



**Pictured: Glynn Environmental Coalition member field trip, raising awareness of ongoing cleanup progress at Glynn County Superfund Sites, June 2020.**

# Annual Superfund Site Update

**January 2021**

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## **The Superfund Process**

Thousands of contaminated sites exist nationally due to hazardous waste being dumped, left out in the open, or otherwise improperly managed. Congress established the Comprehensive Environmental Response, Compensation and Liability Act in 1980. This act, which is informally called the Superfund program, allows the United States Environmental Protection Agency (EPA) to clean up contaminated sites.

The Superfund cleanup process has many steps and each Superfund site in Brunswick is at a different place in the process. Below defines key steps of the cleanup process and terms that will be referenced throughout this report.

### ***Key Terms***

**Operable Unit:** When a site is divided into distinct areas depending on the complexity of the contamination, those areas, or media (such as ground water, soils, marsh/estuarine environments), are referred to as Operable Units.

**Potentially Responsible Party:** An individual or company

responsible for or contributing to a spill or other contamination at a Superfund site. Sites with no Potentially Responsible Party are considered 'orphan' sites.

**Remedial Investigation:** An investigation intended to gather data necessary to determine the nature and extent of contamination at the site, establish cleanup criteria for the site, estimate risks posed by the contamination, and support the feasibility study.

**Feasibility Study:** A study of a hazardous waste site intended to identify potential cleanup technologies, evaluate alternative site remedies from technical and environmental perspectives, consider remedies that appear to be the overall best choice for cleanup, and develop conceptual designs and cost estimates.

**Proposed Plan:** Provides a brief analysis of cleanup alternatives under consideration, identifies EPA's preferred alternative, and provides members of the public with information on how they can participate in the cleanup selection process.

Record of Decision: Explains which cleanup alternative has been selected.

Consent Decree: Agreement between the federal government, EPA and Department of Justice (DOJ), and the Potentially Responsible Party. The settlement

agreement lodged with the court specifies how the site will be cleaned up and who pays for the remediation.

Remedial Action Plan: A planning document that identifies projects which are necessary for restoration of a hazardous waste site.

## LCP Chemicals Superfund Site



Above: Historical photograph of the Linden Chemicals and Plastics (LCP) Chemical plant.

Ref: Honeywell website ([lcpbrunswickcleanup.com](http://lcpbrunswickcleanup.com))

### Site Background

The LCP Chemicals Superfund site is located between the Turtle River and New Jesup Highway, just northwest of the Brunswick city limits. The northern boundary of the site runs along Blythe Island Highway and the southern boundary meets with the property line of the active Georgia Pacific Pulp and Paper Mill. The Potentially Responsible Parties for this site are Honeywell and Georgia Power.

The 813-acre site has a long history of industrial activity from the 1920s through 1994, including an oil refinery, coal-fired power plant, and both chemical and paint/varnish manufacturing plants. Past activities contaminated soil, ground water, adjacent surface waters/creeks, and marshlands until operations ceased in 1994. These industries polluted the site with polychlorinated biphenyls (PCBs), mercury, lead, dioxins, and polycyclic aromatic hydrocarbons (PAHs).

Due to the complexity and size of the site, the cleanup is being managed in three parts: **Operable Unit 1** - the marsh and surrounding estuary; **Operable Unit 2** - the cell buildings area and ground water; and, **Operable Unit 3** - the upland soils and sediments, where industrial activities took place.

High levels of contaminants are still present at the site and remediation efforts are ongoing. Between 1994 and 1998, approximately 130,000 cubic yards of contaminated soil and industrial wastes were removed

from the site. This work was done in the marsh, around the cell buildings area, and at numerous former operations areas in the Uplands portion of the site. Many former industrial buildings and facilities were demolished, including the above-ground portions of the cell buildings area.

In 2020, Honeywell submitted reports to EPA on the marsh capping pilot study and remedial design, and the nature and extent of contamination at the cell buildings area and site-wide ground water. EPA in 2020 issued a Record of Decision for the Uplands that finalized EPA's decision that No Further Action was required for upland soil and sediment.

### Current Activities in Operable Unit 1 - Marsh and Estuary

Major elements of the selected remedy for the marsh and estuary includes the following (see **Image 1**):

- Dredging about eight acres in the LCP Ditch and Eastern Creek to a target depth of 18 inches, backfilling dredged areas with 12 inches of clean material, and disposing of dewatered dredged material at licensed off-site facilities;
- Replanting disturbed vegetated marsh areas;
- Placing an engineered sediment cap on three acres in Domain 3 Creek and three acres in Purvis Creek;
- Placing thin-layer sand cover on 12 acres;
- Sampling and analyzing dioxins/furans to confirm co-location with PCBs; and,
- Executing institutional controls including a fishing advisory, installation of signs, public outreach, and implementing a plan to gauge the effectiveness of these measures.

Honeywell completed the initial design for the marsh and estuary remedial action in 2020. The Initial



Remedial Design was submitted for EPA review in early January 2021. That report details how all elements of the sediment dredging and capping, marsh covering, and site restoration will be designed and carried out. Draft engineering drawings and technical specifications are included in the report, along with a post-cleanup monitoring plan and project schedule. The final Remedial Design plan should be completed by the end of 2021, with construction scheduled to start in mid-2022 and be completed in January 2023.

**Thin Layer Cover Pilot Study**

A two-year pilot study for determining the best design for the Thin Layer cover has been completed, testing two types of material (“fine-grained material” and “sand”) and two thicknesses of each material (six-inch-thick and nine-inch-thick covers). Honeywell’s 24-Month Inspection Report documented the June 2020 inspection of test-cover plots that were placed in the marsh in March 2018 (see **Images 2 and 3**).

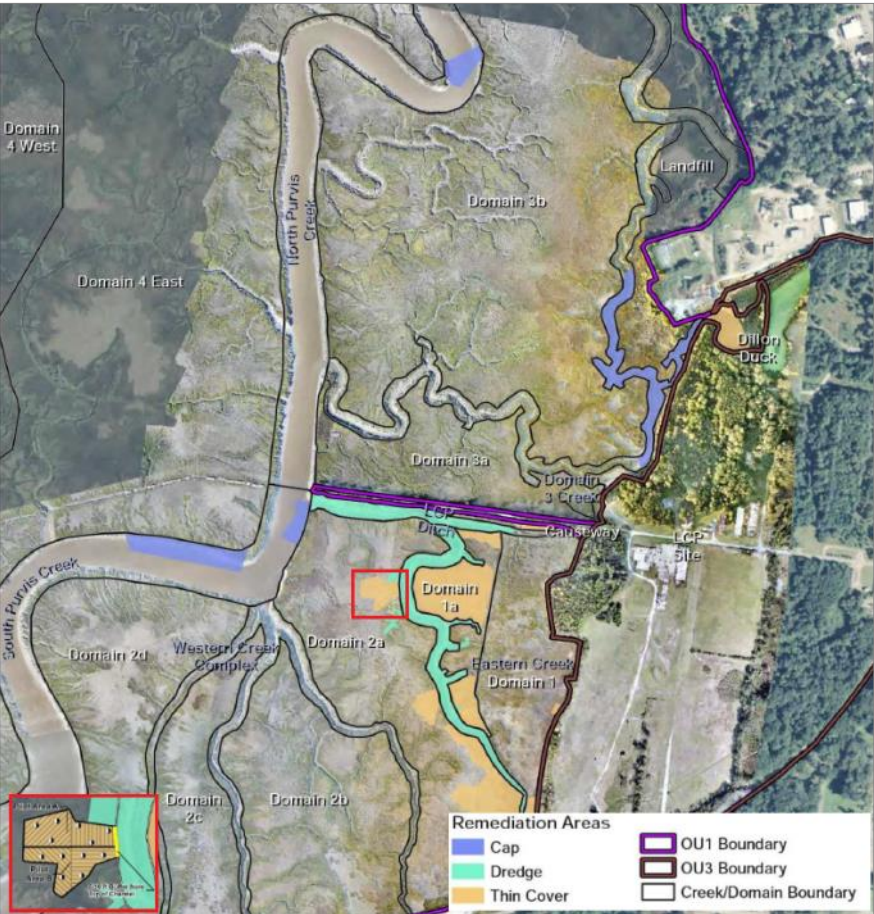
The Initial Remedial Design report includes all of the pilot study inspection reports that demonstrate how the thin-layer cover test-plots performed over the past 2 years. In general, the test-plots have become relatively well-vegetated (about 50% to 75%), the covers’ integrity

**Image 2: Pilot study area aerial image, Thin Layer Cover immediately after application in April 2019. Ref: Pilot Study Thin Cover Monitoring Event - Memorandum, August 2020.**



has been maintained even with several storms, and contaminants have not been observed to migrate upward through the thin-layer covers.

The report also indicates the fine-grained sand cover material will be placed using spray pipelines in six- or nine-inch layers after dredging and capping work is completed. About 12 acres of thin-layer cover will be placed.



**Image 1: Site map showing remediation areas within the marsh and estuary, including the area outlined in red where Thin Layer Cover Pilot study is being conducted. Ref: Pre-Design Investigation Work Plan, August 2018.**

**Current Activities in Operable Unit 2 - Cell Buildings and Ground Water**

In February 2020, Honeywell released the draft Site Characterization Summary for the site-wide ground water and soil contamination at the cell buildings area and subsequently finalized this report in July 2020. These reports present a summary of the soil and ground water sampling data and residual contamination near the former production areas in and around the cell buildings. You can find more in depth information in our May 2020 Technical Assistant Report. In addition, our Technical advisor prepared a memorandum which presents the technical details included in the Site Characterization Summary, this is available on the Glynn Environmental Coalition’s website (see **Additional Resources**).

As a result of the information compiled within the *Site Characterization Summary*, EPA required Honeywell to perform additional ground water sampling in late 2020 to close data gaps in certain areas of the site to ensure that ground water data will be adequate to support the Remedial Investigation.

**Image 2: Pilot study area aerial image, Thin Layer Cover 24-months after application in June 2020. Ref: Pilot Study Thin Cover Monitoring Event - Memorandum, August 2020.**



EPA's July 9, 2020 comment letter instructed Honeywell to:

- Sample 43 wells across the site to confirm elevated levels of contaminants in some areas, and downward trends of contaminants in other areas; and,
- Demonstrate current levels of contaminants where no recent samples had been taken.

That additional sampling has been completed and sample analyses results will be incorporated into a Remedial Investigation and Risk Assessment Report which is expected to be completed by the end 2021.

The Feasibility Study will then evaluate potential plans to address the liquid mercury and dissolved ground water contamination across the site. The Glynn Environmental Coalition and our Technical Advisor will continue to monitor as progress is made.

### ***Current Activities in Operable Unit 3 - Upland Soils***

EPA's August 2019 Proposed Plan for the Upland Soils portion proposed no further remedial action was required to protect human health and the environment from residual soil contamination. EPA's 'No Further Action' remedy is based on three premises.

- No unacceptable human-health and ecological risks from residual soil contamination are present unless people live there in the future (future residential use).
- Contamination known to be present at the cell buildings area is not included in this action.
- Future development of the site could be for industrial uses only unless additional sampling and/or cleanup work is done.

The final Record of Decision contains a Responsiveness Summary which shows EPA's responses to commenters

who provided feedback during the public comment period for the Proposed Plan, including members of the public, public officials, and interested organizations. Numerous commenters, including the GEC, raised concerns that focus on several major aspects of the basis for selecting the No Further Action remedy.

***Comment:*** Alternatives to No Further Action were not considered by EPA, so the costs and benefits of other remedial options were not evaluated and compared.

↳ ***EPA's response:*** Alternatives were not relevant because the Human Health and Ecological Risk Assessments estimated that the current site conditions did not present any unacceptable risks, so no action is warranted.

***Comment:*** The presence of residual contamination was noted by the Agency for Toxic Substances and Disease Registry (ASTDR) in its 2014 Public Health Assessment. ATSDR reported that contamination in certain specific areas of the site could present unacceptable health risks if site future uses were commercial and/or residential.

↳ ***EPA's response:*** EPA explained the differences in ATSDR's and Superfund Risk Assessments, and noted EPA only considered a future Industrial use for the site because that is the property's current zoning. EPA's risk assessment, therefore, was appropriate to estimate future risks. Further, EPA suggested that the elevated levels of residual contamination cited by ATSDR might not still be present following removals that were previously completed.

***Comment:*** EPA should identify the specific sampling points and related data that ATSDR cited as causing unacceptable health risks, and determine whether or not those data are valid and if the indicated residual contamination was still present at those locations and could cause future exposures. EPA did not respond with any specific information about the problematic samples.

Following review of comments submitted during the public comment period on the Proposed Plan, EPA determined that none of the concerns raised by interested parties warranted any changes to the preferred remedy.

EPA will create an Institutional Control for OU3 to prevent future residential development. This will be a universal environmental covenant, as a deed restriction and a permanent part of the property records that would be enforced by State and local government agencies.

In a virtual workshop in December 2020, the GEC requested the public be involved in developing and implementing institutional controls. EPA agreed to work with the State to facilitate community involvement in

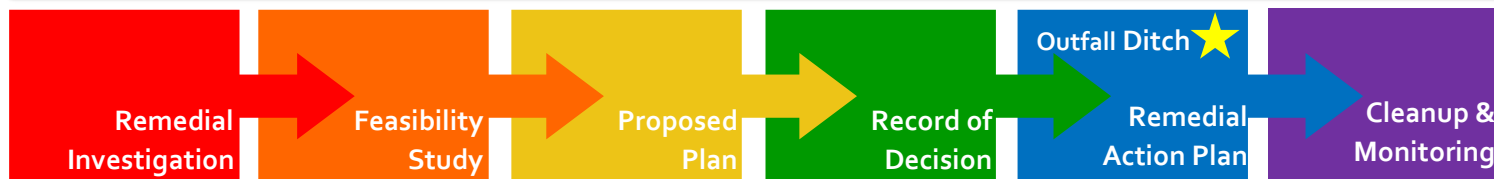


preparation of implementing institutional controls that will document that residual contamination may exist in the upland soils of the site and restrict future site use to industrial purposes.

GEC followed with EPA to provide details about the samples and data that caused ATSDR to determine

unacceptable health risks in early December 2020. We noted that EPA agreed to address this concern at the September 12, 2019 public meeting on the proposed remedy that was held in Brunswick, but such information was not included in the Record of Decision. GEC has not received any further response from EPA on this matter.

## Terry Creek Superfund Site



### Background

Since 1911, industrial wastewater has been discharged into Dupree Creek, which flows into Terry Creek. From 1948 to 1980, the ditch was a discharge point for untreated wastewater containing Toxaphene from the former Hercules pesticide plant. Chemical plant wastes are still present in the outfall ditch, Terry Creek, and Dupree Creek sediments, and in dredge disposal areas.



**Image 4: Terry Creek Outfall Ditch Site. Ref: Hercules Remedial Design/Remedial Action Plan, March 2020.**

The southern boundary of the site runs along the F.J. Torras Causeway and the western boundary runs along Highway 17. The Potentially Responsible Party for this site is Hercules.

Toxaphene is a dangerous mixture of over 970 chemicals that was banned in the U.S. in 1990. In the past, Toxaphene uses included killing insects on cotton plants and unwanted fish in lakes, and as cattle dip. Humans come into contact with Toxaphene when they are exposed to water, soil, and food contaminated with the chemical.

The sites cleanup is being managed in three parts: **Operable Unit 1 - Outfall Ditch**; **Operable Unit 2 - the Wood Storage and Dredge Spoil Areas**; and **Operable Unit 3 - Dupree and Terry Creeks** (see **Image 4**).

### *Current Activities in Operable Unit 1 - Outfall Ditch*

EPA is focusing current efforts on cleaning up the outfall ditch because evidence suggests it is the primary continuing source of contaminant flowing into the creeks. Once the outfall ditch cleanup is complete, EPA will study its impact on conditions in the rest of the site and evaluate additional cleanup needs.

### Remedial Design and Remedial Action Plan

In March 2020, Hercules consultants submitted the

Remedial Design and Remedial Action Plan for the Outfall Ditch to EPA, which was then approved in July 2020. The document was submitted on behalf of Hercules in accordance with the November 2019 Consent Decree.

The cleanup will consist of removing the existing ditch, construction of a new concrete-lined outfall ditch, and covering the former ditch area. Some contaminated sediments will be removed from the site and disposed off-site. Institutional controls will be created to prevent disturbance of the site in the future.

Contractors for Hercules began field work in the summer of 2020 to enable finalizing the plan for the Outfall Ditch cleanup. Recent field work includes surveying to delineate wetlands boundaries; topographic surveys (land-elevation mapping); and surveys to measure the depth underwater features of the ditch. Samples were collected near the Highway 17 culvert to test for contamination. Also, testing was performed to determine how much ground water will need to be pumped to lower the water table enough so the new ditch can be installed.

The contractor submits monthly progress reports to EPA and to GEC. Based on review of the recent reports, planned work has been accomplished. Some delay on establishing wetland boundaries in consultation with state and federal agencies, however, was noted.



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### **Preliminary Design**

A Preliminary Design Investigation Report and Preliminary Design were submitted for EPA review in November 2020. Those documents present the project approach, permit requirements, plans for minimizing environmental impacts, and how institutional controls will be implemented. This includes plans, draft design drawings, and technical specifications such as Operations and Maintenance, Long-term Monitoring, and sediment transport and disposal plans; drawings of current site conditions, ditch realignment, and construction of structures such as stormwater and sedimentation controls; and specifications for earthwork, concrete, rip-rap, and other materials to be used to construct the remedy.

After the preliminary design is approved by EPA, the final design will be developed for all elements of the cleanup action. EPA must review and approve the final design before construction can begin.

Remedial actions will begin after EPA approval with selecting a construction contractor, who may update any plans, schedules, and permitting requirements that may need to be refined to accomplish the project as designed.

The schedule calls for the final design to be approved by June of 2021. Construction should begin around December 2021 and is planned to be completed around August 2022.

### **Community Outreach**

The GEC hosted six Superfund 101 workshops in 2020, including one hosted in partnership with EPA staff. EPA also shared an update with the community on the progress of cleanup activities at the LCP Chemicals Site during a virtual workshop hosted in December 2020.

In addition, our Superfund webpages generated over 800 views, and through our Safe Seafood outreach we reached over 1,700 anglers!

### **Additional Resources**

Additional details on all Glynn County Superfund sites can be found by visiting:

- GEC Superfund Homepage: [bit.ly/GECsuperfund](https://bit.ly/GECsuperfund)
- EPA Superfund Homepage: [bit.ly/EPA-superfund](https://bit.ly/EPA-superfund)
- GEC-LCP Homepage: [bit.ly/LCPchemicals](https://bit.ly/LCPchemicals)
- GEC-Terry Creek Homepage: [bit.ly/terrycreek](https://bit.ly/terrycreek)
- GEC Safe Seafood: [bit.ly/safeseafood](https://bit.ly/safeseafood)