

40 Years of Cleaning up the Hudson River Estuary: Where Are We Heading and Why?

May 7 2012 Speech before the Hudson River Environmental Society

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Good morning, and thank you HRES for putting together a terrific and thought-provoking program.

So, our topic today is “The Future of the Hudson: where we are heading and why?”

Before we start, let me just ask you a few questions:

First, help me learn a little about you, and who is here today with you: Raise your hand if you are from: Non-profits organizations? Academic, researchers and students? Consulting firms? Agency staff? Elected or appointed officials? Business/private sector?

How many of you feel like the Clean Water Act is living up to its vision? Has it produced the results it promised? Yes? No?

My own perspective on that is shaped by my life experiences of the last 40 years. I grew up in Poughkeepsie, where the river of my childhood was polluted with sewage, butcher waste, industrial chemicals and heavy metals; people swam in the river, but at their own risk. People fished the Hudson, but the fish tasted like oil. Dye factories and glue factories took advantage of the water power on the mill streams that form the tributaries of the Hudson. On any given day, the Wappingers or Fishkill Creeks might change color. PCBS, dioxins, and cadmium are just some of the chemicals and metals that were routinely washed down the drain in manufacturing rinse water.

But while I was growing up, important things were happening here on the Hudson that set the stage for the Clean Water Act. In fact, I'd say that there wouldn't be a Clean Water Act without the Hudson. From 1961-1970, here's what was going on:

- Three citizen action groups were established-- Scenic Hudson, the Hudson River Fishermen's Association—now Riverkeeper— and Clearwater. Each in its own way put pressure on public officials to do something, and they created important legal precedents, such as the right of citizens to sue and the obligation of companies not to pollute;
- State health department officials documented the problems of the river and discovered that the public wanted change;
- Governor Rockefeller proposed a bond act to clean up the river in 1965, and state voters passed it by referendum;
- Pete Seeger and Harry Chapin composed songs about the need to clean up the Hudson and sang them in the nation's Capitol
- The Association for the Protection of the Adirondacks defeated the Gooley Dam project, which would have flooded 35 miles of wild river, including the Hudson River gorge at

Blue Ledges.

- *Sports Illustrated* published Bob Boyle's article on PCBs in the Hudson.

All of this occurred before the Clean Water Act was proposed and shows the degree of public ferment that preceded federal action. So, today, we should not only think about the challenges ahead but also celebrate our victories and our region's leadership.

So what *was* the legacy of the Clean Water Act here on the Hudson?

In 1972, the act set a goal of a fishable, swimmable, drinkable waters, and today, though it seems hardly possible, large segments of the river meet the standard for swimmable waters or the higher classification for drinking water supplies.

Today there are cross- river swim festivals. People swim around Manhattan. Kids swim at beaches and in floating RiverPools.

Wetlands that were used as dumps became parks, such as those at Beacon and Croton Point. The filling of large expanses of shallow water habitats with dredged spoil has been stopped.

Striped bass populations rebounded. In 1978, state officials sampled the waters of the Hudson at Albany in summer time and found zero oxygen in the water and only a single fish swimming in circles at the surface and gasping for air. Now, the river at Albany supports a robust sport fishery.

PCBs are now being cleaned up on the upper Hudson, and PCBs levels in fish continue to decline.

New State legislation followed the sweeping federal legislation of the 1970's. In the 1980's we established:

- The Hudson River Estuary Program,
- the Hudson River Valley Greenway;
- the Hudson River National Estuarine Research Reserve;
- the Local Waterfront Revitalization Program;
- the National Estuary Program of EPA; and
- the Hudson River Valley National Heritage Area.

So here we are, 40 years later looking at impressive accomplishments, but also having to admit that we have not yet kept the promise we made.

From the standpoint of being able to safely swim in the Hudson or being able to eat fish caught from the river without concern for your health, we still have a ways to go.

Cities in the upper estuary, including Rensselaer and Troy do not yet disinfect their sewage treatment plant effluent, though they now have plans to do so. Pathogens flood the river after it rains and sewer systems over-flow.

Sewage treatment plants built 30 years ago with a design life of 30 years need to be updated and expanded. Pipes built under river cities a hundred years ago are failing—some of them are wood or brick.

Meanwhile, the sediments of the Hudson still carry the burden of toxic contamination. The river is still designated as a Superfund site due to PCB pollution.

We also have significant water quality challenges from runoff. Our streams and creeks are polluted with bacteria, oils, sediment, heavy metals, and trash. Though many badly polluted streams have improved, the trend is for our high quality streams to lose some of their quality. Nationally, more streams get listed as impaired than are removed from impaired lists.

So we have more work to do.

We are also dealing with a structure that was created 40 years ago to meet the demands of society and the environment as it existed at that time. It is a structure that worked well and in many ways continues to work well, but needs some overhaul if we are to truly achieve the goals set forth in 1972.

Today new challenges loom and you will hear more about some of them at this conference:

- Water shortages are occurring around the globe. A recent CRREO paper authored by the Estuary Program's Scott Cuppett and consultant Russell Urban Mead makes the point that water will be the new oil.
- Changing climate patterns are resulting in more severe storms which cause extensive economic and environmental damage. The Estuary Program is now documenting the impact of Tropical storms Irene and Lee in the valley –lost water supplies, washed out roads, damaged homes and strained water and wastewater infrastructure.
- Today, with the growth of population in the valley, much of our water and wastewater infrastructure lacks sufficient capacity.
- The economic recession has hit every budget in every category. Even before the recession we wondered where the money would come from.

If meeting these challenges seems overwhelming, just remember how impossible it seemed back in the 1960s to turn this river around.

The key back then was the multi-billion dollar federal and state wastewater infrastructure funding, and some form of financial strategy will be key once again.

Governor Cuomo has just announced a new, centralized process for evaluating all the state's infrastructure needs comprehensively.

Perhaps synergies can be found by combining spending on transportation and water sewer. Have you ever seen a road repaired one year and seen the same road torn apart a year later to install water and sewer pipes?

We also need to ask how we can use the money we've got more efficiently and effectively?

This means taking advantage of technology, improved management strategies, and developing new ways of funding clean water projects.

So here are a few ideas:

We need block grants from EPA to be able to target resources where they are most needed, as priorities change much more quickly than the federal bureaucracy.

We need to think about creating markets for clean water by user groups. Could water utilities pay for upstream watershed protection, as New York City does with its water supply?

In DEC, the Division of Water seeks to increase efficiency in permitting, compliance and enforcement by moving into the electronic age with web-enabled permitting and reporting for transparency.

Government inspections and enforcement to assure compliance can be supplemented with cell phone apps that allow citizens to be our eyes and ears on the ground.

With better analytical tools we can better target our initiatives to be sure we are tackling the right problems. Monitoring can help us define problem areas and the sources, so we put our effort where it will have the most impact. Sometimes the solutions are counter-intuitive. We need data to point us in the right direction.

We also need to think about updating our water policies. The future will require:

Controlling emerging contaminants such as pharmaceuticals;

Protecting high quality streams, such as smaller headwater streams, which often don't have the same level of protection as large rivers.

We should be addressing water quality and source water management at watershed scales. This is the only scale that works for making informed and sustainable water resource decisions;

We should be using our natural infrastructure of forests, wetlands, and floodplains to sustain water quality and reduce costs to society of providing clean water. New York City avoided the cost of building expensive water filtration facilities by using these less expensive methods.

We can adopt "green infrastructure" practices that mimic natural processes, allowing rain to soak into the ground, not flood our streets. Rain gardens, roof gardens and grassy swales can have enormous benefit. The NYC Department of Environmental Protection is now promoting green infrastructure on a large scale to manage storm water in the city, in hopes of significant cost

savings as well as quality of life improvements from new, green streets.

We need to focus on climate change, and the related impacts of flooding, drought, and sea level rise.

All of this points to one more thing, which is shifting to a systems approach. We are starting to move away from just managing pipes and sewer plants, to looking at water as part of an arterial system. Drinking water, stormwater, waste water need to all be approached holistically.

Which leads me to my next point:

When we ask the question “Where are we heading and why?”

There are five things the Estuary Program is pursuing as part of this whole-system approach:

First, we have set a goal to make the river swimmable. Through the work of DEC’s Division of Water, we have upgraded the discharge standards in our water quality permits, provided clean water grants to municipalities, eliminated pollution from boating waste, and secured agreements from local governments to be partners in this vision. However, additional investments in clean water are needed to meet this goal, especially dealing with sewer overflows when it rains. There are parts of the river used by swimmers that have unsafe pathogen levels, and achieving the goal of a swimmable river will need to address that.

Second, we are developing plans to restore as much as possible of the habitat that was destroyed by dredging and filling prior to the Clean Water Act. Since we can’t dig it all out, we need to get creative and think about restoring the types of habitats that we need most. That includes creating new shallow water habitats that are so vital for our migratory waterfowl and fisheries.

Third, we are committed to bringing back our signature fish populations. What is a fishable river without fish you can catch? Shad, herring, sturgeon and eel populations need to be managed so they rebound. Striped bass need to be sustained.

Fourth, we are providing access for people to enjoy the water. When the public loves their river, they fight for it. Nothing builds affection for the river like being able to use it. Access to the Hudson includes providing scenery for people to enjoy. Is there a connection between scenery and water? Are you aware that the Storm King legal case in 1965, which was about protection of scenery, set key precedents for the Clean Water Act?

Fifth, we are preparing for and adjusting to climate change. Predicted floods, droughts, storm, heat, and sea level rise –much of which we are witnessing today--, have the potential to completely change our ecosystem and the human benefits it supports.

As the Coordinator the Hudson River Estuary Program, I will continue to press for this work. Continuing to clean up the Hudson will be expensive, but it will also pay off in terms tourism as well as providing healthier experiences for people who swim, kayak and windsurf on the Hudson today. Clean water has already enhanced shoreline land values and galvanized a revitalization of the waterfront. Regional Economic Development strategies for the Mid-Hudson and Capitol regions recognize the value of a vital clean, beautiful river to the future of the region.

So, what can you do to advance the goals of the Clean Water Act?

Commitment begins with personal acts. Go for a swim, catch a fish, put a boat in the water. Enjoy what we have worked so hard to achieve.

Commitment also begins with sharing a vision. That's what valley residents did in the 1960's.

So I have handed out a draft vision. There is a place to sign your name and a place to share your thoughts, but there is no place for your contact information or phone number, because this isn't a fund-raising gimmick or a way to get your name on our mailing list. It is just a statement of commitment. In the words of Emily Vail, we want you to say "I want that," --nothing more, nothing less.

And while you are filling out your form, if you will indulge me, I'm going to ask you to join me in a song. We have Steve Stanne here on the guitar, and a song Pete Seeger wrote in 1961, it has a catchy refrain that captures the sentiment of the 1960s before the Clean Water Act was passed.

It goes like this: [Steve to play and sing]

Sailing up my dirty stream, still I love it, and I'll keep the dream
That someday though maybe not this year,
My Hudson River, will once again run clear.

Well now the Hudson is not so dirty, so new lyrics are needed, but the dream is as bright today as it was before, so are going to sing:

"Sailing up my grand old stream, still we love it, and we'll keep the dream.
That some day soon, though maybe not this year,
Our Hudson River, will once again run clear."

Play it Steve, sing it everybody!

Thank you.