CASE STUDY

Multistakeholder Decision Approach for Contaminated Sediment Management

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I will discuss sediment management activities in Puget Sound, and in particular, multistakeholder decision-making approaches. I will begin by providing a context for why the sediment cleanup pilot project was undertaken in Bellingham Bay.

In Washington State, a program has been in place for about 10 years; Konrad Liegel alluded to it. The Puget Sound Dredge Disposal Analysis (PSDDA) program manages the dredging and disposal of clean dredged material. It is a joint federal-state program run by the Environmental Protection Agency (EPA) Region 10, Seattle District of the U.S. Army Corps of Engineers (USACE), Washington State Department of Ecology, and Washington State Department of Natural Resources. The program manages the unconfined, open-water disposal of clean dredged material. It works in a consensus-driven manner, through which we have established testing methods and monitoring. We have identified and used eight different disposal sites in Puget Sound. It is a highly accountable program; the public has been involved from the outset, both during the development process and on an annual basis, working with us as we renew and update methodologies and provide status information.

In the early 1990s, a number of issues made it clear that we needed a similar model for managing contaminated sediments. Our modus operandi up until that point was site-by-site cleanup decision making, very liability-oriented decision making, which was stalling a lot of our efforts. Money was moving out of the environmental improvement arena into legal support, if you will. In effect, because we were not making progress with cleanup, we were not moving in the best direction for the public. In case you are not aware of it, there was a series of lawsuits and counter-suits between some of the agencies that were involved cooperatively in the PSDDA program. That highly adversarial interaction was not working for us. Because of that, the four agencies involved in the PSDDA program decided that we needed to do something differently in the management of contaminated sediments.

In 1996, we entered into a partnership with a number of folks to develop and implement a bay-wide approach to aquatic land management. Tony MacDonald made an interesting point about the power and efficacy of local decision making. That was a real impetus for our interest in developing this pilot model. We recognized the effect that local government can have on decision making, and we wanted to marry the interests of a local government with the federal and state interests to develop policy concurrently as well as conduct actions. A driving issue was the fact that the regulated and environmental communities have been dissatisfied for a number of years with how the federal and state governments coordinate.

As you heard earlier, myriad federal regulatory authorities intermix, cross over, and confuse. When that is coupled with state and local requirements, we step all

over each other. The stakeholders were saying, "Get your acts together." They also were interested in speeding up what was perceived as a very protracted permitting process. They wanted us to evaluate conflicting aquatic land uses. They wanted us to minimize residual risk through our cleanup decision making and minimize transaction costs by coupling economic development with environmental improvement.

Taking all of those driving issues into account, we landed in Bellingham Bay, which is a fairly small, urban embayment in the northern part of Puget Sound. It represented an array of sediment contamination issues and habitat loss. There is a very large mercury-contaminated sediment site here. There is an unpermitted landfill growing out in the bay. There is more mercury associated with some discharges. There are ferry operations issues. Although it may not sound like New York/New Jersey Harbor or some of the other areas, it offered enough diversity that we could try to integrate navigational issues, public access issues, habitat, cleanup, and source control.

The Bellingham Bay Work Group is composed of 16 members, including representatives of the port, the city of Bellingham, and the county government. We also have a private entity—the principal party responsible for that major spot of mercury contamination. We have two tribes involved in the project. We have all of the customary federal and state players as well.

Through a consensus-driven decision process, the first thing we did in this pilot project was to develop a vision and some process objectives. We talked about a new approach, a number of elements that we would like to integrate in the bay. These objectives were a good start toward laying out the big picture. This was a valuable activity because it spawned our buy-in, if you will, on the selection of the five elements about which we wanted to make decisions. Another activity was the development of a process flow.

After we developed our vision and objectives and identified our elements, one of the first steps was to compile all of the existing data that we could find about all of these elements, as a baseline. Then we were all on a level playing field in terms of information. One of the things I keep hearing in this session, whether the subject is data or cost information, is that without enough information, there is not a leg to stand on for decision making.

We came a long way, and then we realized that we lacked an approach for tackling tough decision making, prioritization, or eventually selecting projects. We decided to use a multiple-stakeholder decision approach, which helped facilitate decision making across multiple elements and among multiple parties. We have used this technique in Washington State in the past to do everything from establishing criteria for our state Superfund law to siting disposal facilities. Through this process, we found that you can arrive at an implementable, effective, and acceptable decision. From the standpoint of decision theory, this technique allows you to use all the parties' core values, whether regulatory, proprietary, tribal, or private. It eliminates the need to move to the margins as a result of trade-offs.

After about one year of working together as a group and overcoming a lot of trust barriers, we conducted a two-day exercise at which all parties articulated all of their goals for a project, ranging from protecting human health to maintaining economic vitality in the region. We ended up with perhaps 45 goals, which we then packaged. That packaging required a number of iterations. We eventually packaged seven goals, none of which initially carried any more weight than the others. But we decided that working with seven goals would be too unwieldy, so we ranked them. We did it using a simple relative numeric model, in which, in effect, everyone's voice had equal rank.

Our overarching goal was to be inclusive of mandatory regulatory requirements as well as the goals that the work group identified as most important. The balancing goals, if you will, are the practical considerations that affect how easily an action or alternative can be implemented and that were identified as not most important, but still important, by a large number of the work group members. We could apply these seven goals to any type of decision, from prioritizing sediment clean-up sites (there were eight) to prioritizing habitat restoration projects.

The seven broad goals were categorized as primary goals (i.e., the initial screening steps) and secondary goals, which were used in conjunction with the primary goals to evaluate a screened set of actions and identify the priorities for any given element. The primary goals are to protect human health and safety, protect and improve ecological health, and protect and restore ecosystems. The secondary goals are to implement actions that are consistent with or enhance cultural and social uses in the bay and surrounding vicinity; maximize material reuse in sediment cleanup, minimize the use of renewable resources, and take advantage of existing infrastructure where possible; implement actions that are more expedient and more cost-effective through approaches that achieve multiple objectives; and enhance water-dependent uses of commercial shoreline property.

How did we apply these goals in our disposal-site selection process? We were committed to maintaining the three broad categories of upland, nearshore, and aquatic sites. We developed a number of exclusionary criteria based on distance, suitable land types, and so forth. We could not consider an eelgrass bed, for example. We ended up with a list of 68 potential dis-

posal areas in a multicounty area. We took that list and conducted a multistep exercise.

First, we went back to our seven goals and developed evaluation criteria, which then could be translated into scoring guidelines. We subjected those 68 sites to our scoring guidelines to come up with a midsized list of 36 upland, 15 nearshore, and 17 potential contained aquatic disposal (CAD) sites. We evaluated them against the primary goals and came up with 21 sites. Then, as a final step, we evaluated those 21 sites again, based on the primary goals, and came up with a final list of 8 potential disposal options.

One alternative is to dredge the waterway. We also are considering no action. We are looking at habitat opportunities, including CAD or caps in these areas. Our thinking is tied closely with risk-reduction issues. We have source control concerns, so we are weighing the value of capping versus CAD versus a confined disposal facility, insofar as the source (i.e., the seep of mercury) will be confined. We hope that some of the material that needs to be dredged can be used beneficially, but we are not there yet. I am encouraged, and I want to keep hearing more about beneficial reuse. When we get down to the bottom line, we hear a lot about the difference in cost associated with the beneficial reuse of contaminated material. We have to sort that out.

Despite the process we have undertaken and the progress made so far, we still have a lot of hurdles to overcome. Depending on the alternatives we select, costs could range anywhere from $24 million to $144 million. We are just beginning to address the issues of whether to use standard regulatory mechanisms or nonregulatory mechanisms to conduct this work, and the pros and cons therein. We are trying to couple as many contaminated cleanups as we can with habitat restoration actions to minimize the transaction costs. We are working with the USACE on the possibility of advance identification for this whole project to help streamline our permitting process. Of course, all the time we are keeping in touch with the public to make sure that we are doing the right thing from their perspective.

We are now on the threshold of going out for a scoping for an environmental impact statement (EIS) under the state Environmental Policy Act. This EIS, which I have not really addressed here, will be both a programmatic evaluation of a bay-wide strategy as well as an evaluation of seven project alternatives. In conclusion, although this project is far from complete, we believe that our process of early, comprehensive, and broad-reaching goal setting by all of the affected parties will not leave us eating crow—or mud—in the end.