

South Charleston Facility
Kanawha River Assessment Area

Preassessment Screen and Determination

May 17, 2021

South Charleston Facility Kanawha River Assessment Area

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I. Introduction and Purpose

The West Virginia Department of Environmental Protection (WVDEP), the West Virginia Division of Natural Resources (WVDNR), and the United States Fish and Wildlife Service (USFWS) acting on behalf of the U.S. Department of the Interior (DOI), (collectively, the Trustees) may pursue claims for natural resource damages under section 107(f) of the Comprehensive Environmental Response, Compensation, and Liability Act, (CERCLA) 42 U.S.C. § 9601 et seq., in West Virginia.

This document is a preassessment screen (PAS) prepared by the Trustees pursuant to 43 C.F.R. Part 11 for the Union Carbide Corporation South Charleston Facility Kanawha River Investigation Area. Before pursuing further natural resource damage assessment (NRDA) efforts the trustees complete a preassessment screen and make a determination as to whether an assessment shall be carried out. The purpose of the PAS is to provide a rapid review of readily available information that focuses on resources and services for which the Federal or State agency or Indian tribe may assert trusteeship under section 107(f) or section 126(d) of CERCLA. This review should ensure that there is a reasonable probability of making a successful claim before monies and efforts are expended in carrying out an assessment (43 C.F.R. § 11.23(b)).

II. Description of Site and Hazardous Substances and/or Oil Released

The South Charleston Facility (“Facility”) is located on both the southern bank and Blaine Island of the Kanawha River in South Charleston, West Virginia (Figure 1). The Facility, owned and operated by Union Carbide Corporation (UCC), is approximately 200 acres and consists of the Mainland and Blaine Island. The address for the Site is 437 MacCorkle Avenue, SW, South Charleston, WV 25303. The Facility has been in continuous operation since the early 1920s. Currently, most of the plant’s production is focused on specialty chemicals such as surfactants, de-icers, and lubricating fluids.

The Facility and the surrounding Kanawha River (“the Site”) are undergoing corrective action through the U.S. Environmental Protection Agency’s authority under the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. § 6901 *et seq.* Thus far, the RCRA actions have been focused on source control and groundwater contamination. In July 2017, a small intermittent sheen was observed on the back channel of the Kanawha River near the middle of the island. A sediment investigation was completed in September 2017 and November 2018 to evaluate the extent of impacted sediments that are causing the sheen. UCC's draft ecological risk assessment, submitted to

EPA in May 2020, determined risk to benthic invertebrates immediately adjacent to the Facility in two areas (“Chlorohydrin Area” and “Middle Island Area”) as a result of high concentrations of hazardous substances in the sediment. Initially, UCC proposed to address via sediment removal/capping. At this time, exposure of upper trophic levels (e.g., fish feeding on benthic invertebrates, birds feeding on emergent insects) to the hazardous substances identified in the sediments has not been evaluated. For purposes of the NRDA, the South Charleston Facility Kanawha River Assessment Area includes the Facility and anywhere hazardous substances and/or oil have come to be located, including the Kanawha River.

As part of a Nationwide Permit 6 application to the Army Corps of Engineers to dredge contaminated sediments from the Middle Island Area of the Kanawha River and move a pipeline, the UCC had mussel surveys conducted in 2018 and 2019. These surveys discovered federally listed and proposed species in this area of the Kanawha River for the first time.

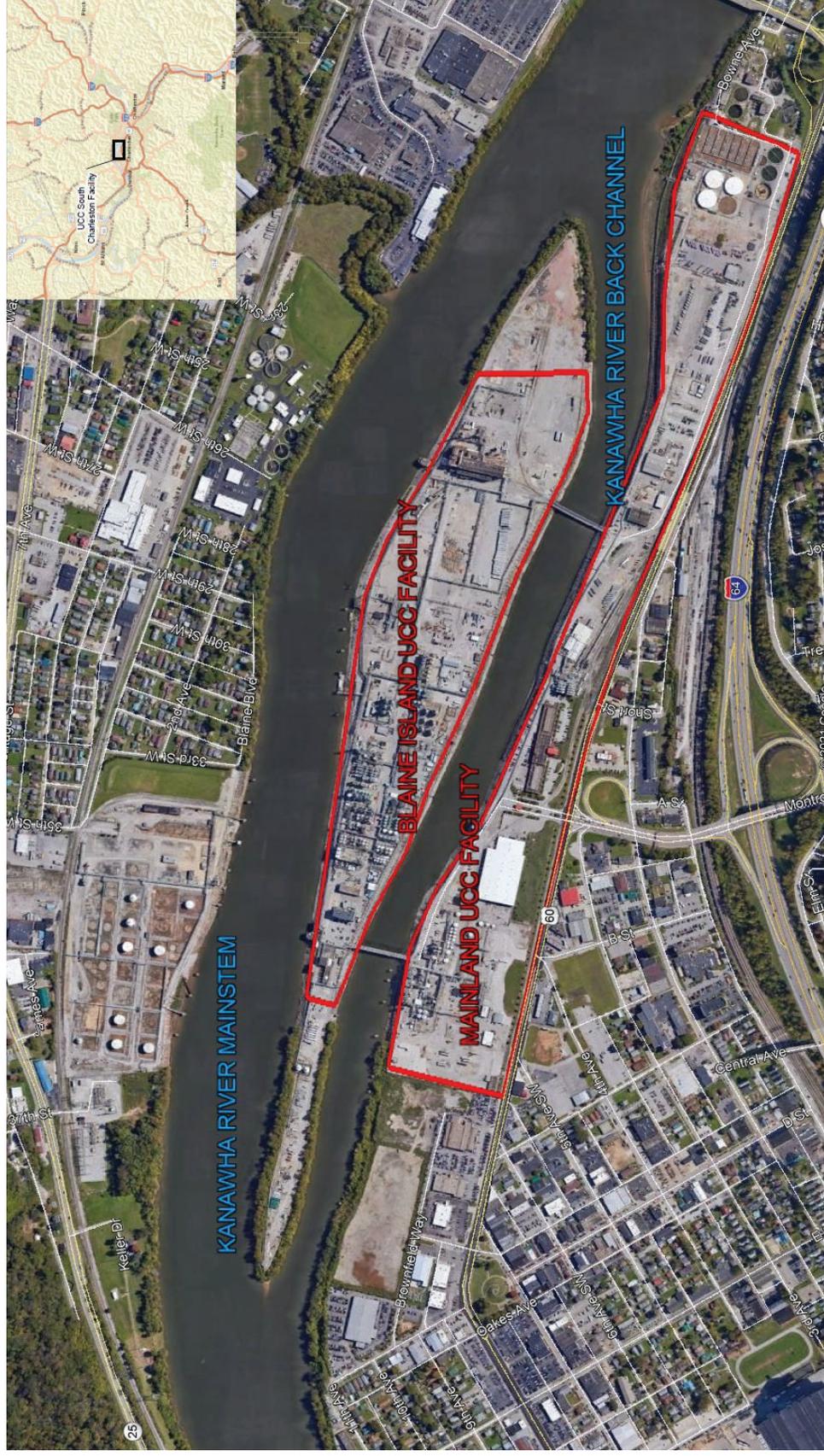
The USFWS, acting in its capacity as a trustee for natural resources, is in the process of gathering ethereal data at and from the Kanawha River. This early sampling and data collection (43 C.F.R. § 11.22), prior to the anticipated sediment removal action under RCRA, will be used to document the nature and extent of the injury to mussels and other natural resources as a result of releases at and from the Facility into the Assessment Area.

As mussel toxicity data are unavailable for many of the contaminants in the sediments and porewater, the USFWS identified the need to perform a site-specific sediment toxicity test. In January 2021, USFWS collected sediment samples from three areas in the river: upstream reference along the south river bank, the pipeline relocation area, and the Middle Island proposed sediment remediation area. The U.S. Geological Survey (USGS) Columbia Environmental Research Center (CERC) is performing the juvenile mussel and amphipod testing with a 12-week sediment exposure regime. The preliminary findings after 4 weeks demonstrate mortality after exposure to the Blaine Island sediments (Table 2). In light of the severe toxicity, the Blaine Island sediments have been serially diluted (i.e., 50, 25, 12.5, 6.25, 3.125, 0%) to repeat the 4-week testing. Mussel growth will also be evaluated in the ongoing study.

Table 1. Kanawha River sediment toxicity testing preliminary results. Mean percent survival (standard deviation in parentheses; n=4 replicates per treatment) of fatmucket (*Lampsilis siliquoidea*) and amphipod (*Hyaella azteca*) in chronic 4-week sediment exposures started with 1-month-old juvenile fatmucket and 7-day old amphipod.

Sampling Site	<i>Fatmucket mussel</i> (<i>Lampsilis siliquoidea</i>)	Amphipod (<i>Hyaella azteca</i>)
	Percent Survival (St. Dev.)	
Sand Control	90 (0.8)	98 (0.5)
Spring River Control	98 (0.5)	100 (0.0)
Upstream Reference (south bank)	100 (0.0)	95 (1.0)
Pipeline Relocation Area	93 (1.0)	80 (1.6)
Blaine Island Sediment Area	0 (0.0)	0 (0.0)
<p style="color: red;">These data are preliminary or provisional and are subject to revision. They are being provided to meet the need for timely best science. The data have not received final approval by the USGS and are provided on the condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from the authorized or unauthorized use of the data.</p>		

Figure 1: Map of Facility Locations on the Kanawha River in southern West Virginia.



III. Potentially Responsible Party

As the lead agencies for the RCRA activities, the U.S. Environmental Protection Agency (EPA) and WVDEP identified Union Carbide Corporation (UCC), a wholly owned subsidiary of the Dow Chemical Company (TDCC), as the potentially responsible party for the South Charleston Facility and its releases to the Kanawha River. UCC was founded early in the 1900s to produce ethylene. UCC was formally acquired by TDCC in 2001. Currently UCC manufactures chemicals and polymers.

IV. Damages excluded from liability

Pursuant to Section 11.24(b) of the CERCLA natural resource damage assessment and restoration (NRDAR) regulations, the Trustees have evaluated the potential for any exclusion or defense to liability under applicable laws. Discharges or releases from the UCC South Charleston Facility and the resulting injuries and damages were not within the terms of its permit or license, did not occur wholly before the enactment of CERCLA, and did not result from the application of a pesticide product registered under the Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. §§ 135-135k; or any other federally permitted release, as defined in section 101(10) of CERCLA; or the release or threatened release of recycled oil from a service station dealer described in section 107(a)(3) or (4) of CERCLA. The Trustees are unaware of any other exclusion or defense to liability under CERCLA, the Oil Pollution Act (OPA), or other applicable laws.

V. Preliminary identification of resources at risk

The area around the Site, while heavily industrialized, supports a wide variety of wildlife, habitats, and recreational opportunities. There are a number of resources and associated services under the trusteeship of federal and state agencies that may have been or were impacted by the releases of hazardous substances, which include, but are not limited to:

- Migratory birds, including osprey, peregrine falcon, bald eagle, and waterfowl
- Mammals, including endangered bats
- Reptiles and amphibians
- Fish
- Aquatic invertebrates, including endangered and proposed mussels
- Surface water and sediments
- Supporting habitat including food, shelter, breeding, foraging, and other factors essential for survival

VI. Determination

The Site has had documented releases of hazardous substances, non-aqueous phased liquids (NAPL), and other chemicals that may have and may be currently posing a threat to natural resources. The purpose of the PAS is to determine if the release(s) of these hazardous materials pose a significant enough threat to natural resources and the services they provide to warrant further investigation. The Trustees have evaluated the existing data against the screening criteria in 43 C.F.R. §11.23 and determined to proceed with a NRDA.

Criterion 1: A discharge of oil or a release of a hazardous substance has occurred

Releases of hazardous substances from the Facility have occurred. According to documents submitted to EPA by UCC, products released to porewater, surface water, and sediments include, but are not limited to, organic solvents, polyaromatic hydrocarbons, naphthalene, and metals (Table 2). In all, approximately 50 different chemicals regulated under CERCLA, the Clean Water Act, and OPA were released from the Facility. NAPL from the Blaine Island operations area has been released into north side of the Kanawha River Back Channel. Sediment and porewater at other locations within the Back Channel are also contaminated.

Table 2. Contaminants detected in sediments or porewater.

Inorganics	Semivolatile Organics	Volatile Organics
Arsenic	1-Methylnaphthalene	Benzene
Barium	2-Methylnaphthalene	Chlorobenzene
Cadmium	3- and 4-Methylphenol	1,2-Dichlorobenzene
Chromium	Acenaphthene	1,3-Dichlorobenzene
Lead	Acenaphthylene	1,4-Dichlorobenzene
Mercury	Anthracene	1,1-Dichloroethane
Nickel	Benzo (g,h,i) perylene	1,2-Dichloroethane
Silver	Benzo(a)anthracene	1,1-Dichloroethene
	Benzo(a)pyrene	trans-1,2-Dichloroethylene (DCE)
	Benzo(b)fluoranthene	cis-1,2-Dichloroethylene (DCE)
	Benzo(k)fluoranthene	1,2-Dichloropropane
	bis(2-Chloroisopropyl) Ether	1,4-Dioxane (P-Dioxane)
	bis(2-Ethylhexyl)phthalate	Ethylbenzene
	Carbazole	Methyl Ethyl Ketone (2-Butanone)

Inorganics	Semivolatile Organics	Volatile Organics
	Chrysene	Naphthalene
	Dibenzo (a,h) anthracene	Styrene
	Dibenzofuran	Tert-Butyl Methyl Ether
	Fluoranthene	1,1,2,2-Tetrachloroethane
	Fluorene	Toluene
	Indeno(1,2,3-cd)pyrene	1,1,2-Trichloroethane
	Phenanthrene	Trichloroethylene (TCE)
	Polychlorinated Biphenyls	Vinyl Chloride
	Pyrene	

Criterion 2: Natural resources for which the Federal or State agency or Indian tribe may assert trusteeship under CERCLA have been or are likely to have been adversely affected by the discharge or release.

In accordance with the National Contingency Plan, 40 CFR §§ 300.600- 300.605, and 42 U.S.C. 9607(f)(2)(B), WVDEP, WVDNR and USFWS, have, or share, trusteeship over the natural resources and services¹ identified in Section V, which have or potentially have been injured, lost, or destroyed by exposure to the releases of hazardous substances and oil at and from the UCC Facility as well as anticipated corrective actions. Preliminary toxicity testing has indicated potential impacts, including mortality, to freshwater mussels from exposure to the hazardous substance present in the river sediments adjacent to the facility. Mussel surveys have demonstrated the presence of mussels that are federally listed and state Species of Greatest Conservation Need. Thus, the Trustees have determined that natural resources and services for which they have trusteeship have been or likely have been affected by the UCC contamination.

Criterion 3: The quantity and concentration of the discharged oil or released hazardous substance is sufficient to potentially cause injury, as that term is used in this part, to those natural resources;

Hazardous substance concentrations documented by UCC pose risk to aquatic invertebrates based on literature-derived benchmarks used in the draft ecological risk assessment submitted to EPA. Preliminary results from the site-specific mussel and amphipod toxicity test have demonstrated severe mortality after only four weeks of exposure to Site sediments.

¹ *Services* is defined in 43 C.F.R. § 11.14(nn) as the “physical and biological functions performed by the resource including the human uses of those functions. These services are the result of the physical, chemical, or biological quality of the resource.”

Criterion 4: *Data sufficient to pursue an assessment are readily available or likely to be obtained at reasonable cost*

The sediment toxicity testing with mussels is expected to delineate benchmark concentrations for no and low level effects on survival and growth. The Trustees can use data from the sampling required by EPA for the RCRA remediation, to identify injuries to mussels and other benthic invertebrates using the benchmarks generated by the toxicity testing. This approach will be a cost-effective means to determine the spatial extent of injuries in the river. Additional studies may be necessary to determine concentrations in aquatic invertebrates and mussels in the river to model exposure to birds, bats, fish, reptiles and amphibians. These data could be obtained at reasonable costs.

Criterion 5: *Response actions, if any, carried out or planned do not or will not sufficiently remedy the injury to natural resources without further action.*

The Trustees expect the remedial actions will reduce exposure to hazardous contaminants. However, the full extent of such reduction cannot be assessed until the remedial action is completed. However, remediation likely will not address lost natural resource services or the loss associated with any residual contamination. Therefore, the Trustees have determined that additional assessment is warranted.

VII. Summary of Determination

Based on the information available, all preassessment screening criteria have been met. Natural resources over which the Trustees may assert trusteeship have been or may have been impacted, and UCC is a viable PRP. Accordingly, the designated trustee agencies, acting on behalf of the public, in accordance with 42 U.S.C. § 9607(f) of CERCLA, do find sufficient cause to proceed with an NRDA of the South Charleston Facility Kanawha River Assessment Area.

APPENDIX A: Species Lists for the Kanawha River in the Vicinity of Blaine Island

Mussel Species

COMMON NAME	SCIENTIFIC NAME	SGCN	OCCURRENCE
Threeridge	<i>Amblema plicata</i>	Priority 2	occurs**
Pimpleback	<i>Cyclonaias pustulosa</i>		occurs**
Butterfly	<i>Ellipsaria lineolata</i>	Priority 2	occurs**
Elephantear	<i>Elliptio crassidens</i>	Priority 1	occurs**
Snuffbox	<i>Epioblasma triquetra</i>	Priority 1*	occurs**
Spike	<i>Eurynia dilatata</i>	Priority 2	occurs
Wabash Pigtoe	<i>Fusconaia flava</i>	Priority 2	occurs
Plain Pocketbook	<i>Lampsilis cardium</i>	Priority 2	occurs**
Pocketbook	<i>Lampsilis ovata</i>	Priority 2	occurs**
Fatmucket	<i>Lampsilis siliquoidea</i>		occurs**
White Heelsplitter	<i>Lasmigona complanata</i>	Priority 2	occurs**
Flutedshell	<i>Lasmigona costata</i>	Priority 2	occurs**
Fragile Papershell	<i>Leptodea fragilis</i>	Priority 2	occurs**
Black Sandshell	<i>Ligumia recta</i>	Priority 1	occurs**
Threehorn Wartyback	<i>Obliquaria reflexa</i>	Priority 2	occurs**
Round Hickorynut	<i>Obovaria subrotunda</i>	Priority 1***	occurs**
Mucket	<i>Ortmanniana ligamentina</i> (<i>Actinonaias ligamentina</i>)	Priority 2	occurs**
Pink Heelsplitter	<i>Potamilus alatus</i>		occurs**
Kidneyshell	<i>Ptychobranchnus fasciolaris</i>	Priority 2	occurs**
Giant Floater	<i>Pyganodon grandis</i>	Priority 2	occurs
Mapleleaf	<i>Quadrula quadrula</i>	Priority 2	occurs**
Creeper	<i>Strophitus undulatus</i>	Priority 2	occurs
Deertoe	<i>Truncilla truncata</i>	Priority 2	occurs**
Paper Pondshell	<i>Utterbackia imbecillis</i>	Priority 2	occurs**
Flat Floater	<i>Utterbackiana suborbiculata</i>		occurs

* federally listed

** found during 2018/2019 surveys in the back channel of Blaine Island

*** proposed for federal listing

Fish Species

COMMON NAME	SCIENTIFIC NAME	SGCN	OCCURRENCE
Skipjack herring	<i>Alosa chrysochloris</i>		probable
Rock bass	<i>Ambloplites rupestris</i>		occurs**
Bowfin	<i>Amia calva</i>		probable
Western sand darter	<i>Ammocrypta clara</i>	Priority 1	occurs**
Eastern sand darter	<i>Ammocrypta pelucida</i>	Priority 1	occurs**
Freshwater drum	<i>Aplodinotus grunniens</i>	Priority 2	occurs**
Central stoneroller	<i>Campostoma anomalum</i>		occurs
River carpsucker	<i>Carpionodes carpio</i>	Priority 2	occurs
Quillback	<i>Carpionodes cyprinus</i>		probable
Highfin carpsucker	<i>Carpionodes velifer</i>	Priority 1	probable
White sucker	<i>Catostomus commersoni</i>		probable
Diamond darter	<i>Crystallaria cincotta</i>	Priority 1 *	probable
Spotfin shiner	<i>Cyprinella spiloptera</i>		occurs**
Steelcolor shiner	<i>Cyprinella whipplei</i>		probable
Common carp	<i>Cyprinus carpio</i>		occurs
Gizzard shad	<i>Dorosoma cepedianum</i>		occurs
Streamline chub	<i>Erimystax dissimilis</i>	Priority 2	occurs
Gravel chub	<i>Erimystax x-punctatus</i>	Priority 2	probable
Muskellunge	<i>Esox masquinongy</i>		probable
Johnny darter	<i>Etheostoma nigrum</i>		occurs**
Bluebreast darter	<i>Etheostoma camurum</i>		occurs**
Tippecanoe darter	<i>Etheostoma tippecanoe</i>	Priority 1	occurs**
Banded darter	<i>Etheostoma zonale</i>		occurs
Western mosquitofish	<i>Gambusia affinis</i>		probable
Mooneye	<i>Hiodon tergisus</i>		probable
Bigeye chub	<i>Hybopsis amblops</i>		occurs**
Northern hog sucker	<i>Hypentelium nigricans</i>		occurs
Bighead carp	<i>Hypophthalmichthys nobilis</i>		probable
Ohio lamprey	<i>Ichthyomyzon bdellium</i>	Priority 1	occurs**
Silver lamprey	<i>Ichthyomyzon unicuspis</i>	Priority 2	probable
Blue catfish	<i>Ictalurus furcatus</i>		occurs
Channel catfish	<i>Ictalurus punctatus</i>		occurs**
Smallmouth buffalo	<i>Ictiobus bubalus</i>		occurs
Black buffalo	<i>Ictiobus niger</i>		probable
Longnose gar	<i>Lepisosteus osseus</i>		occurs
Green sunfish	<i>Lepomis cyanellus</i>		occurs
Warmouth	<i>Lepomis gulosus</i>	Priority 2	occurs

COMMON NAME	SCIENTIFIC NAME	SGCN	OCCURRENCE
Orangespotted sunfish	<i>Lepomis humilis</i>	Priority 1	occurs
Bluegill	<i>Lepomis macrochirus</i>		occurs
Longear sunfish	<i>Lepomis megalotis</i>		occurs**
Redear sunfish	<i>Lepomis microlophus</i>		probable
Shoal chub	<i>Macrhybopsis hyostoma</i>	Priority 2	occurs
Silver chub	<i>Macrhybopsis storeriana</i>	Priority 2	occurs**
Smallmouth bass	<i>Micropterus dolomeiu</i>		occurs**
Spotted bass	<i>Micropterus punctulatus</i>		occurs
Largemouth bass	<i>Micropterus salmoides</i>		occurs
Spotted sucker	<i>Minytrema melanops</i>		occurs
White bass	<i>Morone chrysops</i>		probable
Hybrid striped bass	<i>Morone saxatilis</i> x <i>M. chrysops</i>		probable
Silver redhorse	<i>Moxostoma anisurum</i>		occurs
Smallmouth redhorse	<i>Moxostoma breviceps</i>		occurs
River redhorse	<i>Moxostoma carinatum</i>	Priority 2	probable
Black redhorse	<i>Moxostoma duquesnei</i>		occurs
Golden redhorse	<i>Moxostoma erythrurum</i>		occurs
Bigeye chub	<i>Notropis amblops</i>		probable
Emerald shiner	<i>Notropis atherinoides</i>		occurs**
River shiner	<i>Notropis blennius</i>	Priority 2	probable
Ghost shiner	<i>Notropis buchanani</i>	Priority 2	occurs**
Spottail shiner	<i>Notropis hudsonius</i>		occurs
Sand shiner	<i>Notropis stramineus</i>		occurs
Mimic shiner	<i>Notropis volucellus</i>		occurs**
Channel shiner	<i>Notropis wickliffi</i>		occurs**
Mountain madtom	<i>Noturus eleutherus</i>	Priority 2	probable
Northern madtom	<i>Noturus stigmosus</i>	Priority 1	occurs
Yellow perch	<i>Perca flavescens</i>		probable
Logperch	<i>Percina caprodes</i>		occurs**
Channel darter	<i>Percina copelandi</i>	Priority 2	occurs**
Gilt darter	<i>Percina evides</i>	Priority 2	occurs
Longhead darter	<i>Percina macrocephala</i>	Priority 1	occurs**
Slenderhead darter	<i>Percina phoxocephala</i>	Priority 2	occurs
Dusky darter	<i>Percina sciera</i>	Priority 2	occurs
River darter	<i>Percina shumardi</i>	Priority 2	occurs**
Trout-perch	<i>Percopsis omiscomaycus</i>		occurs
Bluntnose minnos	<i>Pimephales notatus</i>		occurs
Bullhead minnow	<i>Pimephales vigilax</i>	Priority 2	occurs**
Paddlefish	<i>Polyodon spathula</i>	Priority 2	occurs
White crappie	<i>Pomoxis annularis</i>		occurs

COMMON NAME	SCIENTIFIC NAME	SGCN	OCCURRENCE
Black crappie	<i>Pomoxis nigromaculatus</i>		occurs
Flathead catfish	<i>Pylodictis olivaris</i>		occurs**
Sauger	<i>Sander canadensis</i>		occurs
Saugeye	<i>Sander canadensis x S. vitreus</i>		probable
Walleye	<i>Sander vitreus</i>		occurs
Shovelnose sturgeon	<i>Scaphirhynchus platorhynchus</i>	Priority 2	probable
Creek chub	<i>Semotilus atromaculatus</i>		probable

* federally listed

** found during 2017/2018 trawl survey of Blaine Island perimeter

Bold= benthic species

Amphibian and Reptile Species

COMMON NAME	SCIENTIFIC NAME	SGCN	OCCURRENCE
American toad	<i>Anaxyrus americanus</i>		occurs
Fowler's toad	<i>Anaxyrus fowleri</i>	Priority 2	probable
Eastern hellbender	<i>Cryptobranchus a. alleghaniensis</i>	Priority 1	historical
American bullfrog	<i>Lithobates catesbeianus</i>		occurs
Green frog	<i>Lithobates clamitans</i>		occurs
Pickereel frog	<i>Lithobates palustris</i>		occurs
Common mudpuppy	<i>Necturus m. maculosus</i>	Priority 1	probable
Midland smooth softshell	<i>Apalone m. mutica</i>	Priority 1	possible
Eastern spiny softshell	<i>Apalone s. spinifera</i>	Priority 2	occurs
Snapping turtle	<i>Chelydra s. serpentina</i>		occurs
Midland painted turtle	<i>Chrysemys picta marginata</i>		occurs
Northern map turtle	<i>Graptemus geographica</i>	Priority 1	probable
Ouachita map turtle	<i>Graptemus ouachitensis</i>	Priority 1	possible
Common watersnake	<i>Nerodia s. sipedon</i>		occurs
Queensnake	<i>Regina septemvittata</i>	Priority 2	possible
Eastern musk turtle	<i>Sternotherus odoratus</i>		occurs
Red-eared slider	<i>Trachemys scripta elegans</i>		occurs

Bird Species

COMMON NAME	SCIENTIFIC NAME	SGCN	OCCURRENCE
Mallard	Anas platyrhynchos		occurs
Great blue heron	Ardea herodias	Priority 2	probable
Canada goose	Branta canadensis		probable
Green heron	Butorides virescens		probable
Chimney swift	Chaetura pelagica	Priority 1	occurs
Common nighthawk	Chordeiles minor	Priority 1	probable
Gray catbird	Dumetella carolinensis		occurs
Bald eagle	Haliaeetus leucocephalus	Priority 2	probable
Ring-billed gull	Larus delawarensis		probable
Belted kingfisher	Megaceryle alcyon		probable
Northern mockingbird	Mimus polyglottos		occurs
Osprey	Pandion haliaetus	Priority 2	probable
Peregrine falcon	Falco peregrinus	Priority 2	occurs
Cliff swallow	Petrochelidon pyrrhonota	Priority 2	probable
Double-crested cormorant	Phalacrocorax auritus		probable
Blue-gray gnatcatcher	Polioptila caerulea		probable
Purple martin	Progne subis		probable
Bank swallow	Riparia riparia	Priority 1	probable
Eastern phoebe	Sayornis phoebe		probable
Northern rough-winged swallow	Stelgidopteryx serripennis		occurs
Tree swallow	Tachycineta bicolor		occurs
Carolina wren	Thryothorus ludovicianus		occurs
Brown thrasher	Toxostoma rufum		probable
House wren	Troglodytes aedon		probable
Blue-headed vireo	Vireo solitarius		probable

Mammal Species

COMMON NAME	SCIENTIFIC NAME	SGCN	OCCURRENCE
Opossum	<i>Didelphis virginiana</i>		expected
Big brown bat	<i>Eptesicus fuscus</i>		occurs
Evening bat	<i>Lasionycteris noctivagans</i>	Priority 2	expected
Eastern red bat	<i>Lasiurus borealis</i>	Priority 1	occurs
Hoary bat	<i>Lasiurus cinereus</i>	Priority 1	expected
River otter	<i>Lutra canadensis</i>		expected
Mink	<i>Mustela vison</i>		expected
Eastern small-footed bat	<i>Myotis leibii</i>	Priority 1	expected
Little brown bat	<i>Myotis lucifugus</i>	Priority 1***	expected
Northern long-eared bat	<i>Myotis septentrionalis</i>	Priority 1*	expected
Indiana bat	<i>Myotis sodalis</i>	Priority 1*	expected
Muskrat	<i>Ondatra zibethicus</i>		expected
Tri-colored bat	<i>Perimyotis subflavus</i>	Priority 1***	occurs
Raccoon	<i>Procyon lotor</i>		expected

* federally listed

***under federal review for listing

PREASSESSMENT SCREEN
FOR THE
South Charleston Facility Kanawha River Assessment Area
13 May 2021
PREPARED BY THE
US Fish and Wildlife Service
United States Department of the Interior
REGARDING NATURAL RESOURCE DAMAGE ASSESSMENT & RESTORATION

State of West Virginia
Acting by and Through

West Virginia Department of Environmental Protection:

By: Harold Ward

Date 5-24-21

Harold Ward, Cabinet Secretary
601 57th Street SE
Charleston, WV 25304

Approved as to legality and form

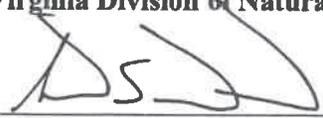
Jason Wandling
Jason Wandling
Authorized Agency Attorney

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**State of West Virginia
Acting by and Through**

West Virginia Division of Natural Resources:

By:



Date

7/8/2021

Stephen S. McDaniel, Director
324 4th Avenue
South Charleston, West Virginia 25303

PREASSESSMENT SCREEN
FOR THE
South Charleston Facility Kanawha River Assessment Area
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REGARDING NATURAL RESOURCE DAMAGE ASSESSMENT & RESTORATION

**United States Department of the Interior:
Acting By and Through**

U.S. Fish and Wildlife Service

By: WENDI WEBER Digitally signed by WENDI
WEBER
Date: 2021.06.25 08:28:49
-04'00'

Wendi Weber, Regional Director
300 Westgate Center Drive
Hadley, MA 01035

Approved as to legality and form

AMY HORNER
HANLEY Digitally signed by AMY HORNER
HANLEY
Date: 2021.05.27 16:18:51 -04'00'

Amy Horner Hanley
Senior Attorney-Advisor
U.S. Department of the Interior