"A CLIMATE of OPPORTUNITY for WATER and SUSTAINABILITY"
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ABA EASTERN WATER LAW CONFERENCE:
A CLIMATE of CHANGE
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Introduction

Thank you for that kind introduction. Your conference title, "A Climate of Change" reminds me of a recent conference in Melbourne, Australia – "A Climate of Opportunity," so I'll give my talk a similar title: "A Climate of Opportunity for Water and Sustainability."

Change is so obvious on so many fronts – the climate itself, the science surrounding it, and the legal and policy framework for dealing with it. I'm going to discuss three areas to demonstrate the need for action – EPA's Water and Climate Change Strategy, water transfers, and wetlands.

But before I do that, let me introduce you to EPA's 3 R's of Water Sustainability. These are basic principles modeled on the waste management hierarchy and that reflect the increasing concern over water scarcity and climate and sustainable growth. What are they?

- Reducing waste (and inefficiency) is the first R. Reducing waste isn't just about pollution prevention, it's about cutting water waste and inefficiency too. Improving water efficiency is one of the most effective ways that communities can manage water supplies. EPA is working to foster a national ethic of water efficiency, so that water is valued as resource that should be used wisely.

  In June 2006, we announced WaterSense, a partnership that helps Americans make smart water choices that save money while helping the environment. WaterSense products use 20 percent less water and perform as well as—or better than—conventional models.

- Reusing water is the second R of water sustainability. The continued growth in demands placed on fresh water supplies will likely lead to an increased dependency on water reuse, as areas in the southwest are already demonstrating. We view stormwater as a water resource, not simply as a waste product. We're putting innovation to work in our stormwater permitting program and our new "Green Infrastructure" strategy. Beneficial re-use of stormwater, whether on a watershed scale or through individual rain gardens and rain barrels, helps conserve our precious water resources.

- Restoring watersheds is the third R of water sustainability, and it involves protecting the source — using a watershed management approach, conserving wetlands, and using integrated approaches to managing wet weather flows to reduce impairments. EPA is integrating watershed-based approaches into decision making at the local level, so communities can make the most informed and cost-effective infrastructure decisions that also benefit the overall health of the watershed.

Until recently, climate change was a common topic at international scientific conferences, but not likely to be discussed at length at a conference on water law. Today, the scientific information on climate change and the new research concerning its impacts on water resources is helping us reexamine how our established drinking water and clean water programs will be affected by a changing climate.

Just over a year ago, I established an internal workgroup to review the new information about climate change impacts on water resources. This workgroup developed a draft strategy describing the challenges water programs may face in responding to climate change and proposing almost 50 specific actions to respond to these potential challenges.

I want to take a few minutes to review some of the possible impacts of climate change on water resources and then describe some of the actions we are proposing to take in the draft strategy before I launch into a discussion of EPA policy decisions on water transfers and wetlands issues.

Climate Change Impacts on Water

Climate change will have numerous and diverse impacts, including impacts on human health, natural systems, and the built environment. Many of the consequences of climate change relate to water resources, including:

- warming air and water;
- change in the location and amount of rain and snow;
- increased storm intensity;
- sea level rise; and
- changes in ocean characteristics.

Detailed information about water-related impacts of climate change is documented in reports of the Intergovernmental Panel on Climate Change (IPCC) and described in detail in our draft strategy. These impacts vary in different parts of North America, but can be briefly summarized as follows:

1. **Increases in Water Pollution Problems:** Warmer air temperatures result in warmer water. Warmer waters will:

- hold less dissolved oxygen making instances of low oxygen levels and "hypoxia" more likely; and
- foster harmful algal blooms and change the toxicity of some pollutants.

The number of waters recognized as "impaired" is likely to increase, even if pollution levels are stable.

2. **More Extreme Water-Related Events:** Heavier precipitation in tropical and inland storms will:

- increase the risks of flooding;
- expand floodplains;
- increase the variability of stream flows;
- increase the velocity of water during high flow periods; and
- increase erosion.

These changes could have adverse effects on aquatic system health.

3. **Changes to the Availability of Drinking Water Supplies:** In some parts of the country, droughts, changing patterns of precipitation and snowmelt, and increased water loss due to evaporation as a result of warmer air temperatures may result in changes to the availability of water for drinking.

Warmer air temperatures may also result in increased demands on drinking water supplies and the water needs for other uses are likely to increase.

4. **Waterbody Boundary Movement and Displacement:** Rising sea levels will move ocean and estuarine shorelines by inundating lowlands and displacing wetlands. Changing water flow to lakes and streams, increased evaporation, and changed precipitation in some areas, will likely affect the size of wetlands and lakes, including the Great Lakes.

5. **Changing Aquatic Biology:** As waters become warmer, the aquatic life they now support will be replaced by other species better adapted to the warmer water (i.e., cold water fish will be replaced by warm water fish). This process, however, will occur at an uneven pace disrupting aquatic system health and allowing non-indigenous and/or invasive species to become established.

In the long-term (as in, 50 years or so), warmer water and changing flows may result in significant deterioration of aquatic ecosystem health in some areas.

6. **Collective Impacts on Coastal Areas**: Most areas of the United States will see several of the water-related effects of climate change, but coastal areas are likely to be hardest hit. These impacts include sea level rise, increased damage from floods and storms, changes in drinking water supplies, and increasing temperature and acidification of the oceans.

   These overlapping impacts of climate change make protecting water resources in coastal areas especially challenging.

Water Program's Climate Change Strategy

The National Water Program has a clear interest in recognizing and tackling the threats to water resources posed by climate change.

The draft water program strategy is an initial effort to describe climate change impacts on water programs, define goals and objectives for responding to climate change, and to propose a comprehensive package of specific response actions.

This document expresses the National Water Program's commitment to work in cooperation with national partners, state and local government, and public and private stakeholders to understand the science, develop tools, and implement actions to deal with the impacts of climate change on water resources.

More specifically, the draft strategy identifies five key goals

- **Goal 1: Mitigation of Greenhouse Gases:** use water programs to contribute to greenhouse gas mitigation;

- **Goal 2: Adaptation to Climate Change:** adapt implementation of core water programs to maintain and improve program effectiveness in the context of a changing climate;

- **Goal 3: Climate Change Research Related to Water:** strengthen the link between EPA water programs and climate change research;

- **Goal 4: Education on Climate Change:** educate water program professionals and stakeholders on climate change impacts on water resources and programs; and

- **Goal 5: Management of Climate Change:** establish the management capability within the National Water Program to engage climate change challenges on a sustained basis.

Each of these five goals is supported by more specific objectives and "Key Actions." Some of the Key Actions involve existing water program work that has climate change implications while other actions involve new activities, or changes in the direction of current activities, in response to climate change.

I will not take the time to review all 46 of the specific "Key Actions," but I do want to point out several cross-cutting themes that emerged: developing data to adapt to climate change, planning for extreme water events, increasing watershed sustainability and resilience, developing analytic tools, and strengthening partnerships.

We're also highlighting the energy and water nexus – connecting the drops and the watts, so that people understand reducing water use reduces energy use as well. And, we're working on groundwater and reservoir storage and management.

We recently hosted a delegation of water experts from China, and an ancient Chinese proverb seems to sum up where we are right now with climate change and water:

> "Unless we change our direction, we are likely to end up where we are headed."

The Relationship Between Water Quantity and Water Quality

Here in the Southeast, the impacts of water quantity on water quality paint a grim picture of the direction we're headed if we don't alter the course. The southeast is experiencing what many have called the worst drought on record, and it is expected to continue into the summer months. A sizeable area in North and South Carolina, Georgia, Tennessee, and Alabama are still classified as being in an extreme drought condition by the National Drought Mitigation Center.

EPA Region 4 has been working with the Corps of Engineers on two southeastern water basins (the Apalachicola-Chattahoochee-Flint running from Lake Lanier to the Apalachicola Bay in Florida, and the Alabama-Coosa-Tallapossa River Basin running from Lake Allatoona in Northwest Georgia to Mobile Bay). We are focusing our efforts on the impacts to water quality due to water quantity issues. We have seen drought impacts on in-stream dissolved oxygen, temperature excursions above water quality standards, and concerns about the quality of intake water at drinking water plants.

Adaptive management, where we take new information about a watershed's health and integrate it into our watershed management plan, has greatly assisted in managing the water resources in these basins to ensure water quantity to protect water quality and other vital functions such as navigation and power generation.

This area has seen some rain in the spring of 2008, but drought conditions linger. Lake Lanier, located in Northeast Georgia, provides a majority of the drinking water for the 5 million plus population of Atlanta, Georgia. The Army Corps of Engineers estimates that the lake will be 13.5 feet below summer pool this month.

The Clean Water Act's goal is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." To the layperson, as well as practitioners, it is clear that water quantity is an integral part of the physical integrity of water bodies.

In many cases, water quantity is closely related to water quality with regard to the issue of maintaining a designated use. Discharges of pollutants and non-point sources are not the only thing that can damage a water body's ability to support aquatic life or other uses. A sufficient lowering of the quantity of water in a stream, due to any number of reasons, could affect its usefulness for drinking water, recreation, navigation, or fisheries.

The Clean Water Act and federal regulations do not preclude states from setting goals for flow and hydrologic characteristics. The Clean Water Act also recognizes that the authority of states to allocate quantities of water is not to be superseded or abrogated.

There appears to be some increased interest among states and authorized tribes to manage flow to protect uses such as aquatic life and recreation. This trend includes development of qualitative expressions of needed flow in state regulation.

States may be interested in managing flow and other hydrologic characteristics to ensure enough water exists in their streams to enable a healthy aquatic ecosystem or to support recreational activities. States may also be interested in managing flow and other hydrologic characteristics to deal with excessive urban run-off that can be detrimental to a water body.

Examples of states that have moved in this direction are Vermont, Connecticut, and Maine.

- Vermont established a Total Maximum Daily Load (TMDL) for pollutants in urban storm water using "percent flow reduction" as a surrogate parameter for sediment and other stormwater stressors.
- In addition, Connecticut and Maine have used "percentage of impervious cover" as a surrogate parameter to address the effects of pollutants in stormwater in setting targets and implementing a TMDL.

Water Transfers

Drought here in the Southeast has heightened public awareness of water conservation and water efficiency. EPA's Region 4 office is strongly targeting WaterSense outreach in an effort to build awareness about conserving water resources. WaterSense, an EPA partnership program, makes it easy for Americans to save water and protect the environment. We encourage consumers to look for the WaterSense label to choose quality, water-efficient products. Drought in this region has also heightened public awareness of water transfer systems, which are an integral component of U.S. water infrastructure.

Typically, water transfers route water through tunnels, channels, and natural stream water features, and either pump or passively direct it for uses such as providing public water supply, irrigation, power generation, flood control, and environmental restoration.

Water transfers can be relatively simple, moving a small quantity of water a short distance, or very complex, transporting substantial quantities of water over long distances, across both state and basin boundaries. There are thousands of water transfers in place today in the U.S. that are being administered by various federal, state and local agencies. Through the use of water transfers, the Army Corps of Engineers has kept thousands of acres of agricultural and urban land from flooding in former areas of wetlands. And in western states, the Bureau of Reclamation has made water available for 140,000 farmers to use for irrigation.

The question of whether or not a Clean Water Act National Pollutant Discharge Elimination System (NPDES) permit is required for water transfers has arisen because activities that result in the movement of waters of the U.S. -- such as trans-basin transfers that make water available to serve municipal, agricultural, and commercial needs – can also move pollutants already in one water body to another water body. Although there have been a few isolated instances where entities responsible for water transfers have been issued NPDES permits, Pennsylvania is the only NPDES permitting authority that regularly issues NPDES permits for water transfers. In addition, some Courts of Appeals have required NPDES permits for specific water transfers associated with the expansion of a ski resort and the supply of drinking water.[1] But otherwise water transfers have not been regulated under section 402 of the Clean Water Act.

In 2004, the Supreme Court reviewed the issue of whether a NPDES permit is necessary for the mere transfer of water in *South Fla. Water Mgmt. Dist. v. Miccosukee Tribe of Indians*, 541 U.S. 95 (2004) (Miccosukee). The Supreme Court in *Miccosukee* vacated a decision by the 11th Circuit, which had held that a Clean Water Act permit was required for transferring water from one navigable water into another in the Florida Everglades. The Supreme Court remanded the case for further fact-finding as to whether the two waters in question were "meaningfully distinct."

On August 5, 2005, EPA's General Counsel and issued an "Agency Interpretation on Applicability of Section 402 of the Clean Water Act to Water Transfers" (interpretive memorandum). Based on the statute as a whole, and consistent with the agency's longstanding practice, the interpretive memorandum concluded that Congress generally expected water transfers would be subject to oversight by water resource management agencies and state non-NPDES authorities, rather than the permitting program under section 402 of the Clean Water Act.

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[1] *Dubois v. U.S. Dep't of Agriculture* (1st Cir. 1996), 102F.3d 1273 (DuBois); *Catskill Mountains Chapter of Trout Unlimited, Inc. v. City of New York* 273 F.3d 481(2nd Cir 2001) (Catskill I), aff'd, *Catskill Mountains Chapter of Trout Unlimited, Inc. v. City of New York*, 451 F.3d 77 (2nd Cir 2006) (Catskill II).

On June 7, 2006, EPA published a proposed rule that would amend the Clean Water Act regulations to expressly exclude water transfers from regulation under the NPDES permitting program. The proposed rule incorporated the substance of the interpretive memo and defined a water transfer as "an activity that conveys waters of the United States to another water of the United States without subjecting the water to intervening industrial, municipal, or commercial use." This exclusion would not apply to pollutants added by the water transfer activity itself to the water being transferred.

Nearly 18,000 people commented on the proposed rule. Commenters who supported the proposed rule stated it allows for local control of water resources, state authority currently exists to sufficiently regulate water transfers, and permitting for water transfers could be prohibitively expensive and disruptive to allocation of water resources. Commenters who did not support the proposed rule expressed concern that the rule could negatively affect drinking water and could have significant impacts on the environment including the introduction of invasive species, excess nutrients, increased turbidity, and alteration of habitat.

In developing the proposed NPDES water transfers rule, EPA analyzed the language, structure, and legislative history of the Clean Water Act. This analysis indicated that Congress did not intend to leave oversight of water transfers to the NPDES program. Instead, Congress intended to leave oversight of water transfers, and any potential environmental effect they may have, to water resource management agencies and the states in cooperation with federal authorities.

One of the key legal questions that EPA examined in its analysis of the Clean Water Act was whether a water transfer, as defined in the proposed rule, constituted an "addition" within the meaning of section 502(12). EPA's longstanding position has been that a NPDES pollutant is "added" when it is introduced into a water from the "outside world" by a point source. Because "addition" is a general term that is undefined by the statute, courts in the past have accorded substantial deference to EPA in interpreting this term. In *National Wildlife Fed'n v. Gorsuch*, (D.C. Cir. 1982) (Gorsuch), for example, the Court of Appeals for the D.C. Circuit agreed with EPA that the term "addition" may reasonably be limited to situations in which "the point source itself physically introduces a pollutant into a water from the outside world."[2] The Court of Appeals for the Sixth Circuit reached the same conclusion with regard to a hydropower facility operating on Lake Michigan.[3]

However, other Courts of Appeals have reached different conclusions in determining when movement of waters of the United States containing pollutants constitutes an "addition" of a pollutant.[4]

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[2] *Gorsuch*, 693 F.2d at 174-175.

[3] *National Wildlife Fed'n v. Consumers Power Co.* 862 F.2d 580, 584 (6th Cir. 1988) (*Consumers Power*) (agreeing with the *Gorsuch* court's conclusion that EPA's construction of "addition" is a permissible one).

[4] *Dubois v, 102 F.3d at 1296-1299; Catskill I, 273 F.3d at 491-494; Miccosukee Tribe of Indians v. South Florida Water Management District, 280 F.3d 1364, 1367-1369* (11th Cir. 2002), *vacated* by *Miccosukee.*

These Courts of Appeals construed the term "addition" to include transfers of water from one body to another distinct body. To resolve the confusion created by these conflicting approaches, EPA has looked to the statute as a whole for textual and structural indices of congressional intent on the question of whether water transfers that do not themselves introduce new pollutants require a NPDES permit.

Congress created a balance between protecting water quality and appropriately deferring to agencies in charge of water management. On the one hand, Congress expressed that the "objective of the Clean Water Act is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters," while on the other hand, Congress also expressed that "it is the policy of Congress that the authority of each state to allocate quantities of water within its jurisdiction shall not be superseded, abrogated or otherwise impaired by this Act" (Section 101(g) of the CWA). Section 510(2) similarly supports the notion that Congress did not intend administration of the Clean Water Act to unduly interfere with water resource allocation. Interference in the state allocation of water resources is an example of precisely the type of situation the proposed rule sought to avoid.

EPA plans to take final action on this proposed rule soon. This action should bring clarity to the question of whether water transfers are subject to regulation under the National Pollutant Discharge Elimination System (NPDES) permitting program.

***Rapanos* Jurisdictional Issues**

As many of you know, the U.S. Supreme Court opinions in *Rapanos v. United States* have posed additional challenges in implementing the Clean Water Act's water quality protection programs, including section 404. In *Rapanos,* the Court issued three substantive opinions, with none of the opinions having majority support. In an opinion written by Justice Scalia, a plurality of the Court concluded that "waters of the United States" protected by the Clean Water Act should extend only to waters that were "relatively permanent" or at least seasonal, and to wetlands with a "continuous surface connection" to such relatively permanent waters.

Justice Kennedy concurred with the plurality that the cases should be remanded, but disagreed with the plurality's analysis. He concluded that a wetland is a "water of the United States" if the wetlands had a "significant nexus" to traditional navigable waters, either alone or in combination with similarly situated lands in the region. Justice Stevens wrote a dissenting opinion, joined by three other justices, which concluded that the Corps of Engineers' decision to treat the wetlands at issue as jurisdictional was a reasonable interpretation.

EPA and the Corps of Engineers have interpreted the *Rapanos* opinions as indicating that a water is a "water of the United States" protected by the Clean Water Act where the water satisfies either the Scalia "relatively permanent" or Kennedy "significant nexus" standard. This interpretation is reflected in interagency guidance we issued in June 2007 and in briefs the U.S. has filed since the *Rapanos* decision. The 2007 interagency guidance focuses on implementation of the decision in a section 404 context, providing clarification to EPA and Corps field staff as they implement the permit program for discharges of dredged or fill material.

EPA has been working closely with the Corps as we implement the section 404 program after *Rapanos.* Draft jurisdictional determinations (JDs) are being discussed by district and regional field staff, resolving data and other concerns at the field level wherever possible. Not many draft JDs have required additional coordination between the agencies.

As of the middle of March, 95 significant nexus-related draft JDs have been elevated to agencies' headquarters out of approximately 19,000 JDs completed, representing about one-half of one percent of all JDs conducted.

The Clean Water Act has one definition of "waters of the United States" for all its programs. As a result, *Rapanos* has implications for not just the section 404 program, but other programs including the section 402 National Pollutant Discharge Elimination System (NPDES) program, the section 303 water quality standards program, and the section 311 oil spill program. The programs are working very closely together to ensure *Rapanos* is being implemented in a manner consistent with the goals and authorities of each program.

The *Rapanos* opinions are challenging, and that is reflected in the June 2007 interagency guidance. Although the guidance was effective immediately upon issuance, EPA and the Corps felt it was important to gather implementation experiences from field staff and to seek comments from the general public for a nine-month period, and committed to reissuing, revising, or extending the guidance after carefully considering comments received. We received over 62,000 comments, and are still in the process of reviewing those comments and evaluating the most appropriate next steps.

Conclusion

In closing, it is no easy task to protect our nation's water resources. As a nation, we must change the way we view, value and manage water. People in this region understand the importance of water efficiency and protecting our water resources. We need to help everyone else understand that we must act now, using all of the tools available to us – public outreach and education and changes to our policies and laws. Our draft strategy on climate change and water is an initial attempt to respond to the water impacts of climate change. It is available for public comment until May 27th, and I hope that you will take a moment to read and comment on it. You can find it at www.epa.gov/water/climatechange/. We can also sign up on our site to join us in a webcast discussion about the draft strategy next Thursday, May 8th. The focus of this conference gives us all great hope for the future – that we are indeed changing the direction we are headed -- for the better.