

PROPOSED AMENDMENT TO THE GALAXY/SPECTRON, INC. 2008 RESTORATION PLAN

July 2015

The purpose of this amended restoration plan for the Galaxy/Spectron site is to make the environment and the public whole for injuries resulting from the release of hazardous substances by implementing restoration actions that return injured natural resources. The Trustees propose to modify the Final Restoration Plan and Environmental Assessment for the Galaxy/Spectron Site, Cecil County, Maryland (RP/EA) completed in June 2008 in order to use the habitat restoration funds to assist with a dam removal project in Baltimore and Howard Counties, Maryland.

The Galaxy/Spectron Site

The Galaxy/Spectron, Inc., (Spectron) site is an abandoned solvent recycling facility located approximately six miles northwest of Elkton, Maryland. The site covers approximately eight acres adjacent to Little Elk Creek, a tributary to the Elk River and the upper Chesapeake Bay. The main portion of the Site (Plant Area) consists of seven acres on the southern bank of Little Elk Creek; another portion of the Site is an approximately one-acre parcel of the Site (Office Area) located on the northern bank of Little Elk Creek. From the late 1800s through the early 1950s, a water-powered paper mill operated on the property. In 1961, Galaxy Chemicals, Inc. began a solvent recovery operation treating wastes generated by the electronics, pharmaceutical, paint, and chemical process industries. The facility later reopened as Solvent Distillers, Inc., which later changed its name to Spectron, Inc., which went bankrupt. The facility was closed in 1988 and was abandoned. Left on-site were approximately 1,300 drums and 62 large storage tanks containing hazardous chemicals and waste.

Hazardous Substance Releases and Environmental Injuries

Past operations at the Spectron recycling facility resulted in contamination of the site soils and groundwater with volatile organic compounds (VOCs). These hazardous substances were found in surface water and sediments in Little Elk Creek as a result of migration from contaminated groundwater from the Spectron Site. Release of VOCs is linked to injuries in anadromous fish, such as herring and alewife, white perch and the American eel, as well as their habitat.

Natural Resource Trustees

The natural resources trustees for the Spectron Site include the following four federal and state agencies: the National Oceanic and Atmospheric Administration (NOAA) on behalf of the U. S. Department of Commerce, the United States Fish and Wildlife Service (USFWS) on behalf of the U.S. Department of the Interior (DOI), and Natural Resources (DNR) (collectively, "the Trustees"). Under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 U.S.C. § 9607(f),

trustees may assess injuries to natural resources resulting from a release of a hazardous substances covered under CERCLA or the Clean Water Act (CWA) and seek to recover money damages to fund the restoration of these resources. The goal of the trustees' natural resource damage assessment was to determine the nature and extent of injuries to natural resources and to quantify the resulting resource and service losses. Once this assessment was undertaken, the Trustees examined restoration options in their Restoration Plan.

Galaxy/Spectron Settlements

In March 2003, a Federal District Judge in the United States District Court for the District of Maryland finalized a settlement which required de minimis parties to pay \$5.8 million toward the clean-up of the Site. The de minimis settlement included approximately 480 parties who sent relatively small amounts of hazardous material to the Site. De minimis settlements enable smaller waste contributors to help pay cleanup costs in advance and, in exchange, release them from future financial obligations at sites. In January 2007, EPA reached a second settlement for \$21.8 million with 95 parties. The settlement includes an estimated \$19.5 million for cleanup at the Site, reimbursement of \$1.8 million in past cleanup costs and payment of \$507,300 to natural resource trustees to restore aquatic habitat and resources that were harmed by the contaminant releases from the Site. The Trustees had \$455,000 available for restoration activities after reimbursement of the Trustees' pre-settlement costs. Approximately \$90,000 of the restoration funds were spent on restoration planning, site selection and concept designs for the proposed restoration site.

2008 Trustee Plan to Restore the Resources

A Final Restoration Plan and Environmental Assessment (RP/EA) was prepared by federal and state natural resource trustees in June 2008 to address natural resources, including ecological services, injured, lost or destroyed due to releases of hazardous substances at the Spectron Site. The RP/EA can be found at:

http://www.darrp.noaa.gov/northeast/spectron/pdf/Spectron_RPEA_Final.pdf.

In this RP/EA, the Trustees considered numerous restoration alternatives to compensate the public for injuries to natural resources. The number of sites considered in 2008 includes 72 possible fish blockages and 11 stream restoration sites in both Little Elk Creek and the overall Elk River watershed.

After evaluating these alternatives, The Trustees proposed to restore anadromous fish passage at Scotchman Creek in Cecil County, Maryland. This site serves as spawning ground for white perch, alewife, and blueback herring. The Scotchman Restoration Project would have allowed for the partial removal of fish blockage and stream restoration. This restoration option was selected based on the anticipated ecological benefits to anadromous fish, project cost-effectiveness and overall need for restoration.

However, during the design process for the Scotchman Creek Restoration project, the Trustees were not able to obtain a valid construction easement from the private

landowner to access and construct the proposed restoration project. A construction easement was signed by one of the property owners; however, the Trustees were notified the legal document was not valid without the additional property owners' signatures. The Trustees spent over 4 years working with the private owners; however, these negotiations were unsuccessful and a construction access easement was never finalized. Hence, the Scotchman Creek Restoration Project cannot be implemented.

Proposed Amendment to the 2008 Restoration Plan

Because the Trustees were unable to carry out the Scotchman Creek Restoration Project, they must consider other options for restoring the environment and compensating the public for service losses due to the release of hazardous substances at the Spectron Site. The Trustees first considered the non-preferred restoration alternatives included in the RP/EA; however, these alternatives remained unviable and/or non-preferred when re-evaluated (Table 1). Additional restoration projects were then evaluated. After considering multiple alternatives, the Trustees recommend the Bloede Dam Removal Project for the use of Galaxy/Spectron funding.

Proposed Bloede Dam Removal Project

Since the Scotchman Creek Project is no longer a viable option, the Trustees propose to modify the 2008 RP/EA to use the habitat restoration funds to assist with the Bloede Dam Removal Project in Baltimore and Howard Counties, Maryland (Figure 1). The Bloede Dam Removal Project meets the need to compensate for lost services, has a high likelihood of success, has a high probability of project implementation and would comply with all Federal, state and local laws. The proposed removal of this dam is intended to benefit the types of trust resources that were impacted by hazardous substance releases at the Spectron Site. Specifically, the removal of the Bloede Dam would restore more than 65 miles of spawning habitat for blueback herring (*Alosa aestivalis*), alewife (*Alosa pseudoharengus*), American shad (*Alosa sapidissima*), and American eel (*Anguilla rostrata*). Anadromous fish, such as herring and alewife, are species that live in saltwater as adults, but migrate into freshwater streams to spawn. Dams and other fish blockages in these streams present significant impacts to these species and these restoration actions are a priority.

The proposed selection of this project ensures all remaining Spectron settlement funds (approximately \$350,000) would be used for the construction of a habitat restoration project since planning and design for the Bloede Dam removal has been funded through other sources including the Maryland Department of Natural Resources and NOAA Restoration Center. Therefore, the remainder of the *Galaxy/Spectron, Inc.* funds would be allocated directly to construction activities benefiting anadromous fish.

Compliance with the National Environmental Policy Act

Actions undertaken by the Trustees to restore natural resources or services under

CERCLA and other federal laws are subject to the National Environmental Policy Act, (NEPA), 42 U.S.C. § 4321 *et seq.*, and the regulations guiding its implementation (40 C.F.R. 1500 *et seq.*). The 2008 Spectron Restoration Plan/Environmental Assessment outlines the Trustees' compliance with NEPA requirements for selection of a dam removal project in the area of the Spectron site and concluded with a Finding of No Significant Impact (FONSI) under NEPA. The conclusions outlined in the Spectron RP/EA FONSI are also supported by the findings discussed in NOAA's Restoration Center Final Programmatic Environmental Impact Statement (PEIS) (*DATE: 4.20.15*), which outlines the typical environmental impacts of dam removal projects. NOAA's initial determination under NEPA is the Bloede Dam Removal Project is covered under the PEIS, 2008 Spectron Restoration Plan/Environmental Assessment, FONSI and this amended plan. Construction activities will not commence until the final Record of Decision (ROD) is signed.

For the sake of further informing the public, short and long-term impacts, are repeated below:

Air Quality Impacts

Minor increases in the amounts of carbon monoxide or other pollutants associated with the use of heavy machinery may be temporarily associated with the proposed dam removal activities during the construction phase. Construction activities should have no long-term air quality impacts on the site or surrounding environment.

Water Quality Impacts

An increase in turbidity is expected due to the release of impounded sediments contained by the dam. This increase would occur during construction activities and during storm events when sediment is carried by river flow to downstream river reaches. These turbidity increases are expected to be both short and long term as described in the PEIS. The estimated maximum potential silt release following Bloede Dam removal is equivalent to the amount of suspended sediment transported in the river over a one day period under the background conditions during an 8-year recurrence flow event. Modeling results indicated that it may take up to 28 weeks (approximately 6.5 months) for most of the reservoir deposit to be eroded downstream and to reduce the suspended sediment concentration to the background levels if there are no high flow events following dam removal. The duration of impoundment erosion and high suspended sediment concentration is reduced to about 4 weeks (approximately 1 month) if high flow occurs soon after dam removal. Longer term impacts include sediment deposition in downstream river reaches that would be persistent for approximately 4-6 years. It should be noted, however, the persistent sediment deposition in a reach does not mean the bed would be ubiquitously covered with sand deposit. Erosion control devices to minimize or prevent sediments from entering the water column such as turbidity curtains would be used on-site during construction activities for temporary roads, staging areas and sewer line reconstruction. The release of Bloede Dam sediment could result in deposition of inorganic phosphorus in sediments of the tidal Patapsco River and under saline, and especially low oxygen conditions, a portion of that phosphorus could become bio-available for the growth of algae. The phosphorus releases are expected to be very

moderate. The proposed dam removal project is anticipated to have no long-term negative water quality impacts but instead improve water quality in the former impoundment area.

Geology and Soils

Impacts to geology and soils are described in the “Water Quality Impacts” section above.

Wetland and Vegetation Impacts

Since the dam is a run-of-the-river dam and lacks water storage, emergent wetland vegetation is not present and would not be impacted. Riparian trees rooted in the Bloede impoundment sediment would be removed prior to dam removal; however, all trees would be replanted in the newly restored site and park areas in the Patapsco watershed.

Aesthetics Impacts

Positive impacts on aesthetics are expected due to the restoration of the stream to its historic form.

Noise Impacts

There would be a minor increase in noise levels at the project site during the construction phase of this project. These impacts are expected to be short-term and limited to active periods of construction between sunrise and sunset.

Recreational Impacts

After the completion of the dam removal, the project area would provide benefits for passive recreation including canoe and kayaking opportunities. Public safety at the dam site would be improved for recreational users. The dam is a documented drowning hazard within the Patapsco Valley State Park. This hazard would be eliminated with the removal of the dam. Additional recreational opportunities include bird watching, hiking and fishing.

Transportation Impacts

Some additional minor impacts to land based transportation in the project area would be expected during the construction phase. Trucks would transport construction equipment, materials and workers to the restoration site.

Cultural and Historic Resources

The Bloede Dam meets the criteria for eligibility to be listed in the National Register of Historic Places; therefore, removal would have impacts to historic resources. NOAA will enter into memorandum of agreement with the Maryland Historical Trust and other parties that will outline the specific steps needed to mitigate adverse impacts to cultural and historic resources. Dam Removal will not occur until the memorandum of agreement with the Maryland Historical Trust is enacted and Section 106 of the National Historic Preservation Act (16 U.S.C. 470f) and its implementing regulations at 36 CFR Part 800 (Section 106) is complete.

Fish and Wildlife Habitat Impacts

Do we still expect impact on spawning?

The passage of migratory fish during spawning season is currently impacted by the Bloede Dam. No anadromous fish are passing the current site due to the dam and ineffective fish ladder. Adverse impacts to fish, such as increased turbidity, are temporary in nature and would be minimized via the use of best management practices. These temporary impacts are anticipated to have a short term impact to fish and wildlife habitats at the site; however the net effect of the project would be an improvement in wildlife function. The Trustees know of no direct or indirect impacts of the proposed restoration action on threatened or endangered species, or their designated critical habitats. The general locale where the restoration actions would be sited is not critical habitat for any listed species. No unique or rare habitat would be destroyed due to blockage removal or stream restoration. The restoration action proposed can be implemented in compliance with all applicable state and local permits and approvals, and associated state water quality certification. All permits would be obtained prior to initiating site activities. In the long-term, the proposed dam removal is expected to benefit fish and wildlife habitat.

Cumulative Impacts

Fish blockage removal and stream restoration occurs all over the northeastern and mid-Atlantic United States in order for anadromous fish species to return to historical habitat. The proposed restoration, therefore, sets no precedents for future actions of a type that would significantly affect the quality of the human environment. There are numerous efforts to restore fish passage in the State of Maryland being led by the Maryland Department of Natural Resources and American Rivers. The proposed project would only restore a historical fish passageway that originally existed and naturally occurred in the area.

Request for Information

Requests for further information about the proposed modifications to the original RP/EA may be directed to Mary Andrews, National Oceanic and Atmospheric Administration – National Marine Fisheries Service, 410 Severn Avenue, Suite 207A, Annapolis, Maryland 21403 or mary.andrews@noaa.gov



Table 1. Alternatives Considered for the Galaxy/Spectron, Inc. Restoration Funding

| Project Name | Project Type | Investigated in original alternatives analysis (Y/N) | Within Little Elk Creek Watershed (Y/N) | Owner Willingness (Y/N) | Extent Project Meets Objective of Compensating for Lost Injured Resources - Direct Restoration of Anadromous Fish Habitat (High/Low) | Expected Cost versus Expected Benefit (High/Low) | Feasibility of Project Implementation (High/Low) | Compliance with all Federal, state and local laws (Y/N) | Likelihood of Project Success (High/Low) | Comments |
|--------------------------------|--------------------|--|---|-------------------------|--|--|--|---|--|--|
| Spectron Dam Removal | Dam Removal | Yes | Yes | No | High | High | Low | Yes | High | Dam removal at Spectron Site is not deemed feasible at this time. As stated by EPA on 4/4/12 "it was eventually concluded by all parties involved, including the Galaxy/Spectron Site PRP Group, USEPA, and MDE, that the benefits of removal did not outweigh potential negative impacts to the creek" at this time. Spectron dam removal will not be pursued at this time. |
| Laurel Run Dam Removal | Dam Removal | Yes | Yes | No | High | High | Low | Yes | High | Property owner in foreclosure; currently bank owned property now. No owner willingness to remove. |
| Sandy Hill Boys and Girls Camp | Phragmites Removal | No | No | Yes | Low | High | High | Yes | High | Phragmites removal in tidal marsh at boys & girls camp. No direct benefits to anadromous fish. |
| Centreville Dam Removal | Dam Removal | No | No | Yes | High | High | High | Yes | High | Dam removal in Centreville, MD on the Corisca River Watershed. First dam on the tributary. Construction scheduled for Fall 2015. All funding obtained for removal with no additional funding needed. |
| Bloede Dam Removal | Dam Removal | No | No | Yes | High | High | High | Yes | High | First dam on the Patapsco River - two upper dams removed using NOAA/MD funding. Project has herring, American and hickory shad, American eel. |
| Cumberland Dam Removal | Dam Removal | No | No | Yes | Low | Low | Low | Yes | High | Western Maryland Dam removal project. American eel present; no anadromous species. Would need to fund design and implementation. Contaminants present. |

Figure 1. Bloede Dam Location

