



Dan River Coal Ash Spill Natural Resources Damage Assessment and Restoration

Why Natural Resource Damage Assessment and Restoration?

The process allows natural resource trustees to determine the extent of injury to natural resources and the services they provide to make the public whole by:

- Restoring
- Replacing
- Acquiring the equivalent of

Injured Resources and services lost during the spill.



USEPA

Natural Resource Damage Assessment and Restoration is . . .

- Led by Trustees
- A legal and scientific process to determine the amount and type of restoration to offset injuries
- Conducted parallel to, and continuing after, the spill response or release
- NRDAR's goal is to restore injured resources and services

Determine natural resource and service injuries through time

Assess damages for injuries (to baseline)

Recover damages via negotiated agreement or litigation

Restore natural resources and services

Oversight & Monitoring

NRDAR is not punitive, a fine, penalty, or enforcement action, part of response or removal actions (aka - cleanup), mitigation, compensation for economic losses.

Who are Natural Resource Trustees?

Trustees have "trust responsibilities" for protecting, managing, and restoring natural resources

Dan River Trustees:



- Coordinate with response agency
- Assess injuries
- Evaluate and scale restoration
- Oversee and/or implement restoration
- Legislative mandates

Dan River Trustee advisors:



Trust resources include migratory birds, federal and state-listed threatened and endangered species, federal and state-managed lands, fish and wildlife resources, surface and groundwater.

What is a natural resource injury?

Trustees gather information on impacts (called injuries) to trust resources to determine appropriate restoration projects. Injury includes measurable or observable adverse change in the quality, viability, or value of natural resources and the services they provide.



Green floater, NCWRC

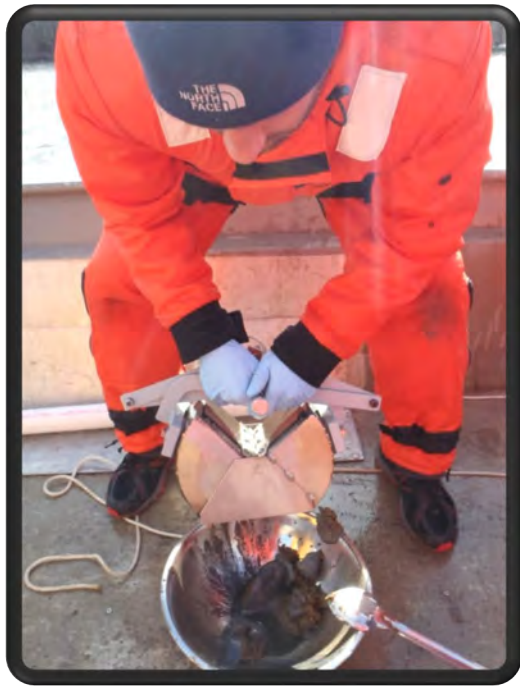


S. Mantilla/Danville Register & Bee

How do we quantify injuries?

Determine the loss of natural resource services by examining the nature of the injuries.

- Magnitude
- Extent
- Severity
- Duration



Credit: USFWS

Available data as starting point:

- Site-specific concentrations
- Federal & state requirements
- Established effects level thresholds
- Other literature values

What are Damages?

Damages are the amount of money required to compensate the public for the injury, destruction or loss of natural resources. These are paid for by the responsible party to restore, replace, or acquire the equivalent type of the natural resources and the services they would have provided.

- ✓ Currency is in restoration projects; not always monetary damages
- ✓ Plus costs for assessment and future management of restoration

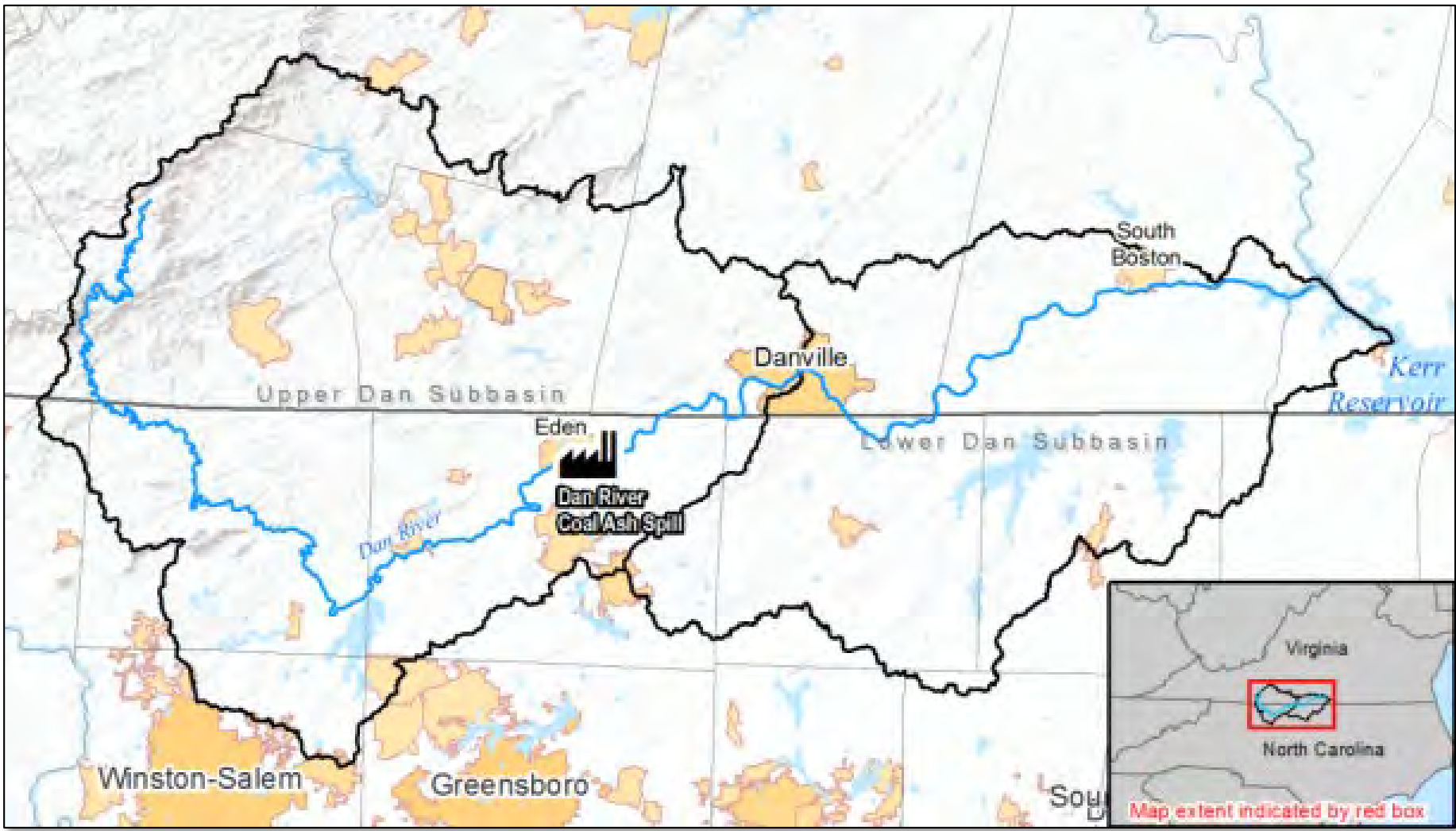


Roanoke logperch, NCWRC

Damages determined using economic models, literature, cost of restoration, etc.

Dan River NRDAR

On Feb 2, 2014, stormwater pipe at Duke Energy Dan River Steam Station failed releasing ash and ash pond water into the Dan River



EPA Release Estimate		
Water	27,000,000	gallons
Ash	39,000	tons



Credit: USEPA

Dan River Spill Injuries Assessed

Natural Resources Affected

- Freshwater fish
- Migratory birds
- Lands (wetlands, floodplain, instream)
- Aquatic and terrestrial plants
- Invertebrates
- Surface waters and sediments

Services Affected

- Habitat for species
- Recreation



Federally endangered Roanoke logperch, Conservation Fisheries, Inc.

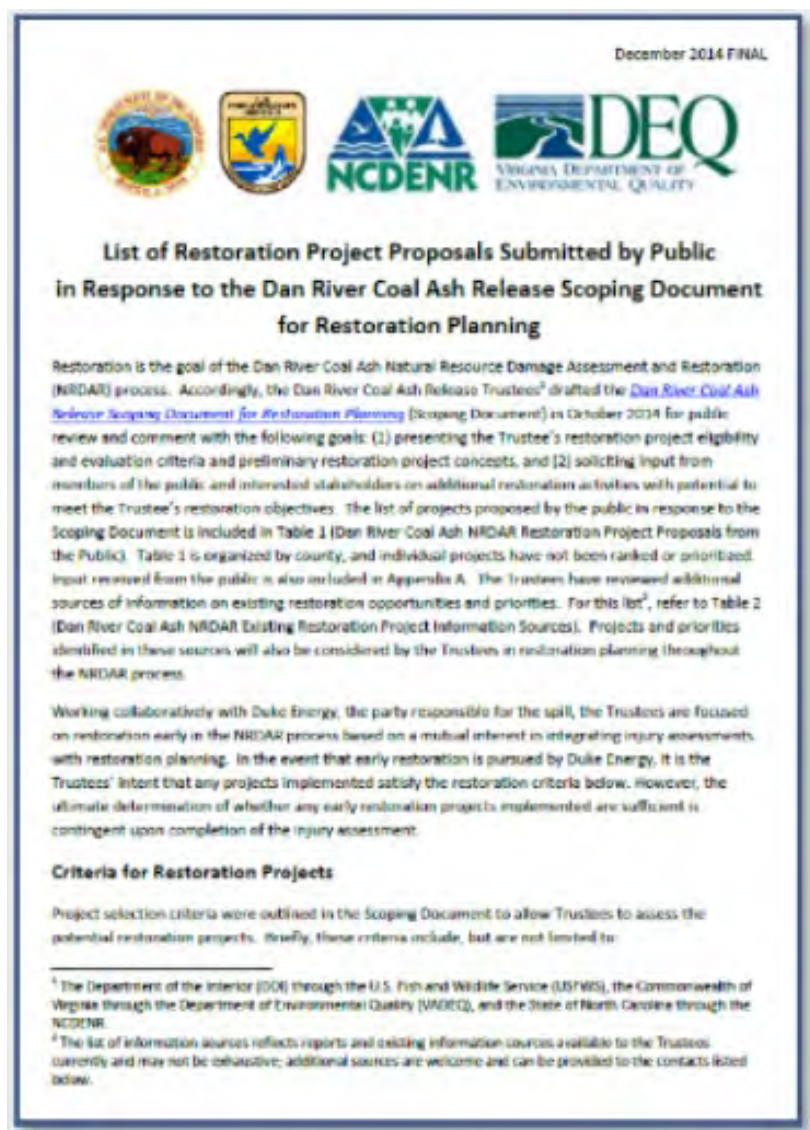


Federally endangered James spinymussel, USFWS



Credit: USFWS

Dan River NRDAR Timeline



- 2/4/2014: Spill at Dan River Steam Station
- 3/2014: Preliminary assessment of monitoring data; notice of intent to initiate NRDAR
- 5/2014: Trustee council formed
- 6/2014: Joint participation agreement with Duke Energy
- 10/2014: Public input solicited on possible restoration
- 12/2014: Summary of public restoration input released to public
- 6/2015: Damage Assessment Plan developed and released to public
- 12/2015: Final Damage Assessment Plan released to public
- 2016 – Implementation of restoration projects and development of Restoration Plan
- 7/2019: Draft Restoration Plan released to public; settlement agreement with Duke Energy reached

Public Input Guided Preferred Restoration Projects

- 118 total respondents
- Respondents included members of public plus 18 organizations
- Projects the public most frequently supported have been implemented or are in progress including:
 - Dam removal
 - Adding new river access points
 - Land acquisition (Mayo State Parks)

CATEGORY	PROJECT SUGGESTIONS
AVOIDED HABITAT LOSS	<ul style="list-style-type: none">• 18 land protection opportunities suggested• Overlap with rare species and recreation
FISH PASSAGE	<ul style="list-style-type: none">• Dam removal in VA to benefit endangered Roanoke logperch (RLP)
RIVERINE	<ul style="list-style-type: none">• 6 project opportunities suggested• <i>Hydrilla</i> treatment, instream & riparian restoration, water quality improvements
RARE AND NONGAME SPECIES	<ul style="list-style-type: none">• 5 project opportunities suggested• RLP, small anthered bittercress protection, riparian restoration, dam removal
IMPROVE FISHING EXPERIENCE	<ul style="list-style-type: none">• Recommendations included 18 access points• Motor, canoe/kayak, and handicap
EXPAND RIVER-BASED RECREATION	<ul style="list-style-type: none">• 22 project opportunities suggested• Park/trail improvements & expansion, facilities, <i>Hydrilla</i> treatment, dam removal, ramp silt removal

What are the Restoration Projects for the Dan River NRDAR?



- Acquisition and conservation of Mayo River floodplain and riverbank
- Aquatic habitat restoration in the Pigg River via removal of Power Dam
- Establishment of public boat launch facilities on the Dan River
- Improvements to the Abreu Grogan Park in Danville, Virginia

How can you participate?

- Review the Draft Restoration Plan and Environmental Assessment and provide comments
 - Comment card at tonight’s meeting
 - Review plan (select link to plan under “case documents”)
 - Submit written comments to Sara_Ward@fws.gov or Susan_Lingenfelser@fws.gov or by mail (USFWS Virginia Field Office, 6669 Short Lane, Gloucester, VA 23061, Attn: Dan River Restoration Plan)
- Check out the restoration projects that have already been implemented – learn about them at information tables tonight then get outside and enjoy them!

What’s Next:

- Public Comment period closes September 9, 2019
- Summary of comments and responses provided
- Finalize restoration plans
- Complete on-the ground restoration!

https://www.cerc.usgs.gov/orda_docs/CaseDetails?ID=984