



# PUTTING SITES TO WORK

*How Superfund Redevelopment in the Southeast Region  
Is Making a Difference in Communities*



REGION 4 ECONOMIC PROFILE

*Cover page photos:  
Calhoun Park Area (South Carolina), Cascade Park Gasification Plant (Florida), Benfield Industries, Inc. (North Carolina),  
Davis Timber Company (Mississippi)*

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Figure 1. Several commercial businesses operate at 25 Calhoun at the Calhoun Park Area site (South Carolina).

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# PREFACE

EPA's Superfund program is a cornerstone of the work that the Agency performs for citizens and communities across the country. The revitalization of places affected by contaminated lands is a key part of Superfund's mission, meeting community needs for thriving economies and improved environmental and public health outcomes. Through EPA's Superfund Redevelopment Initiative, the Agency contributes to these communities' economic vitality by supporting the return of sites to productive use.

EPA has established a renewed focus on accelerating work and progress at all Superfund sites across the country and created the Superfund Task Force whose work included promoting redevelopment and community revitalization. Working closely with communities, developers and property owners, EPA is leading the way to return these once-contaminated sites back to productive use.

These regional profiles highlight community-led efforts as EPA expedites cleanup and remediation and engages with partners and stakeholders to support redevelopment and community revitalization.

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# INTRODUCTION

EPA's Region 4 office serves the southeastern United States – Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and six tribes – one of the most populous and fastest-growing regions in the country. Today, building on a range of innovative initiatives, state and local leaders are fostering economic growth, emphasizing workforce development and revitalizing contaminated lands, including Superfund sites. The Superfund program in EPA Region 4 is proud to play a role in these efforts.

The cleanup and reuse of Superfund sites often restores value to site properties and surrounding communities that have been negatively affected by contamination. Site redevelopment can revitalize a local economy with jobs, new businesses, tax revenues and local spending.

Through programs like the Superfund Redevelopment Initiative, EPA Region 4 helps communities reclaim cleaned-up Superfund sites. Factoring future use of Superfund sites into the cleanup process promotes their safe redevelopment. In addition, EPA Region 4 works closely with state and local officials to remove barriers that have kept many Superfund sites underused. EPA Region 4 works to ensure that businesses on properties being cleaned up under Superfund can continue operating in a way that protects human health and the environment during site investigations and cleanup work. This continuity enables these businesses to remain open and serve as a source of jobs for communities.

Superfund sites across Region 4 are home to industrial and commercial parks, retail centers, car dealerships, government offices, and neighborhoods. Many sites continue to host industrial operations such as large-scale manufacturing facilities. Other sites support natural areas, parks and recreation facilities. On-site businesses and organizations at current and former Region 4 Superfund sites provide an estimated 19,622 jobs and contribute an estimated \$1.3 billion in annual employment income. Sites in reuse and continued use in Region 4 generate \$10 million in annual property tax revenues for local governments.<sup>1</sup>

## Region 4 Sites in Reuse and Continued Use: Business and Job Highlights

<b>Businesses:</b>	555
<b>Total Annual Sales:</b>	\$7.4 billion
<b>Number of People Employed:</b>	19,622
<b>Total Annual Employee Income:</b>	\$1.3 billion



Figure 2. Taylor Road Landfill (Florida).

<sup>1</sup> Business and property value tax figures represent only a subset of the beneficial effects of sites in reuse or continued use in Region 4. There are 47 Superfund sites in reuse or continued use in Region 4 for which EPA does not have business data, including 19 federal facilities on the Superfund National Priorities List (NPL). Not all sites in reuse involve an on-site business or other land use that would employ people. Several sites without businesses have beneficial effects that are not easily quantified, such as properties providing ecological or recreational benefits (e.g., parks, wetlands, ecological habitat and open space). In addition, there are 78 sites in reuse or continued use in Region 4 for which EPA does not have property value or tax data, including 19 NPL federal facilities.

This profile looks at how redevelopment activities at Superfund sites make a difference in communities across Region 4. In particular, it describes some of the beneficial effects of redevelopment and continued use of current and former Superfund sites. The profile also describes the land values and property taxes associated with Superfund sites returned to use and sites that have remained in use throughout the cleanup process. EPA updates these profiles periodically. The beneficial effects may increase or decrease over time due to changes in:

- The number of sites in reuse or continued use.
- The number of on-site businesses.
- Data availability.
- Changes in business and property value data.

Figures presented represent only a subset of all Superfund sites in reuse or continued use in Region 4.



Figure 3. Left: Miami-Dade County public works office at the Northwest 58th Street Landfill site (Florida); Right: Vista View Park at the Davie Landfill site (Florida).



# SUPPORT FOR SUPERFUND REDEVELOPMENT

EPA Region 4 is committed to improving the health and livelihood of Americans by cleaning up and returning land to productive use. In addition to protecting human health and the environment through the Superfund program, Region 4 partners with stakeholders to encourage redevelopment opportunities at Superfund sites. Region 4 helps communities and cleanup managers consider redevelopment during cleanup planning and evaluate remedies already in place to ensure appropriate redevelopment. In addition, EPA participates in partnerships with communities and encourages opportunities to support Superfund Redevelopment projects that emphasize environmental and economic sustainability.

Specific redevelopment support efforts in EPA Region 4 include:

- Identifying and evaluating local land use priorities to align with site cleanup plans through the redevelopment planning process.
- Facilitating cleanup and redevelopment discussions to help resolve key issues between parties interested in site redevelopment.
- Supporting targeted projects intended to help Region 4 communities and EPA find the right tools to move site redevelopment forward.
- Making efforts to help address communities' and developers' liability, safety and reuse concerns through development of educational materials, comfort letters, developer agreements and environmental status reports – known as Ready for Reuse Determinations – that provide information about the appropriate use of sites.
- Supporting partnerships with groups committed to returning Superfund sites to productive use, such as the Academy of Model Aeronautics.
- Developing reuse fact sheets, websites, webinars and reuse case studies to share opportunities and lessons associated with Superfund Redevelopment.

These efforts have helped build expertise across Region 4, making it easier to both consider future use of Superfund sites prior to cleanup and to identify opportunities for removing reuse barriers. These efforts also help tribes, state agencies, local governments, communities, potentially responsible parties, site owners, developers, and other partners and stakeholders to better understand potential future uses for Superfund sites. This helps stakeholders engage early in the cleanup process, ensuring that Superfund sites are restored as productive assets for communities. Most importantly, these efforts lead to significant returns for communities, including jobs, annual income and tax revenues.

## REUSE PLAN UPDATE

American Creosote Works Superfund Site  
Pensacola, Florida



**OVERVIEW**  
EPA Region 4 is providing reuse support in developing a reuse plan update for the American Creosote Works Superfund site (ACW Site) in Pensacola, FL site based on anticipated remedial changes and local reuse and redevelopment priorities. EPA sponsored a reuse planning process for the ACW site in 2003 and a reuse plan update in 2010. The 2010 update evaluated the compatibility of the 2003 plan with a change in remedial action levels for dioxin contaminated soils. Since that time, EPA has decided some changes need to be made to remedies implemented at the site and plans to issue a new sitewide remedy to address remaining contamination. EPA supported this reuse plan update to clarify suitable uses based on the anticipated remedy and that reuse opportunities are still consistent with community goals.

**REUSE GOALS**  
EPA hosted a public meeting on December 12, 2016 at the Sanders Beach-Corinne Jones Resource Center to confirm the community's reuse goals for the Site. Approximately 35 people attended and through Q&A and break out group discussions, participants affirmed goals to reuse the site as a park for passive recreation that is consistent with the current conservation zoning:

- Establish passive park (such as trails) as neighborhood amenity, buffer and catalyst for Western Gateway District.
- Include recreational structures enhancing cultural heritage resources and support recreational uses on site (such as interpretive exhibits).
- Limit north-south vehicular access through site.
- Improve sidewalks and streetscape conditions to allow pedestrian access to park.
- Provide opportunity for park connection and streetscaping to Sanders Beach Community Center and Park.

**OUTCOMES**  
The outcome of the charrette is summarized in this document. The document contains several sections:

Reuse Planning to Date	p. 2
Reuse Suitability	p. 2
Future Use Considerations	p. 3
Parks and Reuse Examples	p. 4-5
Ownership and Liability	p. 6-7
Recommendations	p. 8

Funded by the EPA Superfund Redevelopment Initiative

JUNE 2017



The Sanders Beach Community is located between Main Street and Pensacola Bay. New development along Main Street is shown above.



Sanders Beach-Corinne Jones Resource Center.



Pensacola Yacht Club (private).

**Superfund Redevelopment Initiative**

EPA's Superfund Redevelopment Initiative (SRI) and EPA Region 4 sponsored a public meeting to provide an update on the site's cleanup and affirm the community's reuse goals for the site.

Figure 4. Superfund Redevelopment Initiative Reuse Plan Update for the American Creosote Works, Inc. (Pensacola Plant) site (Florida).

# SUPERFUND REDEVELOPMENT: THE BIG PICTURE

EPA can take and oversee immediate action at contaminated sites through short-term cleanup actions, also called removal actions.<sup>2</sup> EPA refers sites warranting long-term cleanup to its remedial program or to state programs. EPA's National Priorities List (NPL) is a list of sites the Agency is targeting for further investigation and possible remediation through the Superfund program. Once EPA places a site on the NPL, the Agency studies the contamination, identifies technologies that could address the material and evaluates alternative cleanup approaches. EPA then proposes a cleanup plan and, after collecting public input, issues a final cleanup plan. The Agency then cleans up the site or oversees cleanup activities. EPA has placed 248 sites in Region 4 on the NPL.

Whenever possible, EPA seeks to integrate redevelopment priorities into site cleanup plans. In Region 4, 137 NPL sites and 22 non-NPL Superfund sites are in use. These sites have either new uses in place or uses that remain in place from before cleanup. Many of these sites have been redeveloped for commercial, industrial and residential purposes. Others have been redeveloped for recreational, ecological and agricultural uses. Many redeveloped sites support multiple uses and have the capacity to support additional uses and further redevelopment. The following sections take a closer look at the beneficial effects of businesses operating on current and former Superfund sites in Region 4.

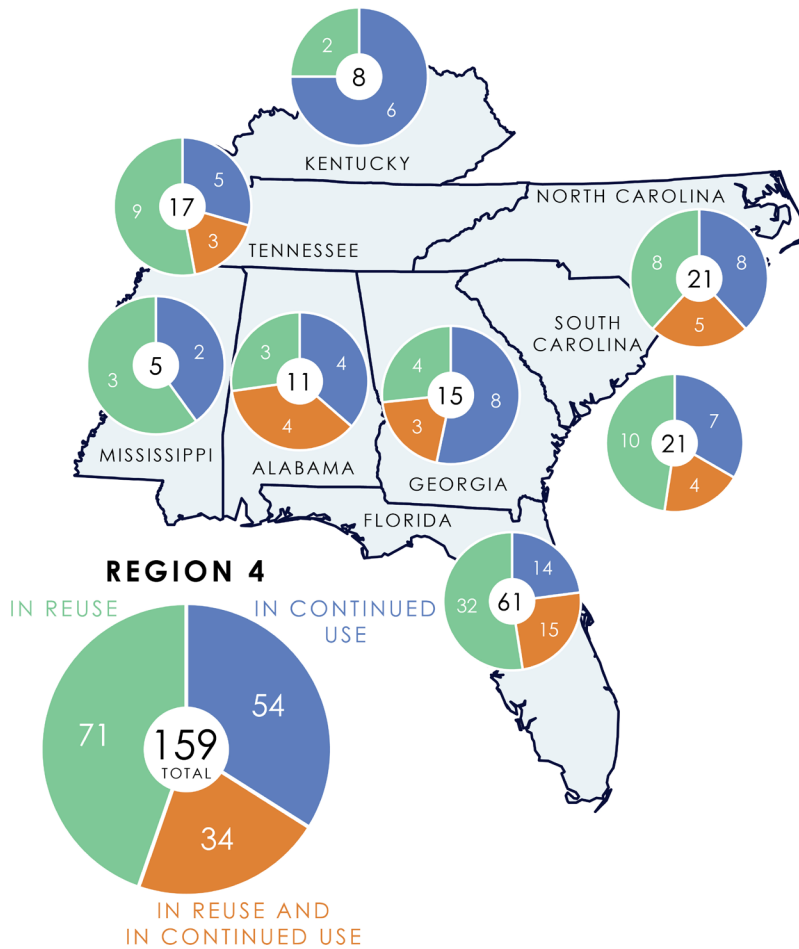


Figure 5. Sites in reuse and continued use in Region 4.

<sup>2</sup> Removal actions may be taken at sites on the NPL and sites not on the NPL.





Figure 6. Left: Model airplane park at the Taylor Road Landfill site (Florida). Right: Continued industrial use at the National Starch & Chemical Corp. site (North Carolina).

## Sites in Reuse and Continued Use: A Closer Look

Reuse Type	Description	Region 4 Example
<b><i>In Reuse</i></b>	<i>There is a new land use or uses on all or part of a site. This is because either the land use has changed (e.g., from industrial use to commercial use) or the site is now in use after being vacant.</i>	<i>Taylor Road Landfill (Florida) – former landfill is now a recycling center, a household chemical/electronics collection center, a site maintenance facility, a model airplane park and an environmental field office.</i>
<b><i>In Continued Use</i></b>	<i>Historical uses at a site remain active; these uses were in place when the Superfund process started at the site.</i>	<i>National Starch &amp; Chemical Corp. (North Carolina) – two chemical manufacturing plants continue to operate on site.</i>
<b><i>In Reuse and Continued Use</i></b>	<i>Part of a site is in continued use and part of the site is in reuse.</i>	<i>BMI-Extron (Florida) – commercial businesses continue to operate on site; Florida Aero Precision now operates an aerospace parts manufacturing facility in the former BMI-Extron building.</i>

# BENEFICIAL EFFECTS OF SUPERFUND SITE REDEVELOPMENT IN REGION 4

## Businesses and Jobs

EPA has collected economic data for 555 businesses, government agencies and civic organizations operating on 98 NPL sites and 14 non-NPL sites in reuse and continued use in Region 4.<sup>3</sup> (See the State Redevelopment Profiles for each state’s reuse details.) Businesses and organizations at these sites are part of several different sectors, including manufacturing, government, wholesale trade and retail trade.

Businesses, facilities and organizations at these sites include chemical manufacturing plants Olin Corporation and Akzo Nobel Functional Chemical, the Miami-Dade County Public Works Department, medical equipment manufacturer Cardinal Health, aircraft manufacturer Piper Aircraft, and electrical lighting wholesaler GE Lighting Systems.

The businesses and organizations at these sites earn about \$7.4 billion in estimated annual sales and employ about 19,622 people, earning an estimated \$1.3 billion in annual employment income. This income injects money into local economies and generates revenue through personal state income taxes. These businesses also help local economies through direct purchases of local supplies and services. On-site businesses that produce retail sales and services also generate tax revenues through the collection of sales taxes, which support state and local governments. More detailed information is presented in Table 1.<sup>4</sup>

**Table 1. Site and Business Information for Region 4 Sites in Reuse and Continued Use (2019)**

	Sites <sup>a</sup>	Sites with Businesses <sup>b</sup>	Businesses <sup>c</sup>	Total Annual Sales <sup>d</sup>	Total Employees	Total Annual Employee Income
<i>In Reuse</i>	71	47	170	\$412 million	2,412	\$113 million
<i>In Continued Use</i>	54	36	216	\$2.8 billion	7,555	\$428 million
<i>In Reuse and in Continued Use</i>	34	29	169	\$4.2 billion	9,655	\$749 million
<b>Total</b>	<b>159</b>	<b>112<sup>e</sup></b>	<b>555</b>	<b>\$7.4 billion<sup>f</sup></b>	<b>19,622</b>	<b>\$1.3 billion<sup>f</sup></b>

<sup>a</sup> Nineteen sites are federal facilities. Federal facility sites are excluded from all other detailed site and business data presented above.

<sup>b</sup> Also includes other organizations such as government agencies, nonprofit organizations and civic institutions.

<sup>c</sup> Business information is not available for all businesses on all Superfund sites in reuse or continued use.

<sup>d</sup> For information on the collection of business, jobs and sales data, see the Sources section.

<sup>e</sup> See footnote 1, page 1.

<sup>f</sup> Throughout this report, sales and annual employee income may not sum exactly to the totals presented due to rounding.

**“ It shows how and why reusing sites makes a lot of sense. Communities benefit from the new uses. Agencies have local eyes on the site. It saves time, energy and resources for everyone.”** **Trey Hess, former chief of the Mississippi Department of Environmental Quality’s Groundwater Assessment & Remediation Division, in reference to the Davis Timber Superfund site.**

<sup>3</sup> See footnote 1, page 1.

<sup>4</sup> For additional information on the collection of business, jobs and sales data, see Sources.



## Property Values and Property Tax Revenues

Properties cleaned up under the Superfund program and returned to use have the potential to increase in value significantly. This increased value can boost property tax revenues, which help pay for local government operations, schools, transit systems and other public services. Site properties at the Munisport Landfill site in Florida are now valued at nearly \$145 million.

Identifying increases in property values and property taxes following cleanup and reuse is challenging. This is due to several factors, including limited data on past property values and the frequency and timing of local property value assessments. Likewise, many factors affect property values, including external economic and neighborhood factors not related to a site's contamination or Superfund status. It is also difficult to isolate the effects of Superfund cleanup and redevelopment using current property values. However, these values do provide insight into the current value of Superfund properties and the potential loss in economic value if the properties were not cleaned up and made available for reuse or continued use.

EPA has collected property value and tax data for 81 Superfund sites in reuse and continued use in Region 4.<sup>5</sup> These sites span 1,003 property parcels and 10,193 acres. They have a total property value of \$796 million. The average total property value per acre is \$78,000.

Land and improvement property value information is available for 79 sites. These properties have a total land value of \$360 million and a total improvement value of \$319 million.<sup>6</sup>

Property tax information is available for 81 sites. The properties generate a combined \$10 million in local property taxes annually.

**Table 2. Property Value and Tax Information for Sites in Reuse and Continued Use in Region 4<sup>a</sup>**

Total Land Value (79 sites) <sup>b</sup>	Total Improvement Value (79 sites)	Total Property Value (81 sites)	Total Property Value per Acre (80 sites) <sup>c</sup>	Total Annual Property Taxes (81 sites)
<b>\$360 million</b>	<b>\$319 million</b>	<b>\$796 million</b>	<b>\$78,000</b>	<b>\$10 million</b>

<sup>a</sup> Results are based on an EPA Superfund Redevelopment Initiative effort to collect on-site property values and property taxes for a subset of Superfund sites. The property value and tax amounts reflect the latest property value year and tax data year available in county assessor datasets, which varied from 2014 to 2018. For additional information, see Sources. Throughout this report, property and tax values may not sum exactly to the totals presented due to rounding.

<sup>b</sup> Detailed (land and improvement) property value data as well as tax data were not available for every site.

<sup>c</sup> Based on total property value amount of \$795 million divided by total acreage of 10,193.

### Region 4 Sites in Reuse and Continued Use: Property Value and Tax Highlights

**Total Property Value:** \$796 million

**Total Annual Property Taxes:** \$10 million



Figure 7. Residential use at the Normandy Park Apartments site (Florida).

5 There are 78 additional sites in reuse or continued use in Region 4 for which EPA does not have property value or tax data, including 19 NPL federal facilities. See footnote 1, page 1.

6 Property values consist of land value and the value of any improvements (buildings and infrastructure) placed on a property. When sites are redeveloped, some or all of these improvements may be new or already in place. In some cases, the breakdown showing the land value and improvement value is not always available; only the total property value may be available.

## Beneficial Effects from Enhanced Recreational and Ecological Amenities

In addition to hosting commercial developments, retail centers and industrial facilities, many Region 4 sites in reuse and continued use provide recreational and ecological benefits. Greenspace and habitat reuses help attract visitors and residents and indirectly contribute to local economies.

Careful planning can enable the integration of green spaces and habitat into site cleanup plans, resulting in the transformation of contaminated properties into valuable community and wildlife assets. Green spaces are integral components of sustainable communities – they can help protect the environment and human health while providing other social and economic benefits. Parks, community gardens and other public green spaces create opportunities for people to gather, exercise and connect with nature. The creation of green spaces and habitat at once-contaminated properties can serve to re-introduce ecosystems and biodiversity into urban and suburban landscapes by providing corridors for migrating species and preserving habitat. They can also mitigate stormwater runoff problems by slowly absorbing and naturally filtering stormwater, resulting in improved water quality due to decreased runoff and erosion.

Parks, natural areas and scenic landscapes also have great economic value – supporting regional economies through tourism, agriculture and other activities. Economic impacts of recreational activities can include outdoor recreation spending and reduced public costs related to healthcare and infrastructure. In 2017, outdoor recreation contributed \$887 billion to the U.S. economy, supporting 7.6 million jobs and generating \$65.3 billion in national tax revenue and \$59.2 billion in state and local tax revenue.<sup>7</sup> Protected green space can also increase the property values of nearby homes by providing amenities that draw people to live and work in the community.

Many sites in Region 4 provide recreational and ecological benefits. Following the cleanup of the Armstrong World Industries site in Macon, Georgia, the area is now a thriving pollinator meadow with over 50 locally native plants representing the natural history of central Georgia. On the Lonnie C. Miller, Sr. Park section of the Jacksonville Ash site in Jacksonville, Florida, recreational amenities include playground equipment, picnic pavilions, a restroom building, a sand volleyball court, paved walking paths and parking areas. Parts of the Agrico Chemical Company site in Pensacola, Florida, are in ecological reuse as pollinator habitat. The habitat area includes more than 1,700 pollinator-friendly plants, which also enhance the site's remedy by preventing erosion around the engineered cap.



Figure 8. Welcome sign for the Armstrong Macon Meadow at the Armstrong World Industries site (Georgia).

<sup>7</sup> The Outdoor Recreation Economy. Outdoor Industry Association. Available at [https://outdoorindustry.org/wp-content/uploads/2017/04/OIA\\_RecEconomy\\_FINAL\\_Single.pdf](https://outdoorindustry.org/wp-content/uploads/2017/04/OIA_RecEconomy_FINAL_Single.pdf).





Figure 9. Restored wetlands at the Raleigh Street Dump site (Florida).

## Why Are Wetlands Economically Important?

Superfund site reuse can support wetland habitat, as seen at several sites in Region 4. A native plant habitat reserve and wetlands cover part of the Solitron Microwave site in Port Salerno, Florida. At the Northwest 58th Street Landfill site in Hialeah, Florida, visitors can walk along a trail to view the wetland area and associated wildlife. Cleanup of the Raleigh Street Dump site in Tampa, Florida, expanded the previously existing wetlands habitat, creating a wildflower and native grass meadow. The restoration effort earned the site EPA Region 4's Excellence in Site Reuse Award.

Wetlands provide a variety of benefits. The combination of shallow water, high levels of nutrients and primary productivity is ideal for organisms that form the base of the food web and feed many species of fish, amphibians, shellfish and insects. Wetlands are extremely effective in removing pollutants from water and acting as filters for future drinking water. Wetlands play a role in reducing the frequency and intensity of floods. They can store large amounts of carbon. They also provide recreational amenities.

These benefits also have economic value. Replacing wetlands' water treatment services with manmade facilities, for example, would be expensive. Worldwide, wetlands provide an estimated \$14.9 trillion in ecosystem services. To learn more, see:

- EPA's *Economic Benefits of Wetlands*: [www.epa.gov/sites/production/files/2016-02/documents/economicbenefits.pdf](http://www.epa.gov/sites/production/files/2016-02/documents/economicbenefits.pdf).
- EPA's *Why Are Wetlands Important?*: [www.epa.gov/wetlands/why-are-wetlands-important](http://www.epa.gov/wetlands/why-are-wetlands-important).

**“ Our goal was to utilize a City and [Orlando Utilities Commission] asset to satisfy several community needs. We needed to help EPA commence a cleanup, but we also wanted to encourage transit-oriented infill that was sensitive to the surrounding historic neighborhood, while also helping provide athletic opportunities to an important downtown educational institution. We also managed to alleviate long-challenging parking problems for the nearby shopping district and establish a segment of the Dinky Line Trail. Fortunately, we found a capable and willing partner in this process with EPA.” Buddy Dyer, Mayor of Orlando, Florida, in reference to the Former Spellman Engineering Superfund site.**



# REDEVELOPMENT IN ACTION

## HARRIS CORP. (PALM BAY PLANT)

### Continued Industrial Use and New Public Service Uses

The 310-acre Harris Corp. (Palm Bay Plant) Superfund site is located in Palm Bay, Florida. Since the 1950s, a variety of manufacturing activities have taken place at the site. These activities include manufacturing of integrated circuits for government defense and aerospace programs, as well as products for consumer electronics and telecommunications equipment. Other previous site uses included drum storage and machine shop, chromium plating, and painting operations. Chemical releases resulting from fires and an acid line leak contaminated site groundwater. EPA added the site to the NPL in 1987. Cleanup activities included extraction and treatment of contaminated groundwater and groundwater use restrictions. Groundwater monitoring is ongoing.

The successful cleanup of the site allowed for continued manufacturing operations and new reuses on the property. Harris Corporation has been manufacturing electronic parts, communication and information processing equipment on site since 1967. In February 2015, Harris Corporation opened its 464,000-square-foot, \$130 million Harris Technology Center on site. It is certified in efficient design and construction and includes state-of-the-art conference facilities and engineering labs. The center's construction created nearly 300 jobs for workers in the area. The facility serves as the company's Florida innovation hub and houses about 1,330 engineers and staff. Harris Corporation also operates its Government Communications Systems Division on site, which employs about 3,140 additional staff.

Intersil Corporation (Intersil) previously made semiconductors on site. In 2010, Intersil donated a \$13 million state-of-the-art fabrication facility and a 5-acre property to the University of Central Florida as a research center. The university kept the option to accept the donated facility until the summer of 2013 but decided against using the buildings. Intersil Corporation worked with EPA and the Florida Institute of Technology (FIT) to finalize FIT's purchase of the facility and land. Today, FIT is using the property as an extended campus. To address concerns regarding use of the property, EPA drafted a comfort letter to clarify that FIT's intended reuse of the site is safe and appropriate.

In 2018, Renesas Electronics Corporation (Renesas) acquired Intersil and continues to make semiconductors on site. The site also includes several businesses owned by Sutton Properties. Together, site businesses employ over 5,200 people, contributing nearly \$444 million in estimated annual employee income and generating over \$2.2 billion in estimated annual sales. In 2017, site property parcels had a total value of over \$114 million, generating over \$1.7 million in annual property taxes.



Figure 10. The Harris Technology Center at the Harris Corp. (Palm Bay Plant) site (Florida).

# REDEVELOPMENT IN ACTION

## MARTIN-MARIETTA, SODYECO, INC.

### Eco-Industrial Park

The Martin-Marietta, Sodyeco, Inc. Superfund site is located about 10 miles west of Charlotte, North Carolina. For over 70 years, various companies produced textile dyes, chemicals and other industrial products on site. Improper disposal of chemical wastes and landfilled materials contaminated site soil and groundwater. EPA placed the site on the NPL in 1983. EPA's cleanup included capping some contamination in place, disposing of waste materials and contaminated soil off site, and groundwater treatment. EPA deferred the site to the Resource Conservation and Recovery Act (RCRA) program and deleted the NPL listing in 2012. The property's delisting qualified it for state and federal brownfield grants and incentives.

To make reuse possible, EPA's Superfund and RCRA programs worked closely with the site owner and the community to make sure reuse plans were compatible with the cleanup. Thanks to those cooperative efforts, Forsite Development has transformed the 667-acre area along the Catawba River into ReVenture Park, a business park focused on energy efficiency, renewable energy and environmental technology. The redevelopment has breathed new life into the site by reusing its extensive existing infrastructure – rail and interstate access, a wastewater treatment facility, industrial space, utility substations and transmission lines, and a 360-million-gallon containment pond – to create a platform for large-scale renewable energy and alternative fuel projects. The project is home to a biomass combined heat-and-power project, a fuels and lubricants distributor, a composite walls contractor, a composting operation, and a commercial refrigeration equipment manufacturer, among others. This once-contaminated area now supports businesses that provide jobs and services to the community and strive to do so in environmentally conscious ways. Today, those site businesses employ 30 people and generate over \$4.2 million in estimated sales revenue. In 2017, site property parcels had a total value of over \$4.5 million, generating nearly \$50,000 in annual property taxes.

Environmental stewardship is also an integral part of site redevelopment plans. A 185-acre conservation area enhances the site's natural resources. Projects include wildlife habitat, stream restoration and a trail system connecting the regional Carolina Thread Trail across the site to the nearby U.S. National Whitewater Center. Site wildlife includes osprey, white egrets, bald eagles, kestrels and wild turkey.

**“** *This is a historic day for Charlotte and North Carolina and this entire region. We're coming together to make something happen, to revitalize what was once a brownfield and make it a greenfield again. This is a win for jobs, it's a win for the environment, it's a win for future economic development, it's a win for our quality of life, it's a win for the Catawba River...This is a win for North Carolina.* **Pat McCrory, former Governor of North Carolina.**



Figure 11. Pollinator habitat at the Martin-Marietta, Sodyeco, Inc. site (North Carolina).



# REDEVELOPMENT IN ACTION

## CASCADE PARK GASIFICATION PLANT

### Cascades Park

The 10-acre Cascade Park Gasification Plant site is located in Tallahassee, Florida. From 1895 until the mid-1950s, the city of Tallahassee operated a manufactured gas plant (MGP) on site. The plant converted coal into gas that was used for lighting and heating fuel. Plant operations resulted in widespread soil, sediment and groundwater contamination. A city-owned municipal landfill also operated on the southern part of the site. EPA did not list the site on the NPL but considers it an NPL-caliber site and addressed the site through the Superfund Alternative Approach. Cleanup activities included excavation of contaminated soil, capping of the landfill portion of the site and monitoring contaminated groundwater. The contamination was successfully addressed, and EPA completed a "no further remedial action for groundwater" Record of Decision in 2019.

Local stakeholders developed a community-wide redevelopment plan that manages stormwater, creates a public park, preserves local natural resources and celebrates the site's history. In 2008, EPA Region 4 recognized the community's planning efforts with its Excellence in Site Reuse Award. In April 2010, the city and Blueprint 2000, a local intergovernmental agency, began construction of the 24-acre Cascades Park, which includes the former MGP property. Cascades Park officially opened in March 2014. Over 1,000 people attended the opening ceremony.

Today, the park serves as an entertainment hub in the community. It includes the Capital City Amphitheater, which features a canopied 80-foot-by-55-foot stage that is visible from all parts of the park. Imagination Fountain attracts children with a water play area and a nighttime light and sound show. The park also features playgrounds and miles of trails. A Korean War Memorial and Tallahassee's Smokey Hollow Commemoration are also located on site. Founded in the 1890s, Smokey Hollow was a vibrant African American community that once covered much of the area that is now Cascades Park. In the 1960s, the community was slated for "urban renewal" by the state and hundreds of residents were displaced from their homes. The Commemoration serves as a tribute to the community and features a pavilion, community and heritage gardens, interpretive panels, and spirit houses, which represent the shotgun houses that defined the original neighborhood.

In addition to providing recreational and cultural amenities, the park also serves as a stormwater management system, consisting of a network of underground channels, open streams and retention ponds. To provide flood relief to the north and south, Cascades Park is designed to flood during major storm events. A large underground channel called a box culvert diverts the runoff generated by large storm events directly to the on-site Boca Chuba Pond to protect a restored stream and minimize impacts on the park.

The Cascade Park amphitheater was also the impetus for the mixed-use Cascades Project — an ambitious urban development planned for a two-block area, directly across from the park. Features will include housing, retail, office, dining and hotel space as well as pathways connecting to downtown. In addition, the project will result in the creation of a community-envisioned historical plaza, the restoration of the Old City Waterworks building and the preservation of the architecturally significant former County Health Unit. According to the developers, the mixed-use project is expected to generate more than \$350 million in economic impacts and create nearly 700 permanent jobs.



Figure 12. Cascades Park and the Capital City Amphitheater at the Cascade Park Gasification Plant site (Florida). Image used with permission of the city of Tallahassee.



# REDEVELOPMENT IN ACTION

## CALHOUN PARK AREA

### Carefully Selected Cleanup Approach Enables Wide Range of Reuses

The Calhoun Park Area site is located on the Charleston peninsula in South Carolina. From 1855 to 1957, a MGP operated on site and produced coal tar as a byproduct of the manufacturing process. Following the plant's closure and demolition in the late 1950s, a substantial amount of coal tar remained buried in the soil as the area was being developed with buildings, streets and local infrastructure. South Carolina Electric and Gas (SCE&G), the site's potentially responsible party, built an electrical substation on site in the late 1970s. In 1991, EPA and state investigations found that the MGP plant operations had contaminated soil, sediment and groundwater. The site was never finalized on the NPL but was addressed under an alternative cleanup approach.

Early cleanup efforts included installation of sand blankets over contaminated sediment in the Cooper River and addressing contaminated stormwater discharges. Additional cleanup included removal of contaminated soil and dense non-aqueous phase liquid, groundwater treatment, sediment capping in the Cooper River, institutional controls, and long-term groundwater monitoring.

EPA, the South Carolina Department of Health and Environmental Control, and SCE&G worked together to clean up the site in a way that enabled the continued operation of the substation, facilitated new development and minimized the impact of cleanup activities on existing businesses. Following cleanup efforts in accessible areas, coal tar remained in place beneath the substation property. Because the substation supplies electricity to the entire Charleston peninsula and outlying areas, it was critical that it remain in service. SCE&G used innovative approaches to address that contamination. Cleanup efforts are ongoing, and will continue into the future.

The site's reuse demonstrates how integrating remediation and redevelopment activities can create a wide range of opportunities for local communities. New site developments include the opening of a 76-unit residential development called The Gadsden in 2018 and the completion of Williams Terrace, an independent-living community designed for independent living for seniors. Together, site businesses employ about 200 people, contributing nearly \$15 million in estimated annual employee income and generating over \$35 million in estimated annual sales.

Cleanup has also resulted in ecological and recreational benefits. Cleanup of the site's riverbanks included shoreline restoration efforts and expansion of an existing Oyster Research Study Area – the effort involved using oyster shell bags to supplement an existing sand cap. These activities helped reestablish ecological habitat in the area. Part of the site also now supports Gadsdenborough Park. After undergoing a \$5.7 million renovation, the park provides the community and visitors with sports fields and a host of other recreational amenities.



*Figure 13. The South Carolina Aquarium at the Calhoun Park Area site (South Carolina).*

# REDEVELOPMENT ON THE HORIZON IN REGION 4

## TRANSFORMING A FORMER WOOD TREATING FACILITY INTO THE FUTURE LOUISVILLE RAIL PARK

The 120-acre American Creosote Works, Inc. site in Louisville, Mississippi, is the site of a former wood-treating facility that operated from 1912 to 1997. The facility pressure-treated wood products with creosote oil and coal tar solutions and, until the early 1980s, discharged waste into three ponds on site. Improper materials handling and disposal practices resulted in the contamination of groundwater, sediment and soil at the site.

EPA listed the site on the NPL in 2001. EPA, the Mississippi Department of Environmental Quality and the U.S. Army Corps of Engineers investigated site conditions and cleaned up the site. Cleanup actions included removal, disposal, and capping of waste and contaminated soil from two waste pond areas, removal of remaining subsurface creosote, installation of a retaining wall, subsurface barrier wall and cap system, tank decommissioning, wastewater treatment, metals recycling, and hazardous debris disposal. A water line connects residents and businesses to the public water system. Cleanup finished in 2017. EPA plans to place institutional controls on the site to limit land use activities and prohibit access to groundwater.

In 2005, the city of Louisville and community stakeholders came together to discuss future use of the site and developed a reuse plan. With cleanup close to completion, EPA Region 4 sponsored a reuse assessment to update the 2005 plan in May 2015. That effort resulted in the 2015 Reuse Concept Plan. The Plan identified about 60 acres for rail, transportation and industrial uses and about 94 acres for recreation and open space. The Plan identified several assets that make the site ideal for rail, transportation and industrial uses, including a rail spur that connects to the Kansas City Southern rail line, an on-site electric substation operated by the Tennessee Valley Authority and potential for dedicated truck access. For recreational and open space uses, Hughes Creek and the surrounding floodplain form a natural buffer area, making it ideal for wildlife habitat and trail areas with access to Hughes Creek.

To help support the future use of the site, the city of Louisville and Winston County built a rail-loading facility and recently added gas and electrical lines. The city plans to rename part of the site “Louisville Rail Park.” The city also made sure that its updated comprehensive plan and zoning ordinance would support future commercial, industrial and recreational reuses at the site. Today, EPA, the state of Mississippi, the city of Louisville and Winston County continue to take steps to make reuse at the site a reality.

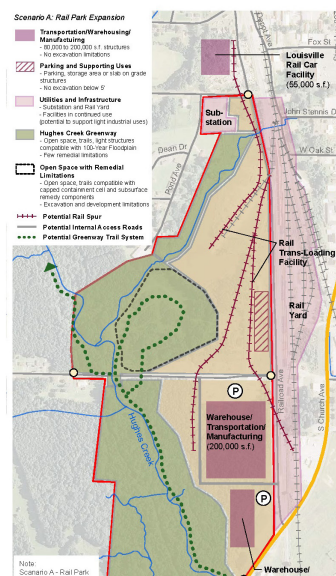


Figure 14. Left: Vacant property at the American Creosote Works (Louisville) site is ready for development (Mississippi). Right: Excerpt from the site’s 2015 Reuse Concept Plan.



# CONCLUSION

EPA works closely with its partners at Superfund sites across Region 4 to make sure sites can safely be reused or remain in continued use during and following cleanup. EPA also works with businesses and organizations at Superfund sites throughout the cleanup process to make sure they can remain open.

The businesses and organizations at these sites provide jobs and income for communities and generate local and state taxes. Cleanup and redevelopment also helps stabilize and boost property values. There are 137 NPL sites and 22 non-NPL Superfund sites in Region 4 that have either new uses in place or uses that have remained in place since before cleanup. Future uses are planned for many more Superfund sites in Region 4. EPA remains committed to working with all stakeholders to support Superfund redevelopment opportunities in eight states in Region 4.

The redevelopment of Superfund sites takes time and is often a learning process for project partners. Ongoing coordination among EPA, tribes, state agencies, local governments, communities, potentially responsible parties, site owners, developers, and nearby residents and business owners is essential. EPA tools, including reuse assessments and plans, comfort letters and partial deletions of sites from the NPL, often serve as the foundation for moving forward. At some sites, parties may need to take additional actions to ensure reuses are compatible with site remedies.

Across Region 4, Superfund sites are now home to major commercial and industrial facilities, mid-size developments and small businesses providing services to surrounding communities. EPA is committed to working with all stakeholders to support the restoration and renewal of these sites as long-term assets.

## EPA Superfund Site Redevelopment Resources

*EPA Region 4 Superfund Redevelopment Initiative Coordinators*

Shelby Johnston | 404-562-8287 | [johnston.shelby@epa.gov](mailto:johnston.shelby@epa.gov)

Joydeb Majumder | 404-562-9121 | [majumder.joydeb@epa.gov](mailto:majumder.joydeb@epa.gov)

Scott Miller | 404-562-9120 | [miller.scott@epa.gov](mailto:miller.scott@epa.gov)

*Superfund Sites in Reuse*: find more information about Superfund sites in reuse

[www.epa.gov/superfund-redevelopment-initiative/find-sites-reuse](http://www.epa.gov/superfund-redevelopment-initiative/find-sites-reuse)

*Superfund Redevelopment Initiative Website*: tools, resources and more information about Superfund site reuse

[www.epa.gov/superfund-redevelopment-initiative](http://www.epa.gov/superfund-redevelopment-initiative)

*EPA Office of Site Remediation Enforcement Website*: tools that address landowner liability concerns

[www.epa.gov/enforcement/landowner-liability-protections](http://www.epa.gov/enforcement/landowner-liability-protections)

“ Throughout our time working together, I’ve realized that Airco and EPA share two common goals: doing what is right from an environmental standpoint and keeping our doors open. I’m thankful for that aspect of our relationship with the Agency.” **Michael King, Airco Plating President, in reference to the Airco Superfund site.**



Figure 15. The Schooner Pride at the Calhoun Park Area site (South Carolina).



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# STATE REDEVELOPMENT PROFILES





# ALABAMA REDEVELOPMENT PROFILE

EPA partners with the Alabama Department of Environmental Management to oversee the investigation and cleanup of Superfund sites in Alabama. Alabama has 11 Superfund sites with either new uses in place or uses that have remained in place since before cleanup. The sections below present economic data, property values and tax data for sites in reuse or continued use in Alabama.

## Businesses and Jobs

EPA has collected economic data for 44 businesses and organizations operating on seven sites in reuse or continued use in Alabama.

**Table 3. Detailed Site and Business Information for Sites in Reuse and Continued Use in Alabama (2019)**

	Sites <sup>a</sup>	Sites with Businesses	Businesses <sup>b</sup>	Total Annual Sales	Total Employees	Total Annual Employee Income
<i>In Reuse</i>	3	0	0	\$0	0	\$0
<i>In Continued Use</i>	4	4	31	\$197 million	442	\$30 million
<i>In Reuse and in Continued Use</i>	4	3	13	\$1.1 billion	1,081	\$88 million
<b>Total</b>	11	7	44	\$1.3 billion	1,523	\$118 million

<sup>a</sup> Three sites are federal facilities. Federal facility sites are excluded from all other detailed site and business data presented above.

<sup>b</sup> Business information is not available for all businesses on all Superfund sites in reuse or continued use.

## Property Values and Property Tax Revenues

EPA has collected property value data for four Superfund sites in reuse or continued use in Alabama. These sites span 71 property parcels and 3,459 acres.

**Table 4. Property Value and Tax Information for Sites in Reuse and Continued Use in Alabama<sup>a</sup>**

Total Land Value (4 sites)	Total Improvement Value (4 sites)	Total Property Value (4 sites)	Total Annual Property Taxes (4 sites)
\$47 million	\$9 million	\$56 million	\$360,000

<sup>a</sup> The property value and tax amounts reflect the latest property value year and tax data year available in county assessor datasets, which varied from 2017 to 2018.



Figure 16. View of the Tennessee River at the Triana/Tennessee River site.

## Did You Know?

The Triana/Tennessee River site in Huntsville, Alabama, consists of an 11-mile stretch of the Huntsville Spring Branch and Indian Creek tributaries of the Tennessee River. Today, the site remains located within the Redstone Arsenal and Wheeler National Wildlife Refuge. The Arsenal is home to the U.S. Army Aviation and Missile Command, as well as other agencies. The Refuge provides habitat for migrating birds as well as many other species.





# FLORIDA REDEVELOPMENT PROFILE

EPA partners with the Florida Department of Environmental Protection to oversee the investigation and cleanup of Superfund sites in Florida. Florida has 61 Superfund sites with either new uses in place or uses that have remained in place since before cleanup. The sections below present economic data, property values and tax data for sites in reuse or continued use in Florida.

## Businesses and Jobs

EPA has collected economic data for 263 businesses and organizations operating on 46 sites in reuse or continued use in Florida.

**Table 5. Detailed Site and Business Information for Sites in Reuse and Continued Use in Florida (2019)**

	Sites <sup>a</sup>	Sites with Businesses	Businesses <sup>b</sup>	Total Annual Sales	Total Employees	Total Annual Employee Income
<b>In Reuse</b>	32	24	126	\$273 million	1,563	\$82 million
<b>In Continued Use</b>	14	8	59	\$1.2 billion	1,208	\$80 million
<b>In Reuse and in Continued Use</b>	15	14	78	\$2.6 billion	6,818	\$562 million
<b>Total</b>	61	46	263	\$4.1 billion	9,589	\$724 million

<sup>a</sup>Six sites are federal facilities. Federal facility sites are excluded from all other detailed site and business data presented above.

<sup>b</sup>Business information is not available for all businesses on all Superfund sites in reuse or continued use.

## Property Values and Property Tax Revenues

EPA has collected property value data for 43 Superfund sites in reuse or continued use in Florida. These sites span 563 property parcels and 2,719 acres.

**Table 6. Property Value and Tax Information for Sites in Reuse and Continued Use in Florida<sup>a</sup>**

Total Land Value (42 sites)	Total Improvement Value (42 sites)	Total Property Value (43 sites)	Total Annual Property Taxes (43 sites)
\$186 million	\$160 million	\$461 million	\$7 million

<sup>a</sup> The property value and tax amounts reflect the latest property value year and tax data year available in county assessor datasets, which varied from 2016 to 2018.



Figure 17. The two residential towers at the Munisport Landfill site.

## Did You Know?

During the 1970s, developers of a proposed trade and cultural center disposed of 6 million cubic yards of solid waste in an unlined landfill at the Munisport Landfill site in North Miami, Florida. Beginning in 2002, developers worked toward creating a billion-dollar master-planned community on site known as Biscayne Landing. Today, completed development includes two 25-story residential towers, which include commercial businesses.



# GEORGIA REDEVELOPMENT PROFILE

EPA partners with the Environmental Protection Division of the Georgia Department of Natural Resources to oversee the investigation and cleanup of Superfund sites in Georgia. Georgia has 15 Superfund sites with either new uses in place or uses that have remained in place since before cleanup. The sections below present economic data, property values and tax data for sites in reuse or continued use in Georgia.

## Businesses and Jobs

EPA has collected economic data for 41 businesses and organizations operating on 14 sites in reuse or continued use in Georgia.

**Table 7. Detailed Site and Business Information for Sites in Reuse and Continued Use in Georgia (2019)**

	Sites <sup>a</sup>	Sites with Businesses	Businesses <sup>b</sup>	Total Annual Sales <sup>c</sup>	Total Employees	Total Annual Employee Income
<b>In Reuse</b>	4	4	5	\$2 million	143	\$4 million
<b>In Continued Use</b>	8	7	26	\$136 million	789	\$39 million
<b>In Reuse and in Continued Use</b>	3	3	10	\$95 million	518	\$19 million
<b>Total</b>	15	14	41	\$233 million	1,450	\$62 million

<sup>a</sup> One site is a federal facility. Federal facility sites are excluded from all other detailed site and business data presented above.

<sup>b</sup> Business information is not available for all businesses on all Superfund sites in reuse or continued use.

<sup>c</sup> While sales values typically exceed estimated totals of annual income, sales can sometimes be lower than estimated income. This could be attributed to a number of business conditions and/or data reporting. In addition, annual sales figures are not available (or applicable) for every organization that makes jobs data available.

## Property Values and Property Tax Revenues

EPA has collected property value data for six Superfund sites in reuse or continued use in Georgia. These sites span 16 property parcels and 1,148 acres.

**Table 8. Property Value and Tax Information for Sites in Reuse and Continued Use in Georgia<sup>a</sup>**

Total Land Value (6 sites)	Total Improvement Value (6 sites)	Total Property Value (6 sites)	Total Annual Property Taxes (6 sites)
\$2 million	\$28 million	\$30 million	\$174,000

<sup>a</sup> The property value and tax amounts reflect the latest property value year and tax data year available in county assessor datasets, which varied from 2017 to 2018.



Figure 18. Entrance to the welcome center at the Woolfolk Chemical Works, Inc. site.

## Did You Know?

For over 60 years, a chemical plant produced agricultural pesticides at the Woolfolk Chemical Works, Inc. site in Fort Valley, Georgia. EPA supported the community's reuse planning efforts through pilot grant funding. Today, site reuses include a welcome center, office space, a library and a playground. Continued uses include residential areas and a train station. The city of Fort Valley also hosts several festivals on site during the year.

# KENTUCKY REDEVELOPMENT PROFILE

EPA partners with the Kentucky Department for Environmental Protection to oversee the investigation and cleanup of Superfund sites in Kentucky. Kentucky has eight Superfund sites with either new uses in place or uses that have remained in place since before cleanup. The sections below present economic data, property values and tax data for sites in reuse or continued use in Kentucky.

## Businesses and Jobs

EPA has collected economic data for five businesses and organizations operating on three sites in reuse or continued use in Kentucky.

**Table 9. Detailed Site and Business Information for Sites in Reuse and Continued Use in Kentucky (2019)**

	Sites <sup>a</sup>	Sites with Businesses	Businesses <sup>b</sup>	Total Annual Sales	Total Employees	Total Annual Employee Income
<i>In Reuse</i>	2	0	0	\$0	0	\$0
<i>In Continued Use</i>	6	3	5	\$433 million	760	\$60 million
<i>In Reuse and in Continued Use</i>	0	0	0	\$0	0	\$0
<b>Total</b>	8	3	5	\$433 million	760	\$60 million

<sup>a</sup>One site is a federal facility. Federal facility sites are excluded from all other detailed site and business data presented above.

<sup>b</sup>Business information is not available for all businesses on all Superfund sites in reuse or continued use.

## Property Values and Property Tax Revenues

EPA has collected property value data for one Superfund site in continued use in Kentucky. This site spans three property parcels and 23 acres.

**Table 10. Property Value and Tax Information for Site in Continued Use in Kentucky<sup>a</sup>**

Total Land Value (1 site)	Total Improvement Value (1 site)	Total Property Value (1 site)	Total Annual Property Taxes (1 site)
\$44,000	\$39,000	\$83,000	\$0

<sup>a</sup> The property value and tax amounts reflect the latest property value year and tax data year available in county assessor datasets, which varied from 2016 to 2017.



Figure 19. Ongoing chemical manufacturing at the B.F. Goodrich site.

## Did You Know?

Beginning in 1953, a chemical company began producing chemicals at the B.F. Goodrich site in Calvert City, Kentucky. Improper waste disposal practices contaminated site groundwater and soils, as well as the Tennessee River. Today, chemical manufacturing continues at the site, but the facility is owned and operated by a different company. The facility and related on-site businesses provide over \$32 million in estimated annual income and generate over \$210 million in estimated annual sales.





# MISSISSIPPI REDEVELOPMENT PROFILE

EPA partners with the Mississippi Department of Environmental Quality to oversee the investigation and cleanup of Superfund sites in Mississippi. Mississippi has five Superfund sites with either new uses in place or uses that have remained in place since before cleanup. The sections below present economic data, property values and tax data for sites in reuse or continued use in Mississippi.

## Businesses and Jobs

EPA has collected economic data for eight businesses and organizations operating on four sites in reuse or continued use in Mississippi.

**Table 11. Detailed Site and Business Information for Sites in Reuse and Continued Use in Mississippi (2019)**

	Sites	Sites with Businesses	Businesses <sup>a</sup>	Total Annual Sales <sup>b</sup>	Total Employees	Total Annual Employee Income
<i>In Reuse</i>	3	3	7	\$18 million	34	\$1 million
<i>In Continued Use</i>	2	1	1	\$9 million	280	\$11 million
<i>In Reuse and in Continued Use</i>	0	0	0	\$0	0	\$0
<b>Total</b>	5	4	8	\$27 million	314	\$12 million

<sup>a</sup> Business information is not available for all businesses on all Superfund sites in reuse or continued use.

<sup>b</sup> While sales values typically exceed estimated totals of annual income, sales can sometimes be lower than estimated income. This could be attributed to a number of business conditions and/or data reporting. In addition, annual sales figures are not available (or applicable) for every organization that makes jobs data available.

## Property Values and Property Tax Revenues

EPA has collected property value data for three Superfund sites in reuse or continued use in Mississippi. These sites span 30 property parcels and 78 acres.

**Table 12. Property Value and Tax Information for Sites in Reuse and Continued Use in Mississippi<sup>a</sup>**

Total Land Value (3 sites)	Total Improvement Value (3 sites)	Total Property Value (3 sites)	Total Annual Property Taxes (3 sites)
\$562,000	\$1.5 million	\$2 million	\$36,000

<sup>a</sup> The property value and tax amounts reflect the latest property value year and tax data year available in county assessor datasets, which varied from 2017 to 2018.



Figure 20. Puppies near the dog park at the Davis Timber Company site.

## Did You Know?

At the Davis Timber Company site in Hattiesburg, Mississippi, operators discharged contaminated wastewater into an on-site storage pond, contaminating soil and sediment. Today, an animal shelter and dog park are located on site. Other site uses include parking, connections to an adjacent recreational trail and restored habitat for pollinators. The animal shelter provides nearly \$80,000 in estimated annual income and generates over \$300,000 in estimated annual sales.

# NORTH CAROLINA REDEVELOPMENT PROFILE

EPA partners with the North Carolina Department of Environmental Quality to oversee the investigation and cleanup of Superfund sites in North Carolina. North Carolina has 21 Superfund sites with either new uses in place or uses that have remained in place since before cleanup. The sections below present economic data, property values and tax data for sites in reuse or continued use in North Carolina.

## Businesses and Jobs

EPA has collected economic data for 38 businesses and organizations operating on 16 sites in reuse or continued use in North Carolina.

**Table 13. Detailed Site and Business Information for Sites in Reuse and Continued Use in North Carolina (2019)**

	Sites <sup>a</sup>	Sites with Businesses	Businesses <sup>b</sup>	Total Annual Sales	Total Employees	Total Annual Employee Income
<b>In Reuse</b>	8	7	18	\$49 million	491	\$16 million
<b>In Continued Use</b>	8	4	6	\$304 million	677	\$43 million
<b>In Reuse and in Continued Use</b>	5	5	14	\$255 million	848	\$57 million
<b>Total</b>	21	16	38	\$608 million	2,016	\$116 million

<sup>a</sup> Two sites are federal facilities. Federal facility sites are excluded from all other detailed site and business data presented above.

<sup>b</sup> Business information is not available for all businesses on all Superfund sites in reuse or continued use.

## Property Values and Property Tax Revenues

EPA has collected property value data for eight Superfund sites in reuse or continued use in North Carolina. These sites span 216 property parcels and 1,813 acres.

**Table 14. Property Value and Tax Information for Sites in Reuse and Continued Use in North Carolina<sup>a</sup>**

Total Land Value (8 sites)	Total Improvement Value (8 sites)	Total Property Value (8 sites)	Total Annual Property Taxes (8 sites)
\$31 million	\$52 million	\$83 million	\$722,000

<sup>a</sup> The property value and tax amounts reflect the latest property value year and tax data year available in county assessor datasets, which was 2017 for all data collected.



Figure 21. Manufacturing facilities at the Celanese Corp. (Shelby Fiber Operations) site.

## Did You Know?

Since 1960, operators have made various materials at the Celanese Corp. (Shelby Fiber Operations) site in Shelby, North Carolina. Today, site businesses manufacture sewing thread and engineering resins. The plant provides over \$12 million in estimated annual income and generates over \$47 million in estimated annual sales.



# SOUTH CAROLINA REDEVELOPMENT PROFILE

EPA partners with the South Carolina Department of Health and Environmental Control to oversee the investigation and cleanup of Superfund sites in South Carolina. South Carolina has 21 Superfund sites with either new uses in place or uses that have remained in place since before cleanup. The sections below present economic data, property values and tax data for sites in reuse or continued use in South Carolina.

## Businesses and Jobs

EPA has collected economic data for 75 businesses and organizations operating on 15 sites in reuse or continued use in South Carolina.

**Table 15. Detailed Site and Business Information for Sites in Reuse and Continued Use in South Carolina (2019)**

	Sites <sup>a</sup>	Sites with Businesses	Businesses <sup>b</sup>	Total Annual Sales	Total Employees	Total Annual Employee Income
<i>In Reuse</i>	10	6	9	\$19 million	136	\$8 million
<i>In Continued Use</i>	7	5	12	\$138 million	576	\$25 million
<i>In Reuse and in Continued Use</i>	4	4	54	\$62 million	390	\$23 million
<b>Total</b>	21	15	75	\$219 million	1,102	\$56 million

<sup>a</sup>Two sites are federal facilities. Federal facility sites are excluded from all other detailed site and business data presented above.

<sup>b</sup>Business information is not available for all businesses on all Superfund sites in reuse or continued use.

## Property Values and Property Tax Revenues

EPA has collected property value data for 12 Superfund sites in reuse or continued use in South Carolina. These sites span 91 property parcels and 766 acres.

**Table 16. Property Value and Tax Information for Sites in Reuse and Continued Use in South Carolina<sup>a</sup>**

Total Land Value (11 sites)	Total Improvement Value (11 sites)	Total Property Value (12 sites)	Total Annual Property Taxes (12 sites)
\$87 million	\$41 million	\$130 million	\$2 million

<sup>a</sup> The property value and tax amounts reflect the latest property value year and tax data year available in county assessor datasets, which varied from 2017 to 2018.



Figure 22. The vegetative cover at the Henry's Knob site, which also supports pollinator habitat.

## Did You Know?

An open-pit kyanite mine operated at the Henry's Knob site in Clover, South Carolina, from 1947 until 1970. Today, the site supports well-established native vegetation and pollinator habitat. EPA worked with the potentially responsible party to incorporate the pollinator habitat into the site's cleanup. In 2018, EPA awarded the site's potentially responsible party an Excellence in Site Reuse Award for its ecological revitalization efforts.



# TENNESSEE REDEVELOPMENT PROFILE

EPA partners with the Tennessee Department of Environment and Conservation to oversee the investigation and cleanup of Superfund sites in Tennessee. Tennessee has 17 Superfund sites with either new uses in place or uses that have remained in place since before cleanup. The sections below present economic data, property values and tax data for sites in reuse or continued use in Tennessee.

## Businesses and Jobs

EPA has collected economic data for 81 businesses and organizations operating on seven sites in reuse or continued use in Tennessee.

**Table 17. Detailed Site and Business Information for Sites in Reuse and Continued Use in Tennessee (2019)**

	Sites <sup>a</sup>	Sites with Businesses	Businesses <sup>b</sup>	Total Annual Sales	Total Employees	Total Annual Employee Income
<i>In Reuse</i>	9	3	5	\$50 million	45	\$1 million
<i>In Continued Use</i>	5	4	76	\$341 million	2,823	\$140 million
<i>In Reuse and in Continued Use</i>	3	0	0	\$0	0	\$0
<b>Total</b>	17	7	81	\$391 million	2,868	\$141 million

<sup>a</sup> Four sites are federal facilities. Federal facility sites are excluded from all other detailed site and business data presented above.

<sup>b</sup> Business information is not available for all businesses on all Superfund sites in reuse or continued use.

## Property Values and Property Tax Revenues

EPA has collected property value data for four Superfund sites in reuse or continued use in Tennessee. These sites span 13 property parcels and 187 acres.

**Table 18. Property Value and Tax Information for Sites in Reuse and Continued Use in Tennessee<sup>a</sup>**

Total Land Value (4 sites)	Total Improvement Value (4 sites)	Total Property Value (4 sites)	Total Annual Property Taxes (4 sites)
\$5 million	\$29 million	\$34 million	\$506,000

<sup>a</sup> The property value and tax amounts reflect the latest property value year and tax data year available in county assessor datasets, which varied from 2014 to 2017.



Figure 23. The active rail yard at the Illinois Central Railroad Company's Johnston Yard site.

## Did You Know?

Cleanup at the Illinois Central Railroad Company's Johnston Yard site in Memphis, Tennessee, is being addressed through the Superfund Alternative Approach. The rail yard continues to operate today. It includes a locomotive fueling and servicing center and a car repair facility. The rail yard generates over \$100 million in estimated annual sales and provides over \$23 million in estimated annual employee income.

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# SOURCES



# BUSINESS, JOBS, SALES AND INCOME INFORMATION

Information on the number of employees and sales volume for on-site businesses comes from the Hoovers/Dun & Bradstreet (D&B) (<https://www.dnb.com>) database. EPA also gathers information on businesses and corporations from D&B. D&B maintains a database of over 330 million active and inactive businesses worldwide.

When Hoovers/D&B research was unable to identify employment and sales volume for on-site businesses, EPA used the ReferenceUSA database (<http://resource.referenceusa.com>). In cases where ReferenceUSA did not include employment and sales volume for on-site businesses, EPA used the Manta database (<https://www.manta.com>). The databases include data reported by businesses. Accordingly, some reported values might be underestimates or overestimates. In some instances, business and employment information came from local newspaper articles and discussions with local officials and business representatives. While sales values typically exceed estimated totals of annual income, sales can sometimes be lower than estimated income. This can be attributed to a number of business conditions and/or data reporting.

EPA obtained wage and income information from the U.S. Bureau of Labor Statistics (BLS). Part of the U.S. Department of Labor, the BLS is the principal federal agency responsible for measuring labor market activity, working conditions and price changes in the economy. All BLS data meet high standards of accuracy, statistical quality and impartiality.

EPA used the BLS Quarterly Census of Employment and Wages database to obtain average weekly wage data for site businesses. Average weekly wage data were identified by matching the North American Industry Classification System (NAICS) codes for each type of business with weekly wage data for corresponding businesses in site counties. If weekly wage data were not available at the county level, EPA sought wage data by state or national level, respectively. In cases where wage data were not available for the six-digit NAICS code, EPA used higher-level (less-detailed) NAICS codes to obtain the wage data.

To estimate the annual income earned from jobs at site businesses, EPA multiplied the average weekly wage figure by the number of weeks in a year (52) and by the number of jobs (employees) for each business.

Business and employment data used for this profile were collected in 2019. Estimated annual employment income was calculated using 2018 jobs data and BLS average weekly wage data for those jobs from 2018 (the latest available wage data at the time of this profile). Federal facility sites are included in calculations of total sites in reuse or continued use only. Federal facility sites are excluded from all other calculations (i.e., number of sites with businesses, number of businesses, total jobs, total income and total annual sales). All sales and income figures presented have been rounded for the convenience of the reader. Throughout this report, sales and annual employee income may not sum exactly to the totals presented due to rounding.

# PROPERTY VALUE AND TAX INFORMATION

EPA collected on-site property values and property taxes included in this profile for a subset of Superfund sites by comparing available site boundary information with available parcel boundary information and gathering information for selected parcels from county assessor datasets. The property value and tax amounts reflect the latest property value year and tax data year available in county assessor datasets, which typically varied from 2014 to 2018 where date information was provided. Throughout this report, property and tax values may not sum exactly to the totals presented due to rounding. Federal facility sites are excluded from all property value and tax calculations.

# REUSE INFORMATION SOURCES

Write-ups of sites in reuse or continued use included in this profile are based on available EPA resources, including Superfund Redevelopment Initiative case studies as well as other resources. Links to EPA's Superfund Redevelopment Initiative case studies and other resources are included below.

## **EPA Resources**

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## **Other Resources**

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*Back cover photos: Harris Corp. (Palm Bay Plant) (Florida), Davis Timber Company (Mississippi), Landia Chemical Company (Florida)*



# United States Environmental Protection Agency

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