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Insight

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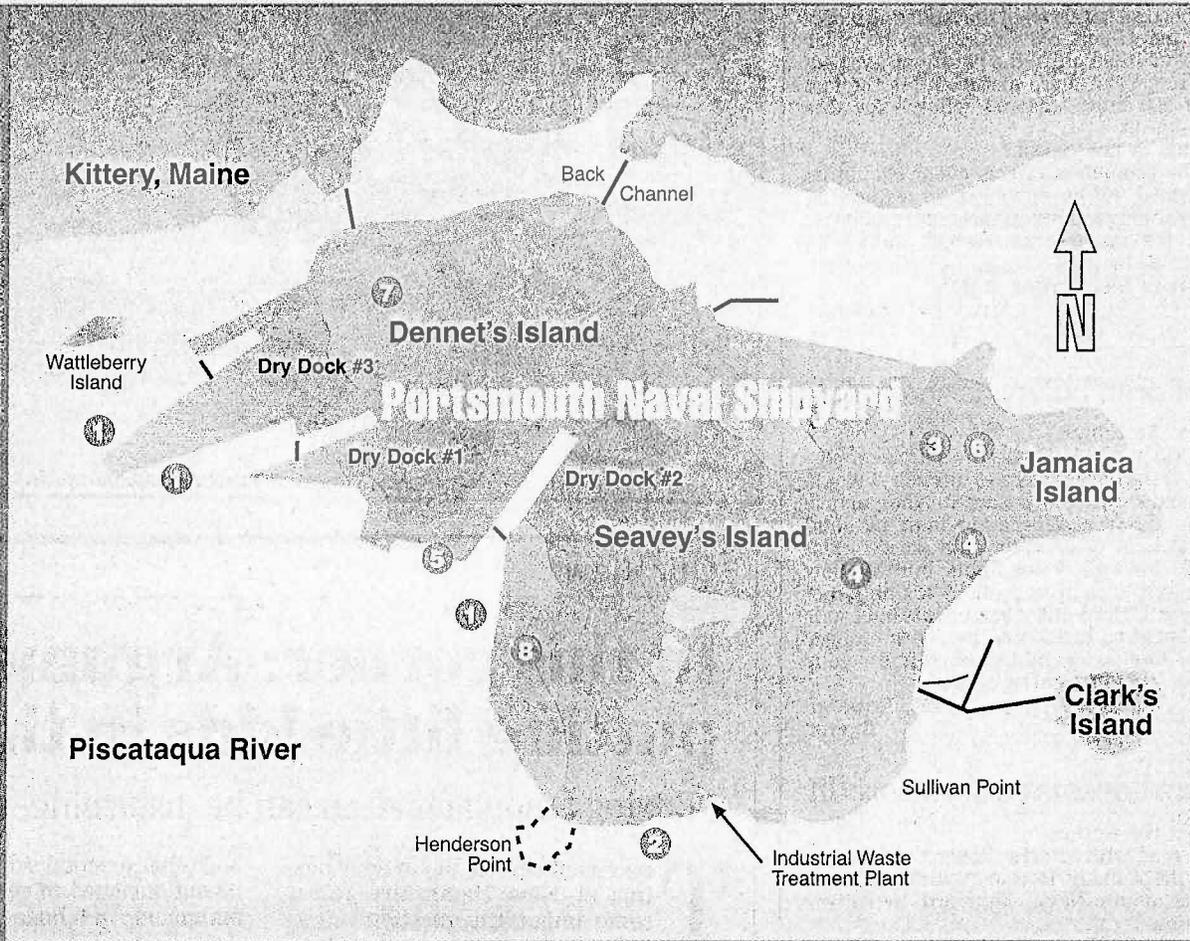
COMMENTARY

ANALYSIS

Cleaning up the 'Yard

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Source: 1997 Revised Draft Final Estuarine Ecological Risk Assessment

Herald graphic: Becky Pendergast

Shipyard's seacoast struggling to become the pristine estuary it once was

By STEVE HABERMAN

The Seacoast region of New Hampshire, southern Maine and northern Massachusetts has a well-deserved reputation as an area rich in maritime history.

From the early 1600s, when the first settlers in the region began a lucrative fishing industry on the Isles of Shoals, to the last years of the 20th century as massive tankers make their way up the Piscataqua River to discharge their cargoes, this area has been home to sailors, fishermen and those who love the sea.

This region is also home to the nation's first, and therefore oldest, Naval shipyard, dubbed the Portsmouth Naval Shipyard. Ironically, under current customs, it actually functions as if it is located in Kittery, Maine.

Founded in 1800 on Seavey's Island in the Piscataqua, the shipyard has been a significant site for the construction, overhaul and decommissioning of this nation's warships, including, most recently, Los Angeles-Class nuclear submarines.

The shipyard currently occupies approximately 275 acres, but it was not always that way. In fact, what we today call Seavey's Island was once an area consisting of

three separate islands; Seavey's, Dennett's and Jamaica. Over the years, those three islands become one by filling the areas between them with waste from shipyard operations.

Records show that until the federal environmental regulations that established the Environmental Protection Agency were enacted in 1970, virtually every type and manner of waste was dumped onto the mud flats that separated the three islands.

Many of those indiscriminate dumping practices ceased around that time, when it was recognized the stuff going into these landfill areas often consisted of substances that posed hazards to the local

ecology and public health.

It wasn't until 1994, however, that the shipyard was designated a federal Superfund site, a status given by the EPA to hazardous waste sites considered to be the most threatening to people and the environment. There are approximately 1,200 Superfund sites in the nation, 95 in New England, and 18 in New Hampshire. The Portsmouth Naval Shipyard represents one of the worst of them.

"Just by the nature of what goes on at a military site, I think it's safe to say that the Portsmouth Naval Shipyard is one of the largest and most hazardous (waste sites) on the Seacoast," said the EPA's Boston public relations of-

ficer Leo Kay.

Multiple sites

But to call the shipyard a Superfund site is misleading. Actually, 33 toxic waste sites have already been discovered, and more, including a large vault in which highly toxic mercury-contaminated material was buried, have yet to be found.

"Adding to the difficulty in predicting where contamination exists, and will travel to, is the lack of documentation of what got buried where for most of the shipyard's life," said Carolyn Lapage of Lapage Environmental Services Inc.,

See Shipyard, Page F4

Accountability the crux of charter schools

Cleanup plan is long-term

Shipyard from Page F1

in Auburn, Maine.

Lapage was hired by the Portsmouth-based Seacoast Anti-Pollution League as a consultant under a \$50,000, three-year EPA Technical Assistance Grant. Her work is to translate the reams of data developed by the federal environmental agency and the Maine Department of Environmental Protection into language that local residents can understand.

Lapage also reviews cleanup solutions and information-gathering techniques for SAPL to determine if they are appropriate to the shipyard location. Over the course of the two years she has worked on the project, Lapage has generated over 100 pages of questions and concerns about the approach being taken to determine what is buried at the shipyard and how best to deal with the substances.

So far, a total of \$17.6 million has been spent to determine the extent of the contamination at the Portsmouth Naval Shipyard, and the impact of that contamination on both the ecology of the highly sensitive Great Bay Estuary system, and the threat it poses to human health in the area. The Department of the Navy, in its Environmental Restoration Plan for fiscal years 1998-2002, estimates the total cost of cleaning up the shipyard at almost \$90 million in today's dollars.

High/low risk sites

Of the 33 toxic waste sites identified at the shipyard so far, several of them could pose extreme hazards to both marine and human health. According to Lapage, those sites are:

- Site 5 — Industrial Waste Outfalls.

From 1945 to 1975, several outfalls near Berths 6, 11 and 13, discharged liquid industrial wastes from plating and battery shops directly into the river. These discharges contained heavy metals, cyanide, PCBs, oil and grease. Sediments contaminated by the outfalls were dredged in 1978 and placed in the Jamaica Island Landfill, but concentrations of several heavy metals can still be detected off-shore.

- Site 6 — Defense Reutilization and Marketing Office.

The DRMO was used for temporary storage of scrap metal, motors,

materials that were to be recycled or disposed of. Surface water runoff and erosion resulted in direct input of water and contaminated soil to the river. Batteries were observed in the past to be littering the shoreline. Contaminants associated with the site include heavy metals, PCBs and petroleum hydrocarbons.

- Site 8 — Jamaica Island Landfill.

Hazardous and nonhazardous wastes were disposed of at the 25-acre landfill between 1945 and 1978. The area was originally a tidal flat between Jamaica and Seavey's islands. The materials reportedly disposed of in the landfill included the dredged spoils from Site 5, solvents, sludge, asbestos, blasting grit, incinerator ash and vaults containing mercury contaminated materials. Potential contaminants include heavy metals and organic compounds.

- Site 9 — Mercury Burial Sites. Vaults containing mercury-contaminated materials were reportedly buried at two different locations in the Jamaica Island Landfill. Vaults at one of the locations were removed, opened and disposed of off-site in the fall of 1997. Those vaults did not appear to have contaminated soil or groundwater. The other mercury vault burial site, however, has yet to be discovered.

- Site 10 — Battery Acid Tank. Waste sulfuric acid contaminated with lead that was generated during battery disposal activities was stored in a 9,680-gallon underground tank from 1974 to 1984. The tank was removed in 1984, after a 2-inch hole allowing the intrusion of groundwater was discovered.

- Site 11 — Waste Oil Tanks. Waste oil, solvents and other hazardous materials were disposed of in two underground tanks located at the northeast end of the Jamaica Island Landfill from 1943 to 1989. While the tanks appeared to be intact then they were removed in 1989, the soil around them was found to be contaminated, most likely due to spills that occurred when they were filled. Some of the contaminated soil has been removed.

- Site 21 — Acid/Alkaline Drain Tank. The underground tank held discharges from washing and deburring machines from 1974 until its removal in 1991. The Navy does not expect any contamination to migrate to the estuary after soil-

tions will be conducted during the investigation of the adjacent West Timber Basin to ensure that is the case.

- Site 27 — Berth 6 Industrial Area. A buried pipeline was found to be leaking Bunker "C" oil and was removed in 1978. Contaminated soil was also removed, but subsequent groundwater monitoring revealed high levels of metals.

While 19 of the 33 toxic sites already found have been determined to need no action because they pose no threat to the environment, four have been categorized by the Navy as posing a "low" risk in its Environmental Restoration Plan, and 10 of the remaining sites have been categorized by the Navy as posing a "high" risk to public and environmental health.

"There is particular concern regarding the potential for migration of contaminants into the off-shore environment, especially in the vicinity of the Jamaica Island Landfill, which includes Sites 8, 9, 11 and 6," Lapage said.

The Navy and other investigatory agencies have discovered that some of the contamination has already had a negative impact on the Great Bay Estuary ecosystem.

"Seavey Island/Portsmouth Naval Shipyard is a site with particularly elevated concentrations of toxic contaminants..." wrote Jim Chase of the New Hampshire Estuaries Project, in a recap of a report prepared for his organization by the University of New Hampshire's Jackson Estuarine Laboratory.

The Estuaries Project is attempting to develop a plan for the long-term protection of the still relatively pristine Great Bay Estuary, which has been determined to be one of the most important in the Northeast.

The Seacoast Anti-Pollution League has recently applied for a second \$50,000 grant to allow it to continue to monitor shipyard cleanup efforts, and keep the public informed of their progress.

For more information, contact SAPL, P.O. Box 1136, Portsmouth, N.H. 03802 or call (603) 431-5089. The organization has a brochure titled "Living with the Superfund site at the Portsmouth Naval Shipyard," which is free to anyone wishing to learn more about how this problem is being addressed.

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