long time. Gravity and water are hard facts which cannot be denied. Yet, we must reinvent the watershed as a social reality as well. This, in turn, requires deployment of social as well as technical skills.

Whether it be communicating with ratepayers and water customers to support needed infrastructure investments, working with land trusts and agricultural organizations to deal with nonpoint source pollution or partnering with key industries to reduce pollution or drive energy and water efficiency, environmental and resource managers must focus on the fundamentals to cope with the realities of limited money, staff and political capital. They will have to use their imagination and ingenuity to engage their stakeholders and potential new partners through effective deliberations, integrating the knowledge, insights and resources of all.

Environmental professionals must draw upon a wide array of disciplines and stakeholders going far beyond their own technical specialties.

I hope these thoughts contribute to your own deliberations here today and aid in creatively adapting to very difficult economic times.

Thank you for your attention.