New policy priorities emerging in fight to protect Great Lakes

By Tim Anderson [1]
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For Great Lakes advocates, the past decade has been marked by one important policy milestone after the next.

First, a more protective interstate compact [4] (and companion agreement with Ontario and Quebec) was enacted to prevent long-distance, large-scale diversions of water outside the basin and to improve conservation and management policies within it.

Second, the long fight for more federal funding was won with creation of the historic Great Lakes Restoration Initiative [5]. Over the past four years, funding for the initiative has topped $1.3 billion — for projects in the region's eight Great Lakes to clean up toxic “hot spots,” prevent the introduction of invasive species, and protect wetlands and other habitat.

Third, prodded in part by the legislative and legal actions taken by states in this region, the federal government last year [6] strengthened its standards for how vessels must manage their ballast water — the most common cause of aquatic invasions in the Great Lakes over the past 50 years.

Lastly, for the first time in a quarter century, U.S. and Canadian officials revised the binational Great Lakes Water Quality Agreement [7]. Much broader in scope than previous versions, the new agreement for the first time sets a framework for the two countries to address the impacts of invasive species, habitat degradation and climate change.

“It could be an incredible force for good,” Andy Buchsbaum, executive director of the National Wildlife Federation’s Great Lakes Office, said of the agreement soon after it was amended in late 2012.

Yet amid all of these policy advances and victories, new concerns are being raised about the future of the Great Lakes — and some of the policies in place to protect them.

Future federal funding in doubt

For starters, the future of the federal Great Lakes Restoration Initiative is cloudy. The program began in fiscal year 2010 at a funding level of $475 million. Funding dipped to $300 million in the next two fiscal years and, as a result of the federal sequestration, is now at $284 million.

This summer, a U.S. House subcommittee proposed cutting the initiative in fiscal year 2014 to $60 million. A subsequent amendment added $150 million, but it remains unclear what will happen to the initiative in congressional negotiations over next year’s budget.

Over the past four years, hundreds of millions of dollars have flowed into this region for Great Lakes restoration and protection projects — $163 million in Michigan alone, for example (see table).

The initiative has been one of the primary funding mechanisms used in the unprecedented fight to keep Asian carp out of the Great Lakes. This basin-wide fight has included the construction of electric barriers, monitoring the movement of Asian carp, and the use of new netting and “electrofishing” techniques.
“Had it not been for the GLRI [Great Lakes Restoration Initiative], I am convinced that Asian carp would be much further along the Chicago Area Waterway System than they have been able to go,” said Cameron Davis, who coordinates the U.S. Environmental Protection Agency’s work on the Great Lakes Restoration Initiative.

Davis made those remarks at a July meeting of the Great Lakes Legislative Caucus (a nonpartisan association of state and provincial legislators that receives staff support from CSG Midwest).

He also told the caucus that the federal initiative is helping states and localities make progress on cleaning up so-called “Areas of Concern”: parts of the Great Lakes basin that have been designated by the U.S. and Canadian governments as environmentally degraded.

These areas — rivers, harbors, bays and lakes that flow into the Great Lakes — dot the entire basin (see map). They were originally designated as “Areas of Concern” in 1987, and only five have since been delisted.

“They contribute to pollutants that circulate through the [entire] Great Lakes system,” Davis said, adding “it’s not acceptable that these [Areas of Concern] have been on the list since the mid- to late 1980s.”

According to Davis, the Great Lakes Restoration Initiative has “pushed the accelerator” on restoring these areas, all of which have some type of beneficial-use impairment — such as tainted drinking water, beach closings, degraded fish and wildlife populations, or the presence of contaminated sediment.

Since implementation of the initiative, Davis said, 24 beneficial-use impairments have been removed from these Areas of Concern — more than double the number removed in the previous 22 years. (One-third of federal funding under the Great Lakes Restoration Initiative has gone to clean up these areas.)

Even as funding for the initiative faces an uncertain future (leaders of the caucus have written a letter to members of the U.S. Congress urging that cuts not be made), Davis has spent much of the past several months beginning to map out a new five-year strategy for the federal program.

Much of that work, he said, has been gathering input from key stakeholders from the region.

“We have seen absolute unanimity; people have advised us to work on three things,” he said.

The first two are cleaning up Areas of Concern and preventing the spread of invasive species. The third priority is stemming the rise in harmful algae growth, which is caused in large part by phosphorus-based runoff into the lakes.

This problem is nothing new, and has been the focus of previous Great Lakes Water Quality agreements. Limiting runoff from industrial and sewage-treatment plants led to significant progress, but as Jim Bruce — a longtime Canadian leader on Great Lakes policy — said earlier this year: “We’re in a new era of serious backsliding.”

The problem has been most pronounced in parts of Lake Erie, where harmful algal blooms are fouling coastlines and creating “dead zones” that don’t support aquatic life.

Concerns are spreading to other lakes as well, and as a result, states are being asked (under the new Great Lakes Water Quality Agreement) to establish new rules, programs and laws that reduce the amount of phosphorus and other nutrients entering waterways.

States, meanwhile, are experimenting with new policy approaches to address the problem. In Wisconsin, for example, numeric nutrient standards for phosphorus have been put in place. (The standards are considered among the strongest in the nation.)

And in states such as Wisconsin, Ohio and Michigan, various forms of water-quality trading programs are being tested as a way to limit the amount of pollution entering Great Lakes watersheds — for example, establishing new agreements that allow “point sources” of pollution (such as sewage plants) to help pay for improvements that limit...
polluted runoff from nonpoint sources (such as farms).

**The impact of climate change on the Great Lakes**

One contributor to the recent rise in algal blooms has been a change in the region’s climate — the blooms are more likely to occur with warmer water temperatures.

And since 1980, a 1-degree rise in air temperatures has resulted in an 8-degree rise in water temperatures in lakes Michigan and Huron. Similar changes have occurred in all five Great Lakes, Paul Roebber, an atmospheric scientist with the University of Wisconsin-Milwaukee, **told the Great Lakes Legislative Caucus in July** [11].

The rise in algal blooms is only one notable effect of this change. Another has been a reduction in water levels, which reached historic lows in lakes Michigan and Huron in late 2012 and have hovered below average for the past decade.

“The air is taking the water away,” Roebber said, noting that reduced ice cover due to climate change has led to a 25 percent increase in water evaporation in the Great Lakes since 1980.

Roebber said water levels will continue to decline, though perhaps not as precipitously as they have in recent years. The real challenge, he added, will be dealing with higher levels of variation. Water levels have tended to fluctuate within a six-foot range; the range in future years is likely to be 14 feet, Roebber said.

“We have to do something in terms of adaptation,” he told legislators.

Climate-change adaptation is one of the new priorities of the recently amended Great Lakes Water Quality Agreement. And in Michigan this year, lawmakers already reworked state policy to address concerns about the impact of low water levels — particularly the need for more dredging.

**Michigan Republican Sen. Goeff Hansen told caucus members earlier this year** [12] that the situation on some of this state’s recreational harbors and marinas was “an emergency.”

In response, the Michigan Legislature approved a $21 million appropriation for the dredging of 58 different harbors and established a low-interest loan program for dredging projects.

Over the longer term, Roebber said, lawmakers may have to find a way of reducing the variation in water levels, particularly in lakes Huron and Michigan (the flow of water into and out of these lakes is not regulated nearly as much as it is on lakes Erie, Ontario and Superior).

But in a system as complex and important as the Great Lakes, he added, finding an adaptation strategy that works across the basin will not be easy.
Links
[6] https://homeport.uscg.mil/mycg/portal/ep/channelView.do?channelId=-18366&channelPage=/ep/channel/default.jsp&pageTypeId=13489&BV_SessionID=%40%40%40%401244490534.1376595859%40%40%40%40&BV_EngineID=ccccadfkjikekijcfngcfkmdfthdfgl.0