

LCP CHEMICALS SUPERFUND SITE PROPOSED PLAN OVERVIEW

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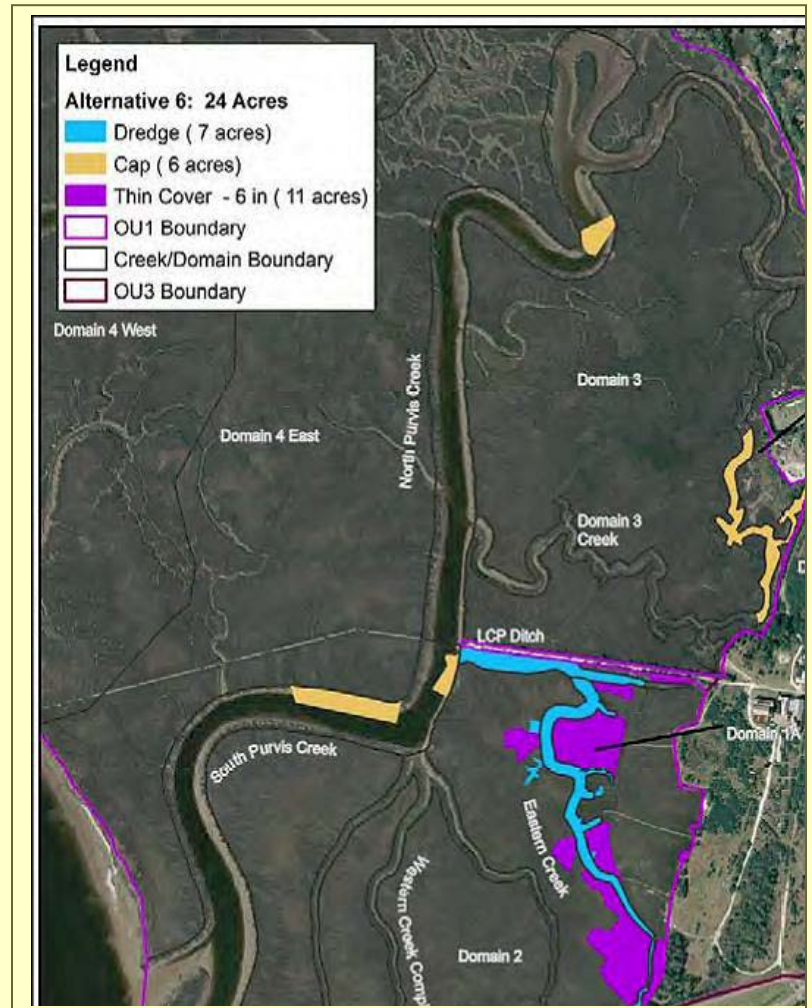
Proposed Plan Overview

The EPA has proposed Alternative 6 as the preferred cleanup method for the Estuary at the LCP Chemicals site. Alternative 6 involves **sediment removal, capping, and thin-cover placement**. These remedial actions will take place on about 24 acres of the site and will take about two years to complete. The estimated cost of the cleanup is \$28.6 million.

Sediment removal and backfilling will occur in Eastern Creek and LCP Ditch (map to the right). Capping will occur in Purvis Creek and Domain 3 Creek. Thin-cover placement will occur in Dillon Duck and the vegetated marshes of Domain 1a and Domain 2. Alternative 6 also includes a plan for **short and long-term monitoring**. The Proposed Plan states that Alternative 6 was chosen because it is "the most effective remedial alternative" for the Estuary.

Issues with the Plan

- Not enough contamination removal.
- The evaluation of the way the LCP site is used by residents is not accurate.
- Dolphins are an essential part of the ecosystem and are not included in the Ecological Risk Assessment.
- Thin-cover placement is not a sustainable recovery method.
- Need to re-plant Spartina (a salt marsh grass) after removing sediment.
- The Human Health Risk Assessment does not accurately describe harm to humans.



Sediment Remedy Alternative 6: Sediment removal, capping, and thin cover
Source: LCP Chemical Superfund Site Proposed Plan

Contaminants at the Site

The LCP Chemicals Superfund Site is contaminated with many dangerous chemicals, including mercury, lead, and polychlorinated biphenyls (PCBs). PCBs are industrial chemicals that do not occur naturally in the environment. Before they were banned in 1979, PCBs were formally used in transformers, electrical equipment, plastics, and other products. PCBs do not readily break down in the environment, and once released into an ecosystem continuously cycle among animals, air, water, and soil.



Atlantic bottlenose dolphin

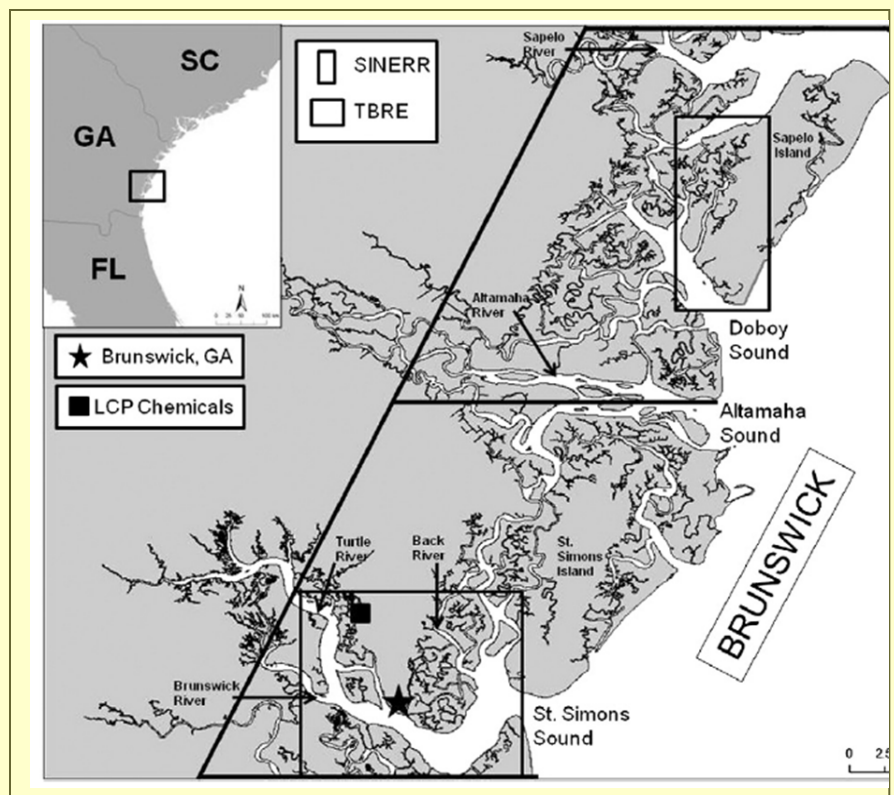
Source: Sarasota Dolphin Research Program

PCBs, along with the other contaminants at the LCP site, are topics of ongoing research, and scientists are continuously publishing new information on the dangers of these contaminants. For a brief overview of PCBs and the most recent PCB research, go to the ESC website, www.estewards.com and click on the "Resources" tab at the top.

PCBs in Dolphins

Atlantic bottlenose dolphins inhabit the Turtle/Brunswick estuary and coastal waters. Because they are at the top of the food chain, dolphins accumulate more toxins in their bodies than the animals lower in the food chain. Animals at the bottom of the food chain, like aquatic plants and bottom feeders, contain low levels of contaminants, whereas animals at the top of the food chain, that eat animals at the bottom of the food chain, contain much higher levels of contaminants in their bodies. **Bioaccumulation** is the word used to describe the process of contaminants building up in animals' tissues over time.

A 2010 study conducted by NOAA and the Georgia Department of Natural Resources found concentrations of PCBs in Brunswick dolphins to be ten times higher than in dolphins from the Savannah area. The map to the right shows the study areas.



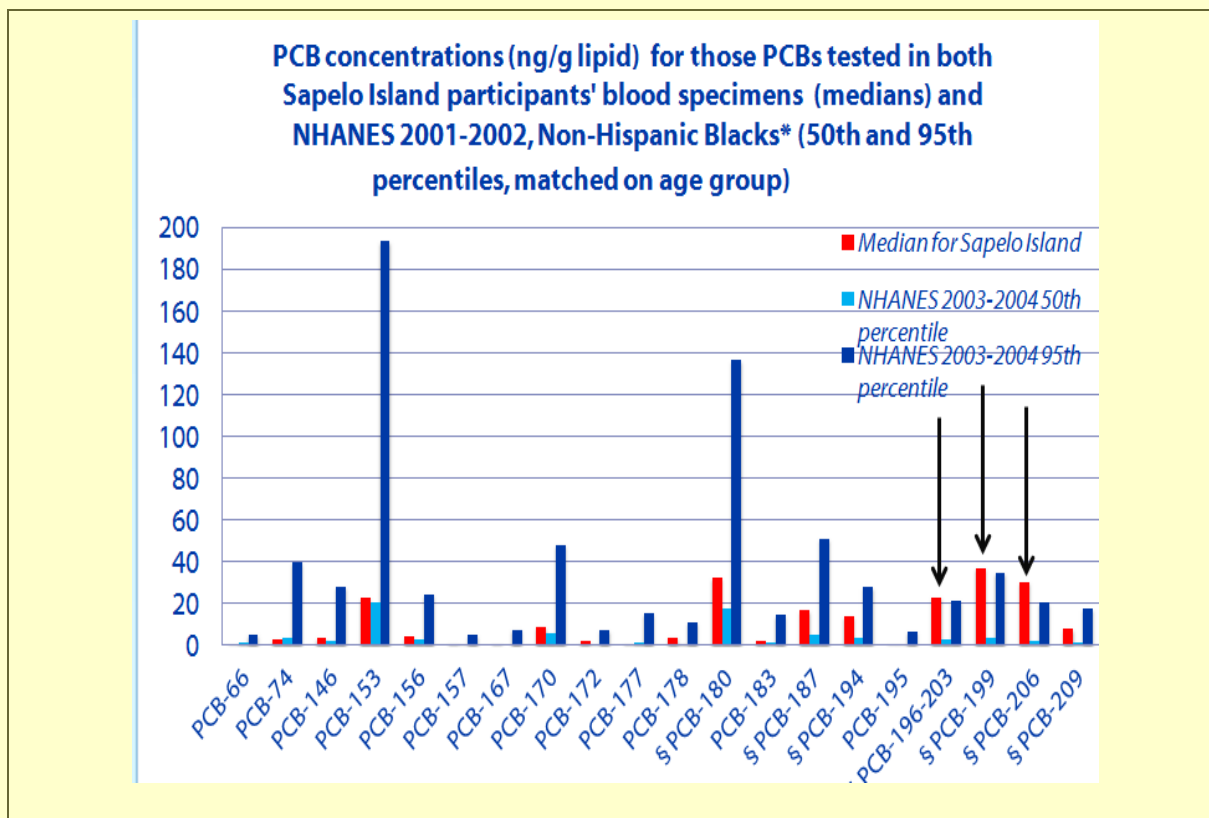
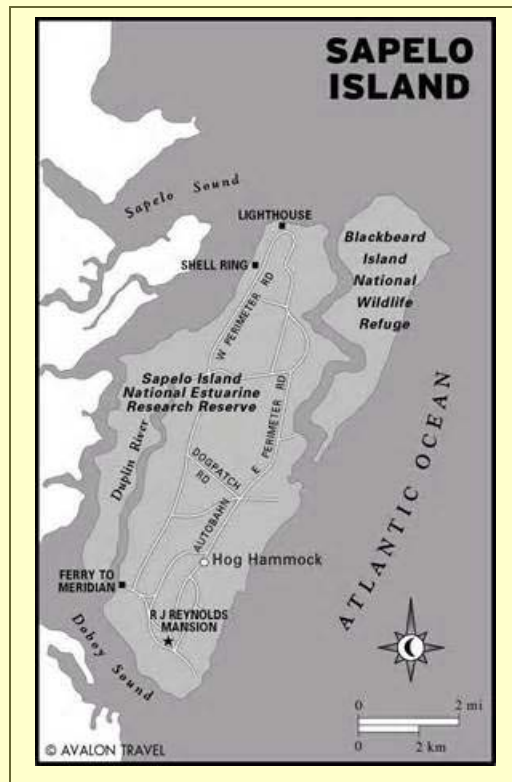
Map of the study area

Source: Balmer et al. "Relationship between persistent organic pollutants (POPs) and ranging patterns in common bottlenose dolphins (*Tursiops truncatus*) from coastal Georgia, USA."

Sapelo Island Study

Sapelo Island is a state-protected barrier island north of Brunswick. The Agency for Toxic Substances and Disease Registry recently conducted a study that showed that some residents of Sapelo Island have dangerously high levels of PCBs in their bodies, based on their blood samples (see graph below). Scientists conducting the study sampled nine residents, ages 21-74. All the residents stated that they ate two to three meals of locally-caught seafood per week, and had eaten locally-caught seafood for over five years.

When the results of the blood tests were compared to samples from non-Hispanic African Americans throughout the country, some of the PCB levels in blood of the Sapelo Island residents were above the 95th percentile. In addition, when the Sapelo residents' samples were compared to the samples from local Atlantic bottlenose dolphins, scientists found that the human and dolphin samples contained similar environmental contaminants. Contaminants from the LCP Chemicals Site seem to have migrated into the waters and sediment surrounding Sapelo Island, into the local seafood, and finally, into the bodies of local residents who eat the local seafood.



The red bars are the median sample for the Sapelo Island residents. Notice the three samples with the arrows above them, which point to Sapelo Island blood samples that were above the 95th percentile for PCB levels in blood.

Source: Presentation given by the Agency of Toxic Substances and Disease Registry