# Valuation of Ecological Benefits: Improving the Science Behind Policy Decisions

**INTRODUCTORY REMARKS BY**

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**Transcript of Introductory Remarks**

Mike Shapiro, Deputy Assistant Administrator
U.S. EPA, Office of Water

It's a pleasure to be here. My role really is to come here as, basically, your primary customer, from our perspective. As Robin (Jenkins) mentioned, the Office of Water has a strong interest in advancing the art of assessing the benefits from ecological improvements. That stems very directly from the mission of our office and our experience in implementing our statutory mandates over the last three decades. The Clean Water Act, which is one of the two main statutes that our office implements, provides the national goal that "wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and provides for recreation in and on the water be achieved." That's just the interim goal, but we haven't gotten there quite yet, even though I believe 1983 was the date we were supposed to achieve it. There are a whole variety of reasons for that. That part of the statute clearly was aspirational—no one sued us over missing that deadline. However, I think it emphasizes a couple of key aspects of implementing the Clean Water Act.

First and foremost, I think the notion that the importance of the quality of aquatic systems beyond just straight contribution to human health is an overriding concern in the Clean Water Act, much more so than in a number of the other statutes that I've been charged with administering during my tenure at EPA. So, built into the decision making process really is a very direct requirement that we look at ecological values holistically in order to provide guidance and criteria in establishing basic water quality standards, as well as in developing mandatory national regulations—for example, under the effluent guidelines program. Probably more significantly, it's built into how we have to evolve a strategy for managing and maintaining water quality in this country. So, at each layer in the decision making process—from establishing strategic approaches to setting and achieving water quality goals to developing implementation programs and establishing specific criteria or regulations—we have to consider (and more often than not, it's become an overriding driver) ecological factors in our decision making and how we set priorities and how we go about evolving strategies and in specific actions that we have to take.

As the challenge of implementing our water programs becomes greater and greater, we have to cope with very difficult and expensive issues to manage—such as contributions from non-point source pollution, such as getting increasingly more stringent controls over point sources that have already been through one or two generations of regulation. We also find that increasingly we have to demonstrate not just that that's a good thing to do, but that we can, first of all, *evaluate* the ecological impacts of what we plan to do, and secondly, and increasingly more significantly, *quantify* the benefits of those impacts if we are going to have an effective public policy debate over the evolution of water programs in this country. And that's occurring, I think, for fundamentally the right reasons: the nation is making *huge* investments in environmental quality across *all* the media. We face a significant challenge in all our media over the next several decades to not only

maintain the gains of the past but to achieve the goals that we seek for protecting human health and the environment, and we want to know how to make the best decisions. We want to know as a society where to invest resources and how to use those resources that we do invest in the most effective way possible. You are a very *impressive* community of researchers, and we are asking for your help in developing some of the basic tools that we in the Office of Water, as well as EPA's other program offices, need to inform those decisions.

It's no secret to any of you that as compared to assessing and valuing human health effects we've trailed far behind in the area of ecological benefits, both because some of the underlying ecosystem modeling has had to be developed and because of some of the very challenging valuation issues posed by evaluating and valuing ecosystem services. I think that gap is beginning to close, and in fact I think one of the impressive things about this two-day meeting is the research products that are already beginning to become available that many of you will be speaking about over the course of the coming days. I think that some of that work, which is cutting edge, will pave the way to closing the gaps that we're facing.

I think that the Office of Water, together with ORD (Office of Research and Development) and OPEI (Office of Policy, Economics, and Innovation), have really undertaken a sustained effort to support research in this area. Robin mentioned a number of the aspects of that sustained effort, and you'll be hearing more about them this morning. One is the Ecological Benefits Assessment Strategic Plan, which is largely an internal-driven document that has laid out the fundamental priorities and principles underlying our sustained support for ecological research. There's also the Science Advisory Board Committee on Valuing Protection of Ecological Systems, which you'll be hearing about shortly. That group is charged with providing us input and guidance as we try to develop our research programs and apply new methodologies. We're also anxiously awaiting the National Research Council's Report on Assessing and Valuing the Services of Aquatic Systems, which again you'll be hearing more about later today. We're very much looking forward to the guidance that that NAS panel provides, and the support and interest in that panel is not exclusive to EPA—it also has been supported by the Army Corps of Engineers and the Department of Agriculture, two of our key federal partners in managing and implementing water quality programs.

So, the interest in this area and the importance of the work that you're doing (although I like to speak of myself as your primary customer) really goes well beyond the Office of Water and well beyond the Environmental Protection Agency as, increasingly, management of the nation's water resources has to become a coordinated effort, certainly across several key federal agencies as well as other levels of government.

I'd just like to close by emphasizing one point. In my tenure at EPA I think one of the dramatic challenges we've faced across the years has been the speed by which we can convert cutting edge research into tools that we can use in our day-to-day business of environmental decision making, whether through rule-making or through guidance or through a variety of other mechanisms. As I'm sure many of you are well aware, our

practice lags what is available in the research community by a number of years—often, too many years in my view. So, as each of you thinks about the work you're doing and the research and new tools that you're developing, I hope that you bear in mind the importance of the *development* part of research and development. We need you to help us by applying your methods increasingly to examples that are representative of the kind of work that we do so that we can close the gap between research and practice as quickly and effectively as possible. We encourage you to establish the appropriate tools and verify your work so that we can really take what you're doing and incorporate it into our decision making as quickly as possible. Hopefully, that will be a theme that connects many of the different sessions that we have. We're very eager to follow the work that all of you are doing and to apply it, as appropriate, to the decisions that we have to make every day in the Office of Water and at the Environmental Protection Agency.

I'd certainly like to thank all of you for your contributions to date and look forward to the result of the next two days as well as the ongoing research that you're conducting.

Thank you.