Introduction to Natural Resource Damage Assessment (NRDA)

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DARRP Organization

NOAA's National Ocean Service / Office of Response & Restoration

NOAA

Office of General Counsel

National Marine Fisheries Service

National Environmental Data and Information Service

National Ocean Service

National Weather Service

Office of Oceanic and Atmospheric Research

Office of Habitat Conservation

Restoration Center

Emergency Response Division

Assessment and Restoration Division

Pribilofs Project Marine Debris Program Business Services

Operational DARRP Component
State Governors
Tribes
Secretaries of Federal Departments
- Agriculture
- Commerce (NOAA)
- Defense
- Energy
- Interior
Foreign Governments (under certain circumstances)
Trustees...

- Coordinate w/response agencies (e.g., EPA, USCG) by integrating trustee concerns and science into the cleanup process
- Assess injuries
- Evaluate and scale restoration alternatives for
  - Returning resources to baseline
  - Compensating for interim lost resources or services
- Oversee and/or implement restoration plan
Natural Resources

- Trustees can recover damages for injuries to natural resources.
- Humans are not natural resources.
- Natural Resources: land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States, any State or local government, any foreign government, any Indian tribe.
  - Surface water resources (including sediment).
  - Ground water resources.
  - Geologic resources.
  - Biological resources.
  - Air resources.
NRDA:

A process to determine the appropriate amount and type of restoration needed.

Intersection between environmental sciences, economics, and law.

The preferred calculation of damages is the cost of implementing this restoration.

NRDA progress/success is focused on and measured by the amount of restoration achieved.
NRDA Basics

Goal is restoration
Studies are conducted to determine injury
Usually for larger spills? NO
Early stages may overlap with response
Coordinated with but not directed by response
Purpose of NRDA = RESTORATION!!

To compensate the public for injuries to natural resources and resulting resource service losses caused by a discharge of oil or release of a hazardous substance.

Compensation is measured as damages, calculated in projects or dollars necessary to implement restoration.

Compensation must restore, replace, or acquire the equivalent of lost resources/ resource services (restoration).
NRDA: What is it?

- A process to determine
  - Injuries and service losses
  - Appropriate amount & type of restoration needed
- Goal is to “make public whole” following release of hazardous substances & oil
- “Trustees” act on behalf of public
- NRD success:
  - Measured by degree to which actual injuries restored
What NRDAR Isn’t

A “Second clean-up.”
Restoration is not remedy.
Remedial goal is to protect human health and the environment from further “unacceptable” harm.
Remedial objectives are reduction of future risk to human health and environment; NRDA is based on restoration of injuries to natural resources.
A mechanism to ameliorate losses beyond natural resource injuries.
What is an injury?

Measurable adverse change…
May be obvious, but often subtle and hard to prove
May be the result of response action
May be physical injury- like a ship grounding
May be a lost use – like a closure of an area
Basic Steps

• The first step of the NRDA process is to evaluate whether there were any impacts to natural resources caused by a spill (preliminary assessment).

• If impacts occurred, the second phase (injury assessment and restoration planning) quantifies the impacts and what could be done for restoration.

• The third and final step (restoration) restores natural resources back to where they were before the spill.
Comparisons

**Response**
Directed by EPA or USCG
Any release
Focus on “actionable” oil
Endpoint is cleanup
Completed in days to months

**NRDA**
Directed by Trustees
Usually just for large spills? NO
Focus on proving injury
Endpoint is restoration
Completed in years
Types of studies you might see during a response

Collection of a valid source oil sample
Fingerprinting of oil on shorelines, in water column, in organisms
Collection of ephemeral data like dead animals or oiled shorelines
Documentation of closures
A matter of scale

• Responders see oil that is actionable for cleanup, NRDA scientists are looking at levels that can cause injury - may be at the molecular level
• Not feasible to cleanup does not equal no injury
Habitat

Ecological

Direct Human Uses
(e.g., Recreational, Commercial)

Passive Use

Injury: Lost Services

Nesting Area for Birds
Breeding Area for Fish
Sediment Stabilization
Water Quality Enhancement
Many Others

Existence value
Aesthetic value
Preservation of diversity
T&E spp

Birdwatching
Fishing
Swimming
Hunting
Commercial Fishing
Putting it Together: Assessment & Restoration

Injuries Caused by Spill or Chronic Release

Natural Recovery
Restoration / Rehabilitate
Build More
Buy More

Restoration Choices
What kinds of restoration?

**Primary restoration**
Projects to restore natural resources to the condition that would have existed if the incident had not occurred.

**Compensatory restoration**
Projects to compensate for interim losses of natural resources and the services they provide.

**Emergency restoration?**
Projects during the response to minimize further injury. These must be coordinated with the FOSC.
Public involvement in restoration planning.

- Informal briefings and restoration scoping.
- Public review and comment on Restoration Plan.

Restoration Plan required under 42 USC Section 111(i).

All restoration must be connected to the actual injuries (nexus).

Trustee Council must remain the final decision maker.
Integrated Approach to Remediation & Restoration
Summary

• NRDA is independent and complementary to response
  • Parallel investigation like NTSB Accident Investigation

• Restoration-Focused

• Cooperative Process
  • Co-Trustees and the public
  • Responsible Party

• Legal Process
  • Trustees are required to demonstrate causality between the release & resource injury and lost use
  • The polluter pays for assessment and restoration
Quantifying Ecological Changes: Habitat Equivalency Analysis (HEA)

- Area B - Services Provided (Credit)
- Area A - Services Lost (Debit)