



Department of
**Environment &
Conservation**

Oak Ridge Reservation NRDAR Overview

Natural Resource Damage Assessment (NRDA)

- Contamination released from ORR has negatively impacted natural resources and resource services
 - Example resources: fish, wildlife, surface water, sediment, soil, and groundwater
 - Example resource services: nutrient cycling, provision of habitat, recreational fishing, and drinking water
- The goal of NRDA is to restore natural resources equivalent to what was lost



NRDA

- Under CERCLA, NRDA's are conducted by government officials (Federal or State government, Indian Tribe) designated to act as “trustees” to bring claims on behalf of the public for the restoration of injured natural resources
- Trustees for the ORR are:
 - State of Tennessee Department of Environment and Conservation
 - Tennessee Valley Authority
 - U.S. Department of Energy
 - U.S. Department of the Interior, U.S. Fish and Wildlife Service
- Additional Information at <https://www.doi.gov/restoration>

NRDA versus Remedy

NRDA

- Restore natural resources to their baseline condition
 - Baseline is the condition that would have existed without the release of hazardous substances
- Estimated over time (past, present and future)

Remedy

- Reduce or eliminate present and future threats to human health or environment from release of hazardous substances
- Often directed at substance itself and risk of exposure
- May not eliminate natural resource injuries caused by exposure

What NRD is NOT: Examples

- “Second clean-up”
- Lost tax revenue
- Lost property value
- Stigma damage

Can be real damages but need to be brought under a different cause of action

ORR NRDA

Phase 1: Watts Bar Reservoir

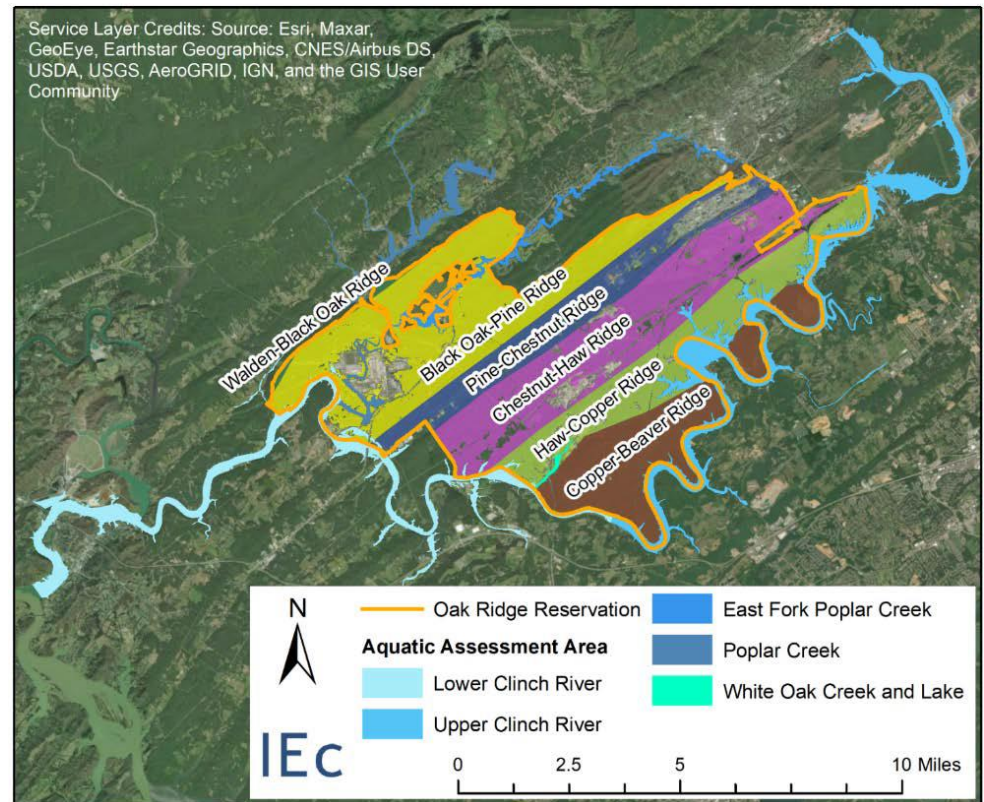
- Downstream of the Clinch River to Watts Bar Dam and the Tennessee River arm upstream to Fort Loudoun Dam
- Ecological losses and recreational fishing losses
- 2009 agreement between TN and DOE that compensation for losses would include:
 - BORCE (~ 3,000 acres of protected habitat, groundwater recharge, and recreation)
 - Funding for projects to improve recreational fishing access and opportunities



ORR NRDA

Phase 2: ORR Balance

- Terrestrial habitat within ORR
- Floodplain and aquatic habitat of a portion of the Clinch River
- Floodplain and aquatic habitat of several Clinch River tributaries
- Groundwater beneath and flowing off-site from ORR



Natural Resource Injuries

Injuries to natural resources (e.g., plants, animals, water, sediment) are:

- A decrease in a resource's ability to provide services due to contamination. Examples from CERCLA:
 - Decreased survival
 - Reproductive impairment
 - Physical deformities
- Consumption advisories
- Exceedance of regulatory criteria

ORR Trustees used contaminant concentration data, site-specific and literature-based toxicological study results, information on consumption advisories, and water quality criteria to assess injury to natural resources

Restoration Compensation Determination Plan/Environmental Assessment

Natural resource injuries for the ORR are reported in the Restoration Compensation Determination Plan/Environmental Assessment published December 2022

<https://doeic.science.energy.gov/uploads/A.0106.037.0028.pdf>

Injury and Loss:

- Aquatic resources
- Terrestrial resources
- Groundwater resources
- Recreational uses

Natural Resource Damages Agreement

The State of Tennessee and DOE signed an Administrative Order on Consent with USFWS and TVA concurrence on July 8, 2024. It provides \$42 million to compensate for natural resource losses.

- ~50% funded through repurposing a perpetual care fund for the Environmental Management Waste Management Facility (EMWMF), the existing CERCLA landfill at the ORR
- ~50% paid by DOE

Trustees will oversee use of the \$42 million to select and fund projects described in the RCDP/EA

Resource and Resource Use-Based Restoration

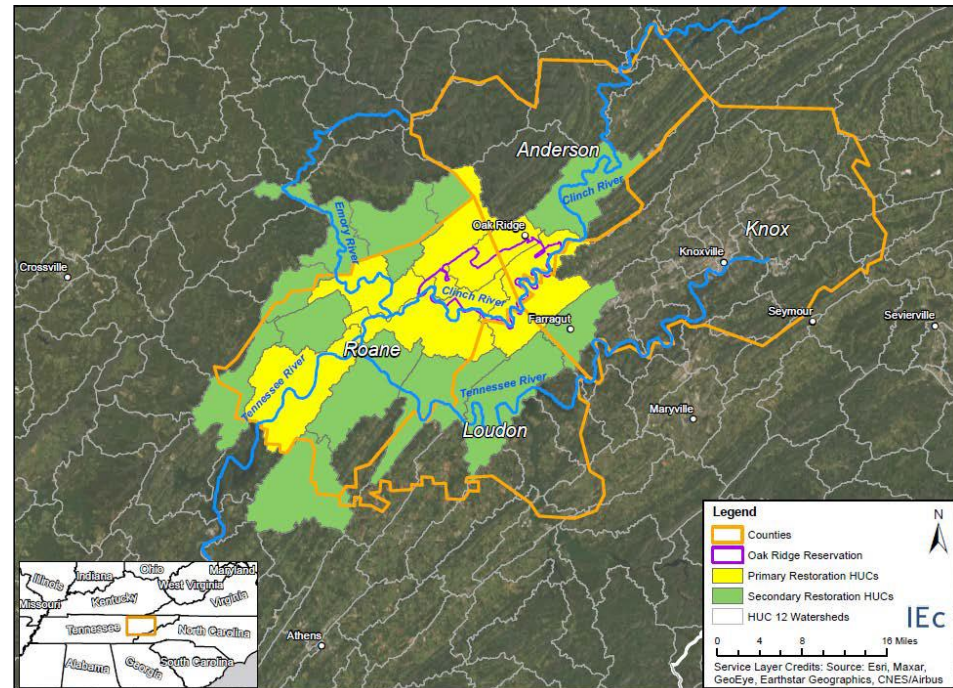
Resource and Resource Use-Based Restoration being carried forward into the Restoration Project Selection Procedure (RPSP)

Ecological	Groundwater	Recreation
<p>Habitat creation</p> <ul style="list-style-type: none">Ex: disturbed/non-habitat to habitat <p>Habitat restoration/enhancement</p> <ul style="list-style-type: none">Ex: restoration of native plant communities <p>Habitat preservation</p> <ul style="list-style-type: none">Ex: land acquisition	<p>Improve groundwater recharge and quality.</p> <p>Ex:</p> <ul style="list-style-type: none">Green parking lots, permeable pavement, green streetsBioswales and rain gardensSeptic conversionsCapping abandoned wells	<p>Increase/improve fishing opportunities, access, and amenities</p> <ul style="list-style-type: none">Ex: construct new boat launches <p>Increase water access</p> <ul style="list-style-type: none">Ex: easement <p>Increase/improve hiking, biking, wildlife and natural viewing areas</p> <ul style="list-style-type: none">Ex: new hiking trails

Restoration Evaluation/RPSP

Trustee site-specific restoration criteria is detailed in the Draft Restoration Project Selection Procedure (RPSP) that was public noticed on July 11, 2024

- Located within priority area
- Provide long-term, sustainable benefits accounting for climate change
- Increase habitat connectivity
- Improve water quality to support ecological function/recreational use
- Provide benefits to listed species (federally/state listed and “at risk”)
- Improve the public’s access to and quality of recreational resources



Next Steps – Restoration Grant Program

- Trustees will finalize the Restoration Project Selection Procedure (RPSP)
- RPSP build out in TDEC's Grants Management System (GMS) will be completed
- Trustees will hold public workshops to discuss solicitation for projects in GMS
- Solicitation for project proposals will open
- Projects will be selected by the Trustees
- Restoration Plan will be compiled from selected projects and public noticed
- Grant contracts will be executed for implementation of projects