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Brookhaven field engineers collecting Peconic River samples.

Brookhaven's Peconic River Cleanup Plan

Please tell us what you think

The U.S. Department of Energy (DOE) and Brookhaven National Laboratory (BNL) developed a cleanup plan for the Peconic River that includes a portion of the River that extends into Suffolk County parkland. This cleanup plan is known as the Proposed Remedial Action Plan, or PRAP.

The public is invited to review the PRAP and the accompanying Feasibility Study and to send comments about these documents to the U.S. Department of Energy during the formal public comment period, which runs from May 24 through June 25, 2004.

If you wish to learn more about the cleanup plan, to ask questions, or to give your input on the plan, please write to us or join us at one of the following meetings:

Information Sessions

Cornell Cooperative Extension
423 Griffing Ave, Riverhead NY
June 3, 2004, 7-9 p.m.

Brookhaven National Laboratory
Berkner Hall
June 7, 2004, 7-9 p.m.

Public Meeting

Brookhaven National Laboratory
Berkner Hall
June 15, 2004, 7-9 p.m.

All visitors to the Laboratory age 16 and older must present a photo identification.



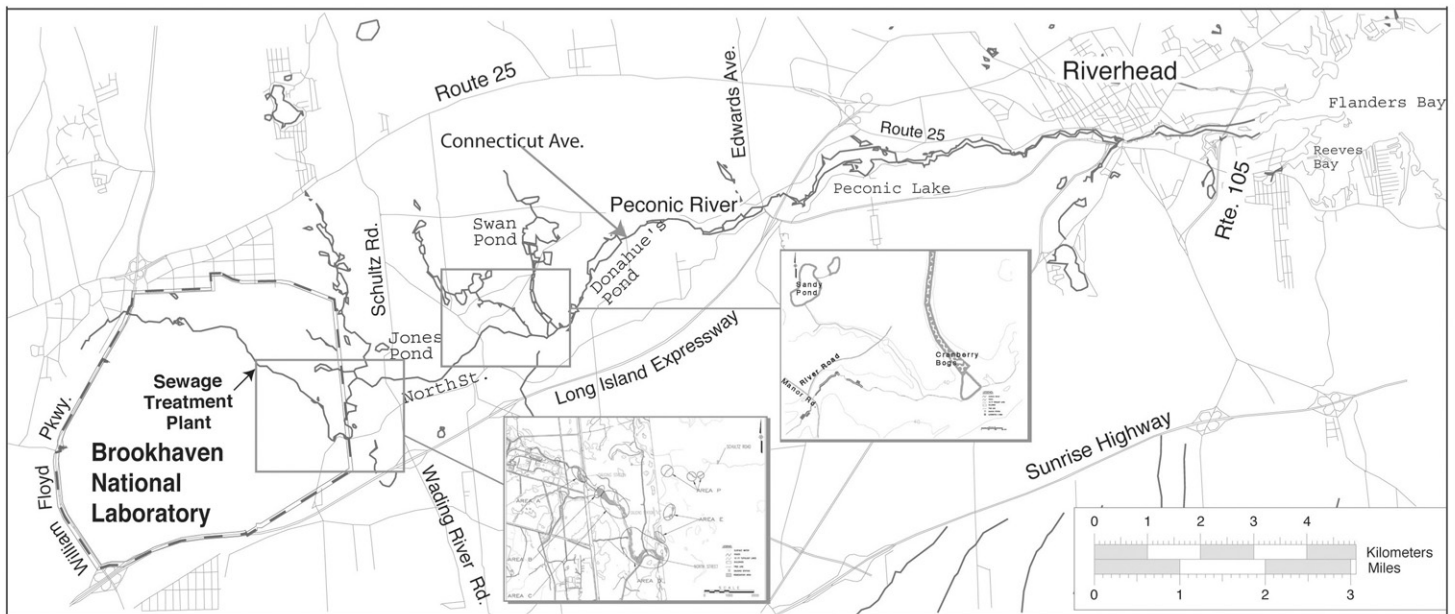
An on-site section of the Peconic River successfully excavated and replanted in a 2002 pilot study project.

After the public comment period ends, DOE will carefully consider the public's comments. Then DOE will recommend a cleanup remedy to the U.S. Environmental Protection Agency (EPA) and the New York State Department of Environmental Conservation (NYSDEC). DOE must then receive agreement on the proposed remedy from EPA and concurrence from NYSDEC.

The final remedy may be changed from the proposed remedy, based on your comments. The decision will be detailed in a Record of Decision (ROD). A Responsiveness Summary, which will summarize the public's comments and DOE's responses to them, will be attached to the ROD.

Why cleanup is recommended

Over the past several years, DOE and BNL conducted numerous investigations of the sediment, fish, and vegetation in the Peconic River. Our findings suggest that portions of the river should be cleaned up, namely, on the BNL site, in areas from the Laboratory's boundary to Schultz Road, and in an area near Manor Road.



The Peconic River. The insets mark the locations discussed in this fact sheet.

Mercury and polychlorinated biphenyls (PCBs) were detected in fish living in parts of the Peconic River on and just off our site. Extensive sampling indicates that the source of both contaminants is the sediment in the upstream areas of the river. If the sediment is removed, the levels of mercury and PCBs will decline in fish over time. Other contaminants about which we are concerned include heavy metals, pesticides, and radionuclides. In addition to accumulating in fish, the heavy metals already may be adversely affecting organisms living in the sediment.

On-site cleanup

Since the highest concentrations of mercury and PCBs are on the Lab property, BNL has already begun to clean up this area. This interim action was proposed to the public and finalized in an Action Memorandum dated January 20, 2004. The proposed on-site remedy also is set out in the PRAP, together with the remedy proposed for off-site areas.

Proposed plan for off-site cleanup

The PRAP summarizes the results of our numerous investigations, and offers the alternative that DOE and BNL believe is most appropriate when considering all aspects of the cleanup.

Alternatives Evaluated

The *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA, also known as the “Superfund Act”) requires that the selected remedy should protect human health and the environment. It also must be cost-effective, comply with other laws, and use permanent solutions, alternative treatment technologies, and resource-recovery alternatives to the greatest extent practicable.

Alternatives 2, 3 and 4 would involve:

- removal of sediment using standard construction equipment (or vacuum guzzlers if appropriate)
- dewatering and off-site disposal at an appropriate disposal facility
- restoration of the habitat as appropriate
- monitoring to verify the effectiveness of the cleanup

The alternatives described in the PRAP are summarized below. See the Alternatives Comparison Table below for comparison data.

Alternative One — No Action: Under the No Action Alternative, no contaminants would be removed, although the surface water and sediment would continue to be monitored. This alternative, required under CERCLA, is used as the baseline against which the other alternatives are evaluated. No Action will not eliminate the bioaccumulation of contaminants in fish, or reduce risk to the ecosystem. This alternative is not preferred.

Alternative Two: This alternative would remove the sediment from ar-

Alternatives Comparison Table

alternative	cost	acres to be cleaned	percent mercury removed	percent PCBs removed
1	\$0.2 million ^a	0	0	0
2	\$12 million	20.4	96	96
3	\$5.8 million	7.6	66	76
4	\$11.5 million	19.8	92	93

^a This figure is the annual cost of monitoring the river, not a total dollar figure.

areas that contain concentrations of mercury greater than 1.06 parts per million (ppm). This figure is based on toxicology guidelines. To meet this value, the sediment layer down to sand (approximately 6 to 12 inches) would have to be removed from the Lab's Sewage Treatment Plant to Schultz Road in Manorville. This alternative is not preferred.

Alternative Three: This alternative represents a minimum cleanup level that seeks to protect the ecosystem and also minimize disturbance to the wetland. It requires removing sediment from areas that contain mercury concentrations greater than 9.8 parts per million. This cleanup level was based on protecting the aquatic organisms in the sediment. This alternative is not preferred.

Alternative Four: This alternative would remove the sediment layer (approximately 6 to 12 inches) down to sand from areas where contaminants are being deposited and also from areas identified as preferential sources of methylmercury.

Methylmercury is the form of organic mercury found in the environment. It is the form that accumulates in fish tissue and in human tissue. Alternative Four is the only

alternative that specifically targets areas where mercury is likely to become methylmercury.

After remediation, mercury concentrations in the treated areas will be less than 2 parts per million. The average concentrations in the Peconic River sediment in sections that were cleaned up will be less than 0.75 parts per million.

The area to be cleaned up off the Laboratory's property lies within Suffolk County parkland. It has a more stringent cleanup target concentration than that for contaminated areas on the Laboratory's property. This more exacting requirement will afford Suffolk County great flexibility in the uses of the area as parkland or in any future development.

Sampling will verify the effectiveness of the cleanup. As part of this program, DOE will continue to evaluate all available data to determine if additional remediation is required to ensure that human health and the environment are protected. The Laboratory will sample mercury and methylmercury in the water from the Sewage Treatment Plant on the Lab's property to Connecticut Avenue. Fish collected over the same stretch of the river will be analyzed. This alternative is the preferred alternative.

Recommended alternative

Alternative Four is the preferred cleanup remedy. It represents the best balance of the EPA's criteria for selecting remedies under CERCLA. It best addresses the overall protection of human health and the environment, while removing a large percentage of contaminants, minimizing damage to upland and wetland areas, and, through an ongoing monitoring program, ensuring that the cleanup is effective.

Community role in selection process

The community has had, and continues to play, an important role in selecting a cleanup alternative. The DOE encourages the public's input to ensure that the decision on cleaning up this portion of the Peconic River considers community expectations as well as protects human health and the environment.

To submit comments, you may send an email to tellDOE@bnl.gov, fax to 631-344-3444, or write to:

Mr. Michael Holland
Site Manager
U.S. Department of Energy
Brookhaven Site Office
PO Box 5000
Upton, New York 11973

Background

Spring 2000 - A proposed plan was issued for public comment on the cleanup of the Peconic River on and off the Laboratory's property. The decision about the remedy was postponed because members of the community requested that DOE and BNL consider alternative technologies to clean up the sediment. People were concerned about excavation causing excessive damage to the wetlands.

Less disruptive technologies were evaluated; a pilot study undertaken to re-vegetate areas where the Peconic River's sediment was excavated proved very successful.

From 2000 to the present - Significantly more data were collected and large samples of soil, fish, sediment, and vegetation were analyzed.

Summer 2003 - The on-site cleanup was separated from the off-site cleanup decision to give project staff an opportunity to fine-tune processes before starting work on publicly owned land off of Laboratory property.

Early spring 2004 - Cleanup of the Peconic River on the Laboratory's property is being conducted. Sediment is being removed so that all mercury concentrations in the remediated areas will be less than 2 parts per million. The average concentrations of mercury in the Peconic River sediment on the Laboratory's property will be reduced to less than 1 part per million. These actions are included in the PRAP. Public comment is welcome.

Spring 2004 - A new proposed plan is being issued for public comment on cleanup in the Peconic River that extends into Suffolk County parkland.

Brookhaven National Laboratory
Environmental Management Directorate
Building 51
Upton, NY 11973

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The PRAP and Feasibility Study Addendum are available at the following libraries: Longwood, Mastics-Moriches-Shirley, BNL Research, and EPA Region II. The document is also available on-line at:

<http://www.bnl.gov/erd/peconic.html>

Comments may be faxed to 631-344-3444, emailed to tellDOE@bnl.gov, or sent to:

Michael Holland, Site Manager,
DOE Brookhaven Site Office
P.O. Box 5000
Brookhaven National Laboratory
Upton NY 11973-500,

The Risk Assessment, Action Memorandum, and information about the pilot studies can all be found at:

<http://www.bnl.gov/erd/Peconic/factsheets.html>



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