DRAFT

RESTORATION PLAN

for the Old American Zinc NRDA Settlement

Phase 1: Wetland Restoration and Rookery Reestablishment in the Metro-East / American Bottoms Region: Madison & St. Clair Counties, Illinois

Prepared by: Illinois Natural Resources Trustees: Illinois Department of Natural Resources and concurrence with Illinois Environmental Protection Agency United States Fish & Wildlife Service

December 2021

FACT SHEET

FINAL RESTORATION PLAN for the long-term / historic release of zinc smelting by-products and chemicals of concern into the surrounding areas including the Old Cahokia Creek Wetland Complex.

LEAD AGENCY FOR THE FINAL RESTORATION PLAN:

Illinois Department of Natural Resources

COOPERATING AGENCIES:

Illinois Environmental Protection Agency United States Fish and Wildlife Service

ABSTRACT:

This DRAFT Restoration Plan describes Phase 1 of a two-phase restoration effort to restore and/or protect natural resources within the American Bottoms region. The plan has been prepared by a State Natural Resource Trustee – Illinois Department of Natural Resources and reviewed by IEPA and Federal agencies to address restoration of natural resources and resources services injured in the watershed systems. The primary goal of Phase 1 is to restore essential wetland habitats of waterbirds; this is a time-critical endeavor as these threatened and endangered birds now occupy suboptimal areas. A Phase 2 plan will be released at a later date for restoration addressing more general natural resources and services injured in the surrounding areas. The injury to the watersheds / wetland complex was the result of historic releases related to zinc smelting activities at the previous Old American Zinc facility.

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COPIES:

Copies of the final RP are available at the address listed above or available for download at https://www2.illinois.gov/dnr/programs/NRDA/Pages/Old-American-Zinc.aspx

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List of Acronyms and Abbreviations

Blue Tee	Blue Tee Corporation
CAS	Contaminant Assessment Section
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act
CERP	Comprehensive Environmental Review Process
CWA	Clean Water Act
FT	Federally Threatened
IAGO	Illinois Attorney General's Office
IDNR	Illinois Department of Natural Resources
IDOT	Illinois Department of Transportation
IEPA	Illinois Environmental Protection Agency
INHS	Illinois Natural History Survey
NCP	National Contingency Plan
NEPA	National Environmental Protection Act
NRDA	Natural Resource Damage Assessment
NOAA	National Oceanic and Atmospheric Administration
OAZ	Old American Zinc
OPA	Oil Pollution Act
PRP	Potentially Responsible Party
RP	Restoration Plan
SE	State Endangered
ST	State Threatened
Trustees	Illinois Natural Resource Trustees
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service

- USGS United States Geological Survey
- USGSA United States General Services Administration
- XTRA XTRA Intermodal Incorporated

I. Introduction

Releases of hazardous substances and oil into the environment can pose a threat to human health and natural resources. Natural resources are plants, animals, land, air, water, groundwater, drinking water supplies, and other similar resources. When the public's natural resources are injured by an unpermitted release of hazardous substances or oil, federal law provides a mechanism, Natural Resource Damage Assessment (NRDA) that authorizes Natural Resource Trustees to seek compensation for the public for injuries to natural resources. Illinois' Natural Resource Trustees (Trustees) include Illinois Environmental Protection Agency (IEPA) and Illinois Department of Natural Resources (IDNR). The Illinois Natural Resources Coordinating Council oversees restoration efforts and includes the Trustees and their legal representative, the Illinois Attorney General's Office (IAGO). This plan was developed by IDNR Contaminant Assessment Section (CAS) Staff who administer the NRDA program for Illinois.

The Potentially Responsible Parties (PRPs) for the contamination at the Site included: Blue Tee Corporation ("Blue Tee"), XTRA Intermodal, Inc. (XTRA), and the U.S. General Services Administration (GSA). Blue Tee is a successor of Old American Zinc (OAZ) as the result of numerous corporate mergers. In 2016, Peabody Energy Corporation, affiliated with Blue Tee, filed for bankruptcy. In an effort to seek compensation for the injuries described within, the Trustees represented by the IAGO, filed a claim for natural resource damages in the bankruptcy proceeding. The bankruptcy proceedings resulted in compensation to the public based on determination that natural resources were injured resulting from releases into the environment of hazardous substances, including but not limited to, metals, such as zinc, arsenic, cadmium, and lead from a former zinc smelting facility at Fairmont City, Illinois.

This DRAFT Trustee Restoration Plan (RP) describes for the general public and interested parties the incident including the release, and injuries to natural resources, description of the legal process and the proposal to utilize the funds to restore natural resources. Primary restoration is on-going. Following the remedial investigation process, the Unites States Environmental Protection Agency's (USEPA) is currently working to remove contaminated soils from residential yards. The primary restoration cleanup has not yet begun on the Old American Zinc facility site. Thus, the projects described herein address the goals and objectives in compensating for interim losses (discussed further in Section V, VI).

II. Incident Description

The former Old American Zinc smelting site, located in Fairmont City, Illinois, operated on a 132-acre facility from 1913 to 1967. While in operation the facility produced slab zinc, zinc oxides, zinc carbonate, cadmium, lead, and sulfuric acid. Slag, a by-product of the zinc smelting process, was originally stored on-site in piles on the western and northern boundaries of the facility area; these piles encompassed an estimated 15 acres (ENTACT 2011 pg. 4)). XTRA leased the facility from OAZ in 1976 and purchased the property in 1979 for use as a truck and semi-

trailer leasing and storage operation. Beginning in 1976, XTRA ground and re-distributed the stockpiled slag across the Facility Area to build up and level the area for its trucking operations.

Public complaints in the 1990's of particulates blowing off-site began state-led investigations (1994-1995). The sampling conducted by United States Environmental Protection Agency (USEPA) and IEPA found heavy metals in Facility Area slag, soils, stream sediments, and adjacent residential properties at levels greater than background or risk-based screening levels. These findings ultimately resulted in the USEPA adding the Old American Zinc site to the National Priorities List in 2016.

The USEPA's clean-up activity at the site involved excavation and capping of contaminated soil inside and outside of the facility area; groundwater monitoring; and use of institutional controls that limit future use of the property. In addition to the USEPA clean-up activities, Blue Tee has removed soil from residential yards to address concerns of elevated metal concentrations.

The pathway for contamination includes surface water runoff and the alleged redistribution of slag into non-facility areas. Surface water runoff from the Facility Area is transported through a series of drainage ditches, ultimately flowing to the Old Cahokia Watershed, a 1,300-acre area consisting of a complex of wetlands, standing water, man-made ponds, and isolated upland areas.

The impacted habitats include wetlands, streams, other water bodies, riparian corridors, and surrounding uplands. Natural resources in the area include groundwater, surface water, soil, fish, aquatic vegetation, macroinvertebrates, mammals, birds, amphibians, and reptiles. More than 20 species documented within St. Clair and Madison counties are listed as either state threatened (ST) or state endangered (SE) by the State of Illinois; at least one federally threatened species (FT) has been documented within the area (Illinois Endangered Species Protection Board 2020; Illinois Natural Heritage Database 2020; Table1). The facility and related injuries are located within the American Bottoms ecoregion, an area which includes the bottomland floodplains between the Mississippi River and the eastern bluffs. The ecoregion is an ecologically significant migratory bird flyway and includes the ranges of three threatened or endangered bat species.

III. Public Participation

Public review of the draft RP is an integral component of the restoration planning process. Through the public review process, the Trustees seek public comment on the approaches used to define and assess natural resource injuries and the projects being proposed to restore injured natural resources or replace services provided by those resources.

Public review of the draft RP is consistent with all federal and state laws and regulations that apply to the NRDA process (Appendix I). Following public notice, the draft RP becomes available

to the public for a 30- day comment period. Written comments received during the public comment period will be considered by the Trustees in preparing the final RP.

Comments and suggestions on the proposed restoration alternative(s) is an important part of the public participation process. Anyone who reviews the draft RP is encouraged to evaluate and comment on any part of the draft RP, including descriptions of the affected areas, the proposed restoration projects, and/or the restoration selection process. The public is further encouraged to evaluate and comment on the feasibility of the proposed restoration projects themselves. If additional restoration alternatives are proposed by the public, the alternatives should include descriptions of how the proposals meet the evaluation criteria contained in Section VI below.

An additional opportunity for public review will be provided if significant changes are made to this draft RP. Comments on this draft RP should be sent via email or U.S. mail within 30 days of publication date to:

Email: carson.mcnamara@Illinois.gov (refer to OAZ RP in the subject heading)

US Mail:

Illinois Department of Natural Resources

Attn: Carson McNamara, OAZ RP

One Natural Resources Way

Springfield, IL 62702-1271

IV. Restoration Planning

The following information describes the process of identifying and selecting restoration alternatives. For each possible restoration alternative developed, the Trustees identify an action or combination of actions to be taken to achieve the restoration, rehabilitation, replacement, and/or acquisition of equivalent natural resources and the services those resources provide. The Trustee shall then select the preferred alternative(s). Possible alternatives are focused on actions that restore, rehabilitate, replace, and/or acquire the equivalent of the injured resources and services. In general, the range of possible alternatives considered by the Trustees include: intensive action to return the various resources and services provided by those resources to baseline conditions as quickly as possible; or allow natural recovery with minimal management actions, and seek off-site restoration projects. In this instance, Trustees are largely pursuing off-site restoration.

As part of the Sauget Industrial Corridor NRDA, the Trustees have been exploring restoration options in the region. A restoration working group meeting in 2018 highlighted concerns with the Alorton rookery in Alorton, IL. The site historically supported state-endangered Little Blue

Herons among other waterbird species (Goldberger 2001; Bailey 2008). During a subsequent site visit, Trustees observed that the site had been overgrown with honeysuckle and thick mats of wintercreeper. Only a few nests were located at the site. The overgrowth, in combination with changes to the canopy structure, greatly reduced the availability of suitable nesting locations. Due to the status of the Alorton Rookery, it was determined that waterbirds and their associated habitat types were in immediate need of restoration actions.

Threatened and endangered waterbird species (e.g. herons and egrets) historically used the American Bottoms region during the breeding season, often forming mixed species colonies, or rookeries. Due to habitat degradation and unfavorable conditions in the region, the birds have since relocated to nearby residential neighborhoods. From anecdotal evidence, many residents consider the birds a nuisance and would like to see them relocated. Using these urban environments presents additional risks to the birds, such as increased human-wildlife conflicts and predators like feral cats and other urban-thriving carnivores (Parsons and Master 2020).

Conserving threatened and endangered species is critical to ensure a fully functioning ecosystem. A reduction in biodiversity, or the number of different species within an ecosystem, has been shown to decrease the efficiency by which ecological communities capture biologically essential resources, produce biomass, decompose and recycle biologically essential nutrients (Cardinale et al. 2012). Additionally, ecosystems with greater biodiversity are often more stable in terms of community biomass and primary productivity (Tilman et al. 2014). Waterbirds, as predator species, are especially important to a functioning ecosystem; the loss of predators can drive extinctions in lower trophic levels and changes in community composition and ecosystem function (Rodríguez-Lozano et al. 2015).

The importance of biodiversity, wildlife conservation, and habitat restoration has been recognized by each U.S. state through the submittal of a wildlife action plan. These plans, which are approved by U.S. Fish and Wildlife Service, document the habitats and species that are in greatest need of conservation action. The Illinois Comprehensive Wildlife Conservation Plan recognizes the decline of waterbird populations in the state (Illinois Department of Natural Resources 2015). Outlined within the plan is the goal to increase the number of multi-species waterbird rookeries by 25 percent. Additionally, the document's 'Green Cities' campaign identifies St. Clair and Madison counties as metropolitan areas that are important to global biodiversity conservation. The floodplains and wetlands of this area also functionally valuable to society through water retention and other ecosystem services.

To address the urgent nature of the restoration, restoration planning will consist of two phases: Phase 1 to address the time critical waterbird habitat restorations and Phase 2 to address more general restoration needs in the area.

Phase 1:

The Trustees recognize the need to implement time critical activities to provide the most benefit to regional resources and were made aware of threatened and endangered species

requiring immediate restoration attention. Due to the time-sensitive nature of the rookery recovery, circumstances of the bankruptcy and the relevance to the injury of wetland habitats, the restoration and reestablishment of rookery habitats is considered the priority restoration alternative.

Phase 2:

Phase 2 will be conducted as a separate effort from Phase 1. The Trustees will solicit alternative project proposals from internal programs as well as multiple external entities. Such solicitation will involve entities including but not limited to, the Natural Resource Conservation Service (NRCS), United States Geological Survey (USGS), local universities, local soil and water conservation districts, local government, private landowners, and not-for-profit organizations. To be eligible for the Natural Resource Restoration Trust funds, the Trustees will request that the projects be in the general vicinity of where the incident occurred, preferably in the same watershed or ecoregion. Information gathered during Phase 1 planning, including information on wetland habitat location and quality, will be used to assist in project planning for Phase 2. The following sections of this Restoration Plan are focused on Phase 1.

V. Restoration Strategy

The goal of the NRDA process is restoration of the injured natural resources and compensation for the lost uses of those resources. Restoration actions can be summarized by defining two terms: primary and compensatory. Primary restoration is action taken to return the injured natural resources and services to baseline on an accelerated time frame by directly restoring or replacing the resource or service. As one form of primary restoration, the Trustees consider natural recovery of the resource. Trustees may select natural recovery under three conditions: 1) if feasible; 2) if cost-effective primary restoration is not available; or 3) if injured resources will recover quickly to baseline without human intervention. Primary restoration alternatives can range from natural recovery, to actions that prevent interference with natural recovery, to more intensive actions expected to return injured natural resources and services to baseline faster or with greater certainty than natural recovery alone.

Compensatory restoration includes actions taken to compensate for the losses of natural resources and/or services pending recovery. Interim losses result from the injured natural resource and related services that are not able to perform their ecological function or provide service to the public until restoration returns the resource to initial pre-injury, or baseline, conditions. The type and scale of compensatory restoration depends on the nature of the primary restoration action and the level and rate of recovery of the injured natural resources and/or services. When identifying compensatory restoration alternatives, Trustees first consider actions that provide services of the same type and quality and that are of comparable value as those lost. If a reasonable range of compensatory actions of the same type and quality and comparable value cannot be found, Trustees then consider other compensatory restoration actions that will provide services of at least comparable type and quality as those lost.

As a result of the Old American Zinc exposure incident, Trustees have focused Phase 1 on the injured wetland habitats and related species. The restoration strategy is focused on restoring waterbird populations, wetland habitat quality, and ecosystem services provided by wetlands to baseline conditions.

VI. Evaluation Criteria

When selecting the alternative to pursue, the Trustees considered the following factors listed under 43 CFR Subpart E 11.82 Damage Determination phase — alternatives for restoration, rehabilitation, replacement, and/or acquisition of equivalent resources (Appendix I):

- 1) Technical feasibility.
- 2) The relationship of the expected costs of the proposed actions to the expected benefits from the restoration, rehabilitation, replacement, and/or acquisition of equivalent resources.
- 3) Cost-effectiveness
- 4) The results of any actual or planned response actions.
- 5) Potential for additional injury resulting from the proposed actions, including long-term and indirect impacts, to the injured resources or other resources.
- 6) The natural recovery period determined in 43 CFR sect. 11.73(a)(1).
- 7) Ability of the resources to recover with or without alternative actions.
- 8) Potential effects of the action on human health and safety.
- 9) Consistency with relevant Federal, State, and tribal policies.
- 10) Compliance with applicable Federal, State, and tribal laws.

Table 2 lists and further describes the factors provided above, as well as other factors utilized by the Trustees. These criteria were utilized to screen the project alternatives (Tables 2 and 3) and a preferred alternative was selected. Factors listed are in no order of priority.

The preferred alternative adheres to the NRDA selection criteria. The restoration of waterbird rookeries and habitat is a technically feasible effort and is consistent with The Illinois Comprehensive Wildlife Conservation Plan & Strategy. Additionally, the effort will follow the Illinois Comprehensive Environmental Review Process (CERP). The CERP ensures actions comply with relevant state and federal environmental statues, such as the Endangered Species Protection Act, Natural Areas Preservation Act, Interagency Wetlands Policy Act, and cultural resource statues.

To provide supplemental information to the review process, the Trustees are pursuing sediment and soil testing at the potential restoration sites to avoid the potential of exposing waterbirds or field staff to elevated contaminant levels. CAS has partnered with an environmental science lab at Southern Illinois University – Edwardsville to collect sediment/soil samples and test those samples for a variety of heavy metals and environmental contaminants.

To date, samples have been collected at Frank Holten State Recreational Area and Trustees are awaiting results. Additional sites will be tested before beginning restoration actions.

VII. Proposed Compensatory Restoration Alternative

Given the condition of the site, primary restoration is not being pursued at the OAZ Facility. USEPA will continue the remedial cleanup of the site and residential yards. Therefore, the focus of this restoration plan is on the proposed compensatory restoration action.

The preferred action for Phase 1 is to restore and enhance wetland habitats to conditions suitable for the reestablishment of waterbird rookeries. Identification of alternatives for Phase 2 restoration are being explored concurrently with Phase 1 restoration efforts. Previously identified alternatives stemming from the Sauget NRDA will also be considered in Phase 2.

For Phase 1, CAS has partnered with the Illinois Natural History Survey (INHS) to collect preliminary data on wetland conditions and develop restoration and reestablishment steps. The preliminary data collected informed the development of 'ideal' rookery locations and the habitat management needed to achieve these "ideal" rookeries. Information was collected on habitat structure and condition, vegetation community, existing bird community, hydrology, management potential, and other parameters. One important aspect of the 'ideal' habitat was the presence of an island or the ability to create an artificial island; the isolation of an island will provide an additional level of protection from predation for nesting waterbirds (Avara & Ward 2020).

Reestablishment will be achieved through the use of decoy models and call boxes emitting bird vocalizations. The snowy egret (*Egretta thula*; an endangered species in the state) is proposed to be used as the focal species for the models and vocalizations because its presence will attract other species to foraging aggregations; this process is known as local enhancement. (Parsons and Master 2020). In addition to snowy egret models, two additional species models of state listed species, little blue heron (*Egretta caerulea*) and black-crowned night-heron (*Nycticorax nycticorax*), will be included in an attempt to reestablish robust, diverse rookeries. The decoys and call boxes will be deployed at multiple sites to reduce the probability of a colony collapse and to increase the likelihood of a larger breeding population of waterbirds in the state (Avara & Ward 2020). Currently, there is no known rookery of snowy egrets and little blue herons in the Metro East / American Bottoms Region. Restoration and management actions will vary between sites due to differing existing habitat conditions. Actions are likely to include, but are not limited to, earth moving to create islands, removal or spraying of invasive or non-native vegetation, planting desirable plant species, and construction of fences to deter predators at locations where island creation is not feasible.

Information from preliminary data collection has identified five potential sites for restoration within the American Bottom Regions (Figure 1).

The following sites were selected based on similarity to parameters outlined in the 'ideal' rookery description, proximity to the initial natural resource injury, historic observations of focal waterbird species, and ability of the site to provide adequate protection from predation and flood events:

i. The Chouteau Island Complex

The Chouteau Island Complex is situated between the Mississippi River and the Chain of Rocks Canal in Madison County, IL. The complex is comprised of three islands: Chouteau Island, Gabaret Island, and Mosenthein Island. One suitable site is located on Chouteau Island (Figure 2a). The vegetation of this site is mainly bottomland forest, comprised of woody species like eastern cottonwood (*Populus deltoides;* Figure 2b). A section of Gabaret Island has also been identified as a potential restoration location (Figure 3a). The habitat in this area can be described as semi-permanently flooded with emergent herbaceous species; some woody species are located on higher elevations (Figure 3b, c).

ii. Fairmont City Wetland

The Fairmont City Wetland owned by the Village of Fairmont City, is located in both St. Clair and Madison Counties, IL; however, the site of interest is located in the St. Clair parcels (Figure 4a). The site is approximately 600 acres and is located at the center of the historic and present distribution of the focal waterbird species. A large amount of foraging area is in close proximity. The wetlands of this site have great potential for island creation and already supports wetland obligate plant species like common buttonbush (*Cephalanthus occidentalis;* Figure 4b, c). Historically, this site appears to be more isolated hydrologically from the Mississippi River and as such, not as prone to dramatic flooding events that impact areas near the main channel.

iii. Frank Holten State Recreation Area

Frank Holten State Recreation Area is located in St. Clair County, IL. Grand Marais Lake, located on the southeast side of I-255, is surrounded by approximately 550 acres of potential habitat (Figure 5a). A peninsula and mudflat jutting into the lake has the potential for island construction (Figure 5b, c). This site is located at the center of the historic and present distribution of the focal species with a large amount of foraging area in close proximity. In times of major flood events on the Mississippi River, water levels have substantially increased. However, most years show little fluctuation in water level.

iv. Levee Lake Ecological Restoration Area

The Levee Lake Ecological Restoration Area, also known as Brushy Lake, is located in Madison County, IL (Figure6a). This area of approximately 700 acres is primarily located in parcels owned by Heartlands Conservancy and IDNR. The site is included on the Illinois Natural Areas Inventory, a program used to identify high quality natural areas. Shrub-swamp and marsh-pond communities can be observed at Levee Lake Ecological Restoration Area (Figure 6b, c). Additionally, this site is located at the center of the historic and present distribution of our focal species. Historically, this site appears to be more isolated hydrologically from the Mississippi River and as such, not as prone to dramatic flooding events that impact areas near the main channel.

All appropriate permits, including but not necessarily limited to, U. S. Army Corps of Engineers (USACE) permits, IDNR Office of Water Resources permits, and IEPA permits, will be sought. Restoration work will not begin until all appropriate permits have been obtained.

VIII. Rationale for Preferred Restoration Alternative

The preferred restoration project is expected to benefit various natural resources and services associated with natural communities through conservation and restoration (see CERCLA criteria 2, Section VI). The completion of Phase 1 projects will generate collateral benefits. The preferred restoration project is expected to provide more immediate benefits to the resource of interest. Due to the time sensitive nature of this restoration, the delay caused by soliciting additional alternatives would introduce additional risk to the species.

The project is expected to satisfactorily compensate for losses sustained by the incidents and benefit public health and safety (see CERCLA criteria 1, 8, Section VI). The Trustees considered that the cost to carry out the projects was clearly feasible given the settlement claim (see CERCLA 2, 3, Section VI). Further primary restoration is expected to be achieved through natural recovery and EPA/PRP efforts. Thus, the project addresses the goals and objectives in compensating for interim losses (see CERCLA criteria 4-7, 9–10, Section VI). For these reasons and others identified in the attached restoration matrix (Table 3), the Trustees believe this project will be suitable to use for compensatory restoration. Post monitoring of the projects will be done to increase the likelihood of a successful restoration effort (see CERCLA criteria 1, Section VI).

IX. Proposed Action

The Trustees propose that the subject settlement monies be allocated to fund the proposed restoration project. The Contaminant Assessment Section staff (within IDNR) will work in close coordination with restoration experts and follow all IDNR policies and procedures to ensure the successful operation of the restoration efforts in the American Bottoms Ecoregion.

X. Surveillance and Monitoring

Surveillance and monitoring of the proposed restoration sites as well as surrounding foraging habitat is crucial in order to determine the success of the project and potential for further enhancement of resources in the area. Monitoring is proposed for the five potential locations for all bird species in the spring when waterbirds are selecting breeding locations, in late spring/early summer when waterbirds are constructing nests, late in the breeding season when we can estimate the productivity (average number of young produced per nest of various

species), and after the breeding season when juvenile birds are dispersing from the breeding location to forage at surrounding wetlands in order to build resources (i.e., fat reserves) needed for fall migration.

The approach of using decoys and vocalizations of waterbirds to establish a rookery has been used successfully in previous efforts in North America but the speed at which waterbirds respond and establish a rookery can vary (and likely will vary among the five potential locations). Therefore, proposed monitoring will be conducted for an estimated five years, which should provide the minimum amount of time needed to determine how successful the approach has been in the context of attracting waterbirds to locations and the productivity of waterbirds at the locations. With the monitoring data, the management approach can be adapted to account for and to attempt to correct changing conditions or under-performing locations. For example, if predators are depredating nests, new approaches to protect the rookeries can be developed. Key foraging areas may also be identified that can be managed to improve the foraging of waterbirds in the region.

XI. Fiscal Procedures

As a result of the bankruptcy proceedings, to date, the Trustees have not received a lump-sum payment for restoration funds. Currently, settlement payment is approximately \$246,000. At the time of drafting, an additional estimated settlement payment of approximately \$571,000 is awaiting payment.

It is the intention of IDNR to release funds for Phase 1 of the restoration effort in calendar year 2021 for restoration activities and adaptive management of restored sites. The preliminary data collection study conducted by INHS was funded as part of Phase 1; the data collection and starting restoration materials for the five potential sites cost approximately \$35,000. Sediment and soil testing for the four untested sites will also be paid for as part of Phase 1 with an estimated cost of \$30,000. The remaining Natural Resource Restoration Funds will be allocated at a later date for additional projects (Phase 2).

After the restoration plan goes through the public process and the necessary permits are received, the funds can be released, and restoration activities can begin. IDNR will oversee all restoration activities. The IDNR Springfield headquarters will handle all fiscal transactions. All billings with supporting documentation shall be submitted to the IDNR Springfield Office for review and payment. IDNR fiscal agents will be responsible for the approval and payment of all expenses, obligations, and contracts in accordance with the State of Illinois fiscal and procurement procedures.

XII. Coordination with other Programs, Plans, and Regulatory Authorities

The preferred restoration project will be implemented as a joint effort among partners, including but not limited to, IDNR, INHS, IDOT, USFWS, USACE, local government, local universities, non-profit organizations, Heartlands Conservancy, Metro East Sanitary District, &

the local drainage districts as landowners. The partners will provide the technical expertise and finances, and work together to maximize the environmental benefits to the proposed locations in the American Bottoms / Metro East region. This restoration project will comply with all federal, state, and local laws, regulations, and policies.

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Tables

Table 1. State threatened and endangered plants and vertebrate species found in Madison and St. Clair counties, Illinois.

	Scientific Name	Common Name	Listed Status ¹
Bird			
	Asio flammeus	Short-eared Owl	SE
	Circus hudsonius	Northern Harrier	SE
	Egretta caerulea	Little Blue Heron	SE
	Egretta thula	Snowy Egret	SE
	Gallinula galeata	Common Moorhen	SE
	Ixobrychus exilis	Least Bittern	ST
	Lanius ludovicianus	Loggerhead Shrike	SE
	Nyctanassa violacea	Yellow-crowned Night Heron	SE
	Nycticorax nycticorax	Black-crowned Night Heron	SE
Fish			
	Acipenser fulvescens	Lake Sturgeon	SE
	Ammocrypta clara	Western Sand Darter	SE
	Notropis boops	Bigeye Shiner	SE
	Scaphirhynchus albus	Pallid Sturgeon	SE
Mammal			
	Myotis septentrionalis	Northern Long-eared Myotis	ST
	Myotis sodalis	Indiana Bat	SE
Plant			
	Boltonia decurrens	Decurrent False Aster	ST,FT
	Malvastrum hispidum	False Mallow	SE
	Salvia azurea	Blue Sage	ST
	Trifolium reflexum	Buffalo Clover	ST
	Trillium viride	Green Trillium	SE
	Buchnera americana	Blue Hearts	ST
	Silene regia	Royal Catchfly	SE
	Tradescantia bracteata	Prairie Spiderwort	SE
	Spiranthes vernalis	Spring Ladies' Tresses	SE
Reptile			
	Apalone mutica	Smooth Softshell Turtle	ST
	Crotalus horridus	Timber Rattlesnake	ST
	Pseudacris illinoensis	Illinois Chorus Frog	ST
	Sistrurus catenatus	Eastern Massasauga	SE
	Terrapene ornata	Ornate Box Turtle	ST
	Tropidoclonion lineatum	Lined Snake	ST

Note: species in bold text have occurrence records in identified restoration sites

¹ Listed Status: ST – State Threatened; SE – State Endangered; FT – Federally Threatened

	Standard	Interpretation
1	Technically feasible	 Project has a high likelihood of success. This factor will be evaluated in more depth for projects that are initially believed to be feasible. Reliable methods/technologies known to have a high probability of success will be considered projects incorporating experimental methods, research, or unproven technologies may be evaluated
2	Complies with applicable/ relevant federal, state, local, and tribal laws, regulations, and policies	- Project must be legal
3	Provides benefits not being provided by other restoration projects being or having the potential of being planned/implemented/funded under other programs	- Preference is given to projects that are not already being implemented or have planned funding under other programs. Although the Trustees will make use of restoration planning efforts by other programs, preference is given to projects that would not otherwise be implemented without NRDA restoration funds.
4	Expected costs: expected benefits	 The relationship of the expected costs of the proposed actions to the expected benefits from the restoration, rehabilitation, replacement, and/or acquisition of equivalent resources
5	Addresses in-kind habitat in the same watershed	- Trustees' preference is to restore, rehabilitate, and/or replace in-kind habitat in the same watershed. Acquiring the equivalent may also be a viable option
6	Addresses/incorporates restoration of "preferred" trust resources or services	- Trustees will develop a list of priorities based on the resource types injured and degree of injury. Preference may be given to specific habitats, species of special concern, living resources, native species groundwater, etc.
7	Generates collateral benefits	 Secondary or cascading benefits to ecological resources and economic benefits, including enhancing the public's ability to use, enjoy, or benefit from the environment Projects that benefit more than one injured resource or service will be given priority Projects that benefit a single group or individual may be ranked lower
8	Provides long-term benefits	- Projects that persist will be favored over short-term projects
9	Consistent with regional planning	 Project is not inconsistent with regional planning (e.g., supportive of species recovery plans, etc.); project is administratively feasible
10	Provides benefits sooner	 Project will achieve full expected results sooner than resource would achieve the result through natural recovery (and remediation); sooner than other projects that benefit the same resource. The sooner restoration is achieved, the better.
11	Targets a resource that is unable to recover to without action, or that will require a long recovery time (e.g., >25 years)	 Projects that target resources/services that will be slow to recover will be favored over projects that target resources/services that will soon recover naturally
12	Restores, rehabilitates, and / or replaces habitats of injured resources and the services that the habitats provide. Acquiring the equivalent may also be a viable option.	 Projects may be evaluated based on the degree to which they restore, rehabilitate, and/or replace habitat for injured resources. Habitat protection/restoration may be a preferred means of restoring injured resources. May also include consideration of on-site resources and habitats
13	Acceptable to the public	 Project meets a minimum level of public acceptance; project is not a public nuisance. Degree of public acceptance/support can also be used as a criterion following initial screen of projects

Table 2. Standard criteria used to select project alternatives in the Natural Resource Damage Assessment process

		Alternative 1	Alternative 2
Standard	Source	No Action	Rookery Reestablishment
Cost Effective	NRDA guidance	Yes	Yes
Meets trustees' goals & objectives in returning the natural resources & services to baseline and/or compensating for interim losses	NRDA guidance	No	Yes
Likelihood of success	NRDA guidance	Low	High
Future injury expected to be prevented & collateral injury from implementing alternative expected to be avoided	NRDA guidance	No	No
Benefits more than one natural resource and/or service	NRDA guidance	Yes	Yes
Protects public health and safety	NRDA guidance	n/a	Yes
Technically feasible	NRDA guidance	Yes	Yes
Complies with applicable/relevant federal, state, local, and tribal laws, regulations, and policies	NRDA guidance	No	Yes
Provides benefits not being provided by other restoration projects being or having the potential of being planned/implemented/funded under other programs	NRDA guidance	No	Yes
Expected benefits outweigh the expected costs	NRDA guidance	n/a	Yes
Results of any actual or planned response actions	NRDA guidance	No	No
Addresses in-kind habitat in the same watershed	NRDA guidance	Yes	Yes
Addresses/incorporates restoration of "preferred" trust resources or services	NRDA guidance	Yes	Yes
Generates collateral benefits	NRDA guidance	Yes	Yes
Provides long-term benefits	NRDA guidance	Yes	Yes

Table 3.Evaluation standards considered for OAZ restoration alternative actions

Consistent with regional planning	NRDA guidance	No	Yes
Provides benefits sooner	NRDA guidance	No	Likely
Targets a resource or service that is unable to recover to baseline without restoration action, or that will require a long time to recover naturally	NRDA guidance	No	Yes
Restores, rehabilitates, and/or replaces habitats of injured resources and the services that the habitats provide. Acquiring the equivalent may also be a viable option.	NRDA guidance	Yes, in 100 years+	Yes, estimated in 5- 10 years
Acceptable to the public	NRDA guidance	To be determined	To be determined
Compatible with Illinois Wildlife Action Plan Goals and Objectives	Illinois Wildlife Action Plan	No	Yes

Figures

Figure 1. American Bottoms region and potential rookery reestablishment sites



Figure 2. Chouteau Island: aerial imagery and site photo highlighting potential project area.





Figure 3. Gabaret Island: aerial imagery and site photos highlighting potential project area.





Figure 4. Fairmont City Wetlands: aerial imagery and site photos highlighting potential project area.







Figure 5. Frank Holten State Recreational Area: aerial imagery and site photos highlighting potential project area.







Figure 6. Levee Lake Ecological Restoration Area: aerial imagery and site photos highlighting potential project area.





Appendices

Appendix I. Laws, authorities, and guidance associated with NRDA and Natural Resource Injuries

Overview

A number of federal and state statutes, regulations, policies, and guidance documents provide a framework for conducting natural resource damage assessments, natural resource injury evaluations and the associated restoration. To administer the program, the Trustees integrate the applicable Federal and State laws, regulations, policies, and guidance documents. Frequently, due to this integration, these terms are sometimes used interchangeably, despite there being a distinct difference between them. Basically, laws written by Congress or the Legislature provide the authority for State Agencies to seek a broad goal. In this instance, laws provide authority for assessment and restoration of natural resources that have been injured by hazardous substances. Federal and/or State agencies can develop regulations when the authority is too general or the matter too complex; hence, needing further explanation of the technical, operational, and legal details necessary to implement laws. Policy and guidance documents are also prepared to assist the process. For natural resource injuries, substantial guidance is found at 43 CFR Part 11; an Act created by the Federal Department of Interior. An example of an applicable State policy guidance is IDNR's Comprehensive Environmental Review Process (CERP) – the State's abridged version of the Federal NEPA (National Environmental Protection Act) process. CERP ensures applicable laws & rules are followed before implementing a restoration project on State property.

The major federal laws contributing to the restoration of the injured resources and services framework include the Oil Pollution Act (OPA), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Clean Water Act (CWA), Natural Resource Damage Assessment, 43 CFR Part 11, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), and the Rivers and Harbors Act of 1899 (Sections 9 and 10). In addition, but not limited to, the State laws relevant for guiding the restoration of injured resources are the Illinois Environmental Protection Act (415 ILCS 5/1, et seq.), the Illinois Natural Areas Preservation Act (525 ILCS 30/1, et seq.), the Illinois Endangered Species Protection Act (520 ILCS 10/1, et seq.), the Interagency Wetland Policy Act of 1989 (20 ILCS 830/1-1, et seq.), and Fish and Aquatic Life Code (515 ILCS 5/5-5, et seq.). These laws along with the Comprehensive Environmental Review Process (CERP) are summarized below. Overall, by an integration of applicable laws, regulations, policies and guidance, the State Trustees can purse restoration of injured natural resources.

Key Statutes, Regulations, Policies, and Guidance

The potentially relevant laws, regulations, policies, and guidance are set forth below.

Oil Pollution Act of 1990, 33 U.S.C. §§ 2701, et seq.

The Oil Pollution Act establishes a liability regime for oil spills that injure or are likely to injure natural resources and/or the services that those resources provide to the ecosystem or humans. Federal and state agencies and Indian tribes act as Trustees on behalf of the public to assess the injuries, scale restoration to compensate for those injuries, and implement restoration. The National Oceanic and Atmospheric Administration (NOAA) promulgated regulations for the conduct of natural resource damage assessments at 15 C.F.R. Part 990. Natural resource damage assessments are intended to provide the basis for restoring, replacing, rehabilitating, and acquiring the equivalent of injured natural resources and services. The Trustees' actions are substantially consistent with the regulations found at 15 C.F.R. Part 990.

Clean Water Act (Federal Water Pollution Control Act), 33 U.S.C. §§ 1251, et seq.

The Clean Water Act is the principal law governing pollution control for water quality of the nation's waterways. Section 404 of the law authorizes a permit program for the disposal of dredged or fill material into navigable waters. The U.S. Army Corps of Engineers administers the program. In general, restoration projects that move significant amounts of material into or out of water or wetlands (e.g., hydrologic restoration of marshes) require Section 404 permits. – Under Section 401 of the CWA, restoration projects that involve discharge or fill to wetlands or navigable waters must obtain certification of compliance with state water quality standards (section 401).

Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§ 9601, et seq.

This Act provides the basic legal framework for cleanup and restoration of the nation's hazardous-substances sites. Generally, parties responsible for contamination of sites and the current owners or operators of contaminated sites are liable for the cost of cleanup and restoration. CERCLA establishes a hazard ranking system for assessing the nation's contaminated sites with the most contaminated sites being placed on the National Priorities List.

Oil Spill Responders Liability Act, 740 ILCS 113/1, et seq.

This Act protects oil spill responders from liability for damages that may result from action taken or action omitted in the course of rendering assistance in an oil spill incident that is consistent with the National Contingency Plan. This protection does not apply to the responsible party, or entity which caused the oil spill incident. Under this Act, the responsible party is liable for removal costs and damages to natural resources resulting from a discharge or spill of oil of any kind or in any form, including but not limited to, petroleum, fuel oil, sludge and oil refuse.

Illinois Environmental Protection Act, 415 ILCS 5/1, et seq.

The Environmental Protection Act is the state law that prohibits most forms of pollution occurring on land, in water, or in the air. It also establishes a liability regime, including enforcement and penalties, for entities that violate the provisions of the Act. The Environmental Protection Act was developed for the purpose of establishing a unified statewide program for environmental protection and cooperating with other states and with the United States in protecting the environment. It was also developed to restore, protect and enhance the quality of the environment and to assure that adverse effects upon the environment are fully considered and borne by those who cause them.

Illinois Natural Areas Preservation Act, 525 ILCS 30/1 et seq.

The Act serves to protect any area in Illinois that has been designated as a nature preserve, including the species of plants and animals in each habitat. Any endangered plant and animal species found in designated nature preserves are also protected under this Act. Dedicating and holding an area for natural preserves is also encouraged in this Act.

Illinois Endangered Species Protection Act, 520 ILCS 10/1 et seq.

This Act gives protection to any plant and animal species on the endangered or threatened list from being moved or destroyed. Any species that the Secretary of the Interior of the United States lists as endangered or threatened is also included on Illinois's endangered and threatened species list. The Act also provides rules of law for searching any premises suspected of illegally keeping goods, merchandise, or animals, plants, or animal or plant products subject to the Act and seizing such products.

Illinois Fish and Aquatic Life Code, 515 ILCS 5/5-5 et seq. and Illinois Wildlife Code, 520 ILCS

5/1.10 et seq.

These Codes state that IDNR shall take all measures necessary for the conservation, distribution, introduction and restoration of aquatic life and wildlife, and they provide protection for aquatic life and wildlife from any person who causes waste, sewage, thermal effluent, or any other pollutant to enter into the waters of the State or habitat supporting the wildlife, which causes the death of aquatic life or wildlife. The IDNR, acting through the IAGO, has the authority to bring action against such persons to recover the value of any and all aquatic life or wildlife that is destroyed, related costs in determining such value, and any other fines or penalties provided for by these Codes.

Interagency Wetland Policy Act of 1989, 20 ILCS 830/1 et seq.

This Act states that state agencies are responsible for preserving, enhancing, and creating wetland areas for the purpose of increasing quality and quantity of the State's wetland resource base. The goal behind the Act is that there shall be no overall net loss of the State's existing wetland acres or their functional value due to State supported activities.

Comprehensive Environmental Review Process (CERP)

Internal process within IDNR that reviews any action taken by the Department that may alter any chemical, physical, or biological conditions of air, land, or water, as well as any alterations to standing structures. CERP staff will review project proposal to see if any damages will occur to threatened and endangered species, wetlands, INAI sites, or cultural resources. Other resources such as migratory birds, fisheries, forests, prairies, streams, riparian corridors, and site aesthetics may also be considered. If staff determines that adverse effects are likely, a CERP sign-off may include project modifications.

Rivers, Lakes, and Streams Act 615 ILCS 5/18

No person is allowed to fill or deposit rock, earth, sand, or other material, or any refuse matter of any kind or description or build or commence the building of any wharf, pier, dolphin, boom, weir, breakwater, bulkhead, jetty, causeway, harbor, or mooring facilities for watercraft, or any other structure, with the exception of duck blinds, in public a water body of the State without first submitting plans, data, and other important information to the Department of Natural Resources of the State and receiving a permit signed by the Director of the Department. Under this act, no person is allowed to build, deposit, or discharge any materials into Lake Michigan unless the Illinois Environmental Protection Agency permits one to do so under subsection (a) of section 39 of the Environmental Protection Act.

Rivers and Harbors Act of 1899, Sections 9 and 10

9. It is unlawful to build any structure in or across waters of the United States until plans are submitted and approved by Secretary of Transportation, Chief of Engineers, and Secretary of Army and consent is given by Congress. Under permission of the legislation of the State, a person may build in or across waters whose navigable parts lie wholly in that state. The approval required by this section of the location and plans or any modification of plans of any bridge or causeway does not apply to any bridge or causeway over waters that are not subject to the ebb and flow of the tide and that are not used and are not susceptible to use in their natural condition or by reasonable improvement as a means to transport interstate or foreign commerce.

10. It is unlawful to build obstacles that prohibit navigation, unless authorized by Congress, and building of any structure outside harbor lines or where no harbor lines have been established is prohibited unless authorized by Chief of Engineers and Secretary of War. It is also unlawful to fill or modify any plan or structure within limits of breakwaters or the channel of any navigable waters of the United States unless approved by Chief of Engineers and Secretary of War.

43 CFR Part 11 – Natural Resource Damage Assessment

CERCLA and CWA provide that natural resource trustees may assess damages to natural resources resulting from a discharge of oil or a release of hazardous substance covered under CERCLA and/or CWA. Trustees may seek to recover those damages and under National Oil and

Hazardous Substances Pollution Contingency Plan (NCP) trustees can seek compensation for injuries to natural resources that may not be addressed by response actions of NCP.

40 CFR part 300.605 – National Oil and Hazardous Substances Pollution Contingency Plan

State trustees shall act on behalf of the public as trustees for natural resources, including their supporting ecosystems, within the boundary of a state or belonging to, managed by, controlled by, or appertaining to such state. The governor of a state is encouraged to designate a state lead trustee to coordinate all state trustee responsibilities with other trustee agencies. The state lead trustee should have ready access to appropriate state officials with environmental protection, emergency response, and natural resource responsibilities. The EPA Administrator or USCG Commandant or their designees may appoint the state lead trustee as a member of the Area Committee. Response strategies should be coordinated between the state and other trustees for specific natural resource locations in an inland or coastal zone and should be included in the Fish and Wildlife and Sensitive Environments Plan annex of the ACP.

15 CFR Part 990 – Natural Resource Damage Assessment

The Oil Pollution Act of 1990 (OPA) provides the designation of federal, state, and, if designated by the Governor of the state, local officials to act on behalf of the public as trustees for natural resources and for the designation of Indian tribe and foreign officials to act as trustees for natural resources on behalf of, respectively, the tribe or its members and the foreign government. This part may be used by these officials in conducting natural resource damage assessments when natural resources and/or services are injured as a result of an incident involving an actual or substantial threat of a discharge of oil. This part is not intended to affect the recoverability of natural resource damages when recoveries are sought other than in accordance with this part.