



The report is produced by an independent technical advisor to interpret and help the community understand technical information about our Superfund Sites.

EPA Releases the Consent Decree and Statement of Work for LCP Chemicals Site Marsh



Aerial view of the LCP Chemical Site

Photo by James Holland

Site Background

The LCP Chemicals Superfund site consists of approximately 550 acres, the majority of which is a tidal marsh. From the 1920s through 1994, many industries (i.e. oil refinery, electrical power, paint/varnish, and a chlor-alkali chemical plant) used this site. These industries polluted the site with polychlorinated biphenyls (PCBs), mercury, lead, dioxins, and cancer-causing hydrocarbons. All of these contaminants are still at the site as runoff and are impacting the soil, groundwater, tidal marsh sediment, marsh plants and animals, including dolphins and Least Terns. Cleanup for the site is being managed in three parts: the estuary, the groundwater, and the upland soils and sediments. The Consent Decree and Statement of Work for the estuary were released in July 2016.

Historical Highlights

- **August 1980: Site discovery**
- **1995: Remedial Investigation/Feasibility Study begin**
- **1996: Site added to National Priorities List**
- **July 2011: Estuary Human Health Baseline Risk Assessment**
- **June 2014: Estuary Feasibility Study**
- **November 2014: Estuary Proposed Plan**
- **October 2015: Record of Decision /Responsiveness Summary**
- **July 2016: Consent Decree and Statement of Work**

August 2016

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This update and more information about Glynn County Superfund Sites at:

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Superfund Process: Where are we now at the LCP Chemicals Site?



Superfund is the federal law to clean up contaminated places, the process is displayed above.

The **Remedial Investigation** for the marsh involves testing the site to determine the health risk to humans, plants, and animals from the harmful chemicals at the site. If the health risks are above what is allowed, the site must be cleaned up. A **Feasibility Study** for the marsh looks at each of the cleanup options to figure out the best cleanup for the site to protect human health and the environment from current or future exposure to the site chemicals. Because the cleanup can be accomplished in different ways, the cleanup options must be compared to each other. These steps were finished at LCP in 2014.

In December 2014, EPA selected a cleanup plan, known as the **Proposed Plan** for the LCP Chemical site.

Members of the Brunswick community commented on this plan before mid March 2015. EPA wrote the Record of Decision after the comment period closed. The Record of Decision officially states generally how a site will be cleaned up and the long-term monitoring that will be put in place. The Record of Decision includes a Responsiveness Summary, which is the EPA's response to the public's comments on the Proposed Plan.

The **Consent Decree** and **Statement of Work** were released in July 2016. The **Consent Decree** for the site is an agreement between the Environmental Protection Agency and the parties responsible for polluting the site, Honeywell International, Inc. and Georgia Power Company. The **Statement of Work** explains the process and requirements for carrying out the cleanup plan.

Consent Decree and Statement of Work

Community Concerns and EPA's Response

The cleanup discussed in the Consent Decree and Statement of Work is not different than the inadequate cleanup option chosen in the Record of Decision and the Proposed Plan. The issues and problems with the cleanup plan previously identified by the community remain.

The chosen remedy to clean up the LCP Chemicals site includes sediment removal, capping, and enhanced monitored natural recovery, also known as thin-layer placement. Only 24 acres are addressed by the chosen remedy, which does not include treatment of the contaminated sediment. It is unlikely that the chosen remedy will meet the surface water quality standards for polychlorinated biphenyls (PCBs) and mercury needed

to remove the fish consumption advisories from St. Simons Sound. Elevated levels of mercury and Aroclor 1268 exceeding a set of cleanup levels that protect crabs and other animals living at the surface and within the marsh sediment will remain even after the selected remedy is completed.



LCP Community meeting

Photo by Daniel



Figure 1. Operable Unit 1 Marsh at the LCP Chemicals Superfund Site



The Chosen Remedy

Environmental Stewardship Concepts has covered many of these topics in previous Technical Assistance Reports and comments submitted to EPA on the marsh site cleanup.

Sediment Disposal

EPA documents indicate that dredged sediment from the marsh area will be taken to a licensed disposal facility. No other details are provided, and there are no other alternative treatment methods planned for the contaminated sediment.

Removal and Capping

Thin layer capping is not effective for a tidally influenced marsh. Contaminants will remain on site at levels that restrict use. Every five years the site will need a review to determine if the cleanup remedy is working, but it will likely show that contaminants still remain.

To make cleanup more permanent and certain, many community members recommended that more contamination is removed. EPA has stated that removal is more permanent and certain. The public has also raised concerns with the thin layer cap, which EPA admits has not been used on a site like the LCP site. However, EPA said that the plan should work.

Environmental Stewardship Concepts notes that the EPA has no experience with such a remedy at a place like the LCP marsh.

Contaminated Marsh Areas

The public requested that EPA remove more of the contaminated marsh. EPA replied that more removal would cause too much damage to the marsh. However, LCP has already had one successful marsh removal, and modern methods and equipment will reduce the damage greatly.

Site Boundaries

Community members want the site boundaries extended because PCBs are located outside the LCP site. In their reply, EPA downplayed the PCBs located outside of the site, including Sapelo Island. Two errors were also made in their reply. The first error is how the EPA looked at the PCB data, which were not what the public submitted or what has been reported for Sapelo Island or dolphins. PCBs from the site are widespread outside the Brunswick area. The data on dolphins support the data from Sapelo Island. All current data indicate that the LCP site is the main, if not sole, source of a PCB in this area called Aroclor 1268, which EPA even indicated in the Responsiveness Summary.

The second error is that the EPA falsely claimed that they cannot do anything about contaminants that spread far away from a site. For decades, the Asarco smelter in Tacoma, Washington contaminated over 1,000 square miles of the state, and the EPA took remedial actions for that site.

Health Concerns

The public raised many health concerns. The EPA replied that the agency responsible for addressing and investigating health concerns is the Centers for Disease Control. The Response to Comments indicated that EPA would hand over these concerns to the Center for Disease Control, but no one knows if that happened.

EPA is responsible for estimating current and future health problems caused by the marsh contaminants and is supposed to plan the actions to control or eliminate those health threats, which is why this report and so many comments raise issues with fish consumption and fish contamination.

There is no disagreement that fish contaminated with chemicals from the LCP marsh present a health threat but the EPA greatly underestimated the risks because they used the wrong fish consumption rates and ignored dioxin.

Construction Phase

Right before work begins, most sites need to have additional samples collected so there is something to compare to future samples. This comparison will help determine if any changes are happening at the site. The



Dolphins on the Sapelo River

Photo by James Holland

EPA calls the work on the site the “construction phase”. During this time, the state and the EPA need to be careful that everything is completed properly and meets standards. As soon as work begins, progress needs to be reviewed every five years to make sure the goals of the cleanup at the site are being met.

Five Year Reviews

The EPA review of progress will begin during the work and continue for many, many years afterward for as long as chemicals remain at the marsh site. The progress towards meeting the goals must be compared to the objectives explained in the Feasibility Study, including decreases in chemical concentrations in sediment, water, and fish tissue. The EPA also checks that the thin layer cap is still in place.

Along with monitoring the work at the site, the EPA should also monitor the water and air around the LCP marsh during construction to make sure there is no

Enhanced Monitored

harm to humans or the environment during the work. Water and air samples at many river sites like the LCP site marsh have been collected to measure chemicals in the water and the sediment.

The EPA uses the term **Enhanced Monitored Natural Recovery** to explain how contamination across much of the marsh will be addressed. Natural Recovery is just letting nature take its course to cover up the contamination, wash the chemicals away, or, for some chemicals, let them break down without any action. Enhanced Monitored Natural Recovery means taking steps to speed up the natural processes and taking samples to monitor its progress. Neither polychlorinated biphenyls (PCBs), lead, or mercury break down, so the enhancement is adding a thin layer of sediment. This basically buries the contamination instead of treating or removing it.

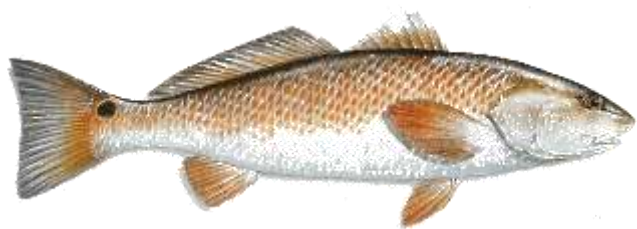
Natural Resources Damage Assessment

A **Natural Resource Damage Assessment** assesses the harm to the environment. Federal and state agencies use

this effort to estimate the harm to natural resources and the cost of that harm, including any recovery. This process must begin within three years of the signing of the Consent Decree.

The community commented that fish consumption data used by the EPA were not recent and were too low. The information used came from a 1999 report on a survey taken in earlier years of white anglers who were boating. Data on people fishing from the shore or African American fishermen were not included. The Centers for Disease control made the same criticism in a Health Assessment on the LCP Chemical site. Many comments stated that a much higher fish consumption rate based on a survey from Savannah, Georgia would be more accurate. However, the EPA stated that the fish consumption rates used were based on local information and were reasonable.

Fish Consumption Rates



Cleanup Standards and Fishing Advisories

Fish consumption rates help set up the cleanup standards and goals that protect people from chemicals in the marsh. Chemicals like polychlorinated biphenyls (PCBs) and mercury are toxic, and health officials and scientists can estimate the amount of each chemical

If the EPA underestimates how much fish people actually eat, then they will allow more contamination and will remove less contamination from the LCP marsh.

that can make a person sick. The chemicals found at and around the LCP Chemicals site accumulate in fish. The more contaminated fish a person eats, the more chemical they take in. The more contaminated the fish, the smaller the amount of fish that can be eaten and still be considered "safe".

Based on current contamination levels, the Georgia Department of Health has fish consumption advisories in place to protect people's health. If the EPA underestimates how much fish people actually eat, then they will allow more contamination and will remove less contamination from the LCP marsh.

Another problem is that the EPA plans to let the fish consumption advisories for much of St. Simons Sound and Turtle River remain in place, assuming that these advisories actually work to stop people from eating contaminated fish out of the local waters. EPA wrongly assumes that fish consumption is only in the Turtle River Brunswick area when it is really all of the St. Simons Sound estuary. Also, EPA did not respond to any of the comments that fish consumption advisories and other "**Institutional Controls**" do not work to prevent people from being exposed to chemical contamination from Superfund sites. A federal report found that Institutional Controls, such as fish consumption advisories, do not work.



Outfall ditch is the center of the upcoming removal action
Photo by James Holland

Costs of Fish Consumption Advisories

The Consent Decree and all previous documents do not include any cost estimates for maintaining the fish consumption advisories as Institutional Controls in the future even though the advisories will be a required part of the plan. Environmental Stewardship Concepts has never seen a contaminated site where the company doing the cleanup is required to pay for the state's enforcement of the advisories, fish tissue testing, surveys, or staff time.

Community Concerns

Community Concerns

The community raised a number of issues with the Proposed Plan and these were still found in the Record of Decision. These issues included fish tissue contamination; the EPA estimate of fish consumption in Brunswick and Glynn County; how much contamination would be left in the marsh and other places; and the problem of contamination at Sapelo Island. EPA said that they believe the cleanup that is planned will allow fish contamination to decrease slowly in time. The other concerns were not really addressed by EPA, based on the analysis of ESC. EPA claims that the cleanup will not fail and that the contamination left behind will not present a problem for the community in years to come.

Technical Concerns

Glynn Environmental Coalition, Environmental Stewardship Concepts, and others raised technical concerns with the Proposed Plan that were carried into the Record of Decision. These concerns included technical aspects of the issues raised by the citizens that are noted above. Several technical issues create more problems than others. EPA used the wrong numbers for fish consumption for local anglers in Glynn County and these low estimates mean that EPA will allow more contamination in the fish, because they claim that people do not eat that much local fish. When fish tissue contamination does not decrease enough, EPA will have to come back to the site and do additional work.

The sampling in the LCP marsh was limited to sediment and water and did not look at marsh grass or most of the animals in the marsh. EPA has a very limited picture of the contamination that is present in the LCP marsh.

EPA never included Sapelo Island, other islands, or the Turtle River as areas contaminated by the LCP site.

Chemicals remaining in other areas outside the LCP marsh will remain a problem for the animals, such as

dolphins, the plants, and the people who need to or wish to consume fish from local waters.

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Roseate Spoonbill in flight

Photo by James Holland

Remaining Concerns

What remains unknown?

Most of the questions that the community asked EPA were not answered. The technical questions raised by Environmental Stewardship Concepts and by Glynn Environmental Coalition were largely left unanswered. As a result, no one knows what will happen with polychlorinated biphenyl (PCB) contamination on Sapelo Island, in the Turtle River and nearby creeks, and in dolphins that swim into the river. EPA has not said that they will clean up the PCB contamination in these other places.

The salt marsh is a changing marsh that gets hit by storms and floods as has just happened in southern Louisiana in August 2016. These storms and floods cause the channels to move and the marsh to wear away. What will EPA do when the next big storm causes some big shift in the marsh? If a storm exposes more contamination, will EPA insist that Honeywell and Georgia Power come back out and cleanup more contamination?

Extreme weather events in the form of heavy rains and hurricanes are already occurring now, according to the United States National Weather Service. According to the National Weather Service, this trend will continue into the future with stronger storms and heavier rains, especially in the coastal Georgia region where weather has already become more severe.

The Statement of Work also calls on Honeywell to conduct a pilot project for thin layer cover on the marsh, but there is no mention of what Honeywell or EPA will do with the results. What happens if the thin layer pilot project does not go well? The Statement of Work does not even explain the purpose of the pilot project and how the agency or Honeywell will decide if the project is successful.

Next Steps

What happens next?

The court must approve the Consent Decree and Statement of Work before EPA, Honeywell and Georgia Power can formally write the detailed plans for how the work will be done. The Statement of Work is just a general description of what the cleanup includes. Honeywell contractors now have to write a detailed plan, called a Remedial Design, for each step of the work, get permits, carry out sampling in the marsh, and conduct a pilot project for the thin layer cap. Honeywell will submit all documents to EPA for approval before taking any actions.

EPA will still conduct Community Involvement, starting with a review of the Community Involvement plan that they have now. EPA should meet with Glynn Environmental Coalition, the community leaders, and elected officials to go over the Community Involvement Plan and ask what should be changed, if anything, now and during the cleanup.

Honeywell has to do more sampling, called "baseline sampling", so that EPA will know what conditions are like in the marsh before the cleanup starts. This sampling also must have a work plan approved by the

EPA. Environmental Stewardship Concepts believes that this sampling will take several years.

The community should not expect to see much happening in the LCP salt marsh for some time, perhaps years. Before sampling can begin, Honeywell must contract with a consulting firm to sample the marsh and EPA must approve the sampling plan. After the samples are collected and checked for accuracy, EPA will have to approve the results and the report that describes the results. At that point, Honeywell can submit a Remedial Design for the work in the marsh. The Remedial Design will be a public document that EPA has to approve before work can begin.

It is not clear what will happen with the pilot project for spreading a thin layer cap of sediment on the marsh. We suppose that Honeywell will have to prepare a Work Plan and submit that plan to EPA. ESC believes that all Work Plans will be made available to the public, but EPA is not likely to hold a public comment period. The agency may hold public information meetings on these steps in the clean up effort.

The community has a key role to play in the next part of the clean up, as EPA, Honeywell and Georgia Power take the steps outlined in the Consent Decree and Statement of Work. A key role for the community is to make sure that the clean up does not leave behind a contaminated site that remains a problem for generations to come.



Salt marsh at low tide

photo by James Holland



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Aerial view of the LCP Chemicals site prior to demolition of the buildings.
Photo by Daniel Parshley

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