Cosco Busan Oil Spill

Natural Resource Damage Assessment (NRDA)

January, 2008



Compensatory Restoration

Injury

Primary Restoration

Project Benefits

Time

Presentation by the natural resource trustee agencies

Overview

- What are Natural Resource Damages?
- Who are the Trustee Agencies?
- Coordination with Others
- Process and Methodologies
- Next Steps



Potential Components of a Pollution Case Settlement

- response and clean-up costs
- penalties
- natural resource damages
- other claims
 - public entities (lost tax revenue, lost parking fees, extra staff time, etc.)
 - private claims (lost income, injury to property, etc.)



What are Natural Resource Damages?

- Compensation for natural resource injuries
- Compensation for loss of use and enjoyment
- "Injuries" are biological impacts
 "Damages" are monetary



 Damages are based upon the amount of restoration needed to make the environment and the public whole (OPA, Lempert-Keene)

Legal Authority

- OPA 90 oil
- Other Federal Laws (e.g. Clean Water Act)
- Lempert-Keene-Seastrand marine oil
- Other State Laws



Who are the Trustees?



California Department of Fish & Game (CDFG)



California State Lands Commission (CSLC)



National Oceanic and Atmospheric Administration (NOAA)



United States Fish & Wildlife Service (USFWS)



National Park Service (NPS)



Bureau of Land Management (BLM)

Coordination

Regal Stone Ltd.

Calif. Department of Parks and Recreation State Water Board Many cities, counties, and districts Many non-government organizations Local and national experts

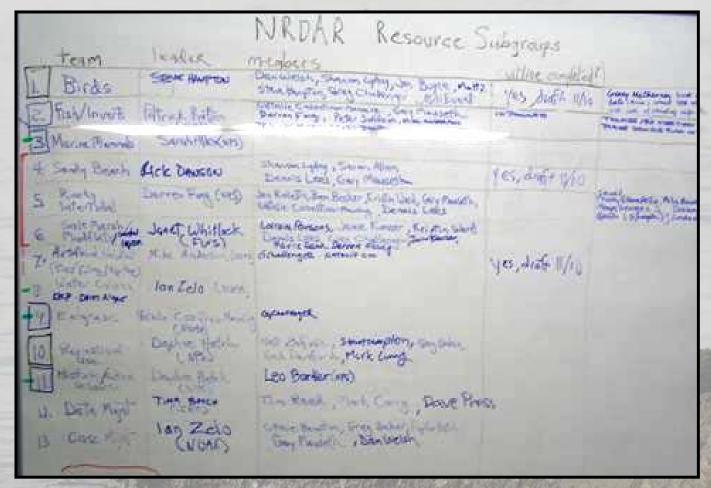
The Process

- 1) Oil Spill
- 2) Data Collection
- 3) Public Information Meetings WE ARE HERE
 - 4) Injury and Damage Quantification
 - 5) Public Scoping Meeting
 - 6) Draft Restoration Plan
 - 7) Public Comment Period
 - 8) Final Restoration Plan
 - 9) Implement Restoration Projects



Cosco Busan NRDA to Date

- Multi-disciplinary, multi-agency team
- Collecting data and planning NRDA tasks since Nov 7

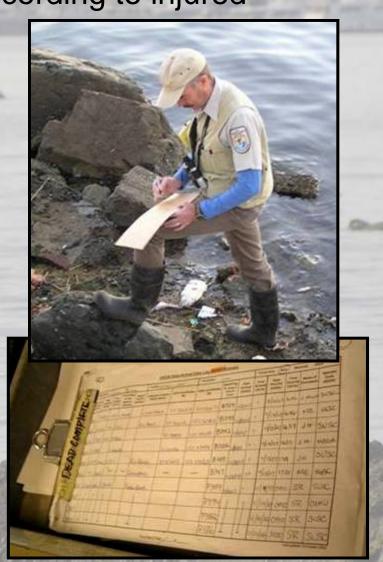


Cosco Busan NRDA to Date

Currently divided into nine teams according to injured

resource category:

- birds
- mammals
- fish
- saltmarsh habitat
- rocky intertidal habitat
- sandy beach habitat
- eelgrass habitat
- human uses
- historical and cultural resources



Injury Quantification

- Wildlife (birds, mammals, fish): size (#), duration (years lost)
- Habitat: size (acres), degree (%), duration (years)
- Human Uses: size (# of lost user-days)



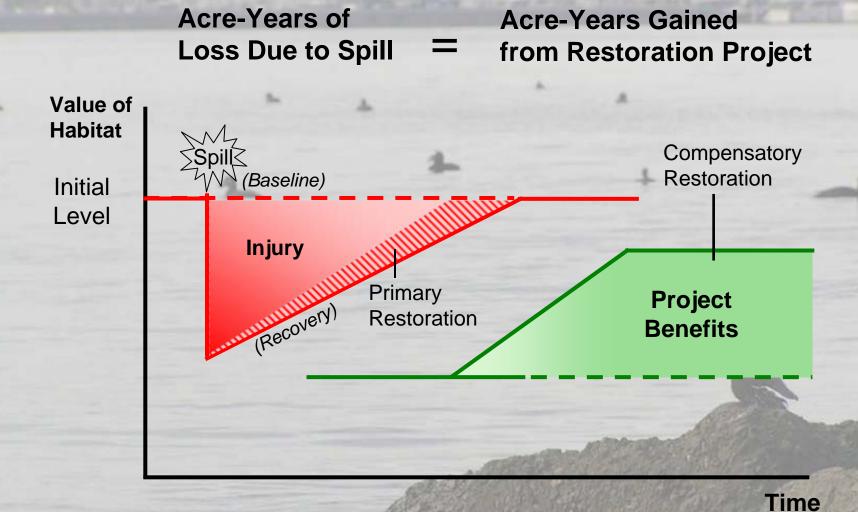
For Wildlife and Habitat

Methods are Restoration-based

KEY QUESTIONS:

- How big of a restoration project do we need to compensate for the injury? How much will that cost?
- Use Habitat Equivalency Analysis (HEA) as the tool to scale restoration to injuries.

Habitat Equivalency Analysis



For Human Use Losses

Basic Calculation:

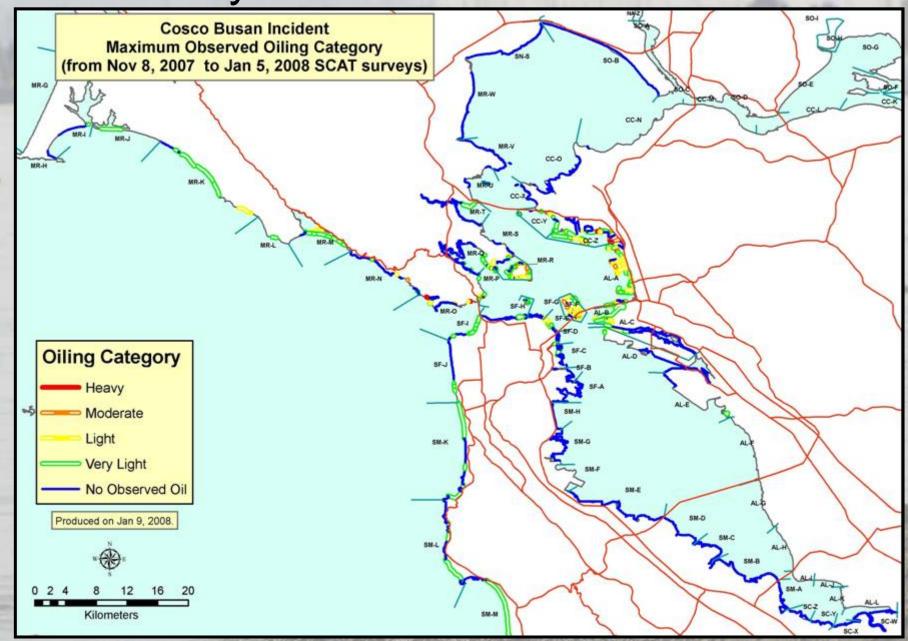
- Lost Use = (# of Lost User-days) X (\$Value per Lost User-Day)

Types of Recreational Use

- Water-related activities (e.g., surfing, sailing, swimming)
- Fishing (e.g., pier, shoreline, charter boat)
- General beach use
- Jogging/Bicycling/Dog-walking
- Sightseeing and Special Events



Preliminary Results



Preliminary Results

Birds

1,084 collected live (421 rehabbed and released) 1,858 collected dead

Mammals

1 collected live, which died 2 collected dead at least 223 observed oiled

Human Uses

more than 50 beaches, piers, and coastal access points closed

Rocky Intertidal Habitat

50 miles of coastline oiled (3.1 moderately or heavily oiled)

Sandy Beach Habitat

41 miles of coastline oiled (2.3 moderately or heavily oiled)

Saltmarsh Habitat

7.5 miles of coastline oiled (0.7 moderately or heavily oiled)

Eelgrass Habitat

200 acres within impacted area

These numbers are subject to further refinement and analysis.

Restoration Projects

•	birds ————	PROJECT
•	mammals	PROJECT
•	fish ————	PROJECT
•	saltmarsh habitat —	PROJECT
•	rocky intertidal habitat —	PROJECT
•	sandy beach habitat ————	PROJECT
•	eelgrass habitat ————	PROJECT
•	human uses —	PROJECT
•	historical and cultural resources	PROJECT

Restoration Project Selection Criteria

- Nexus to Injured Resources
- Technical Feasibility
- No Duplicate or Replacement Funding
- Legality
- Likelihood of Success
- Cost Effectiveness
- Multiple Resource Benefits
- Duration of Benefits
- Public Health and Safety
- Avoidance of Adverse Impacts
- Opportunities for Collaboration



