



St Lawrence Environment Natural Resource Damage Assessment

National Oceanic and Atmospheric Administration
U.S. Fish and Wildlife Service, Department of the Interior
St. Regis Mohawk Tribe
New York State Department of Environmental Conservation

What is Natural Resource Damage Assessment?

- ▶ Regulatory authority: CERCLA, Oil Pollution Act, Clean Water Act
- ▶ 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
- ▶ NRDA success:
 - Measured by amount of appropriate restoration achieved

NRDAR Trustees

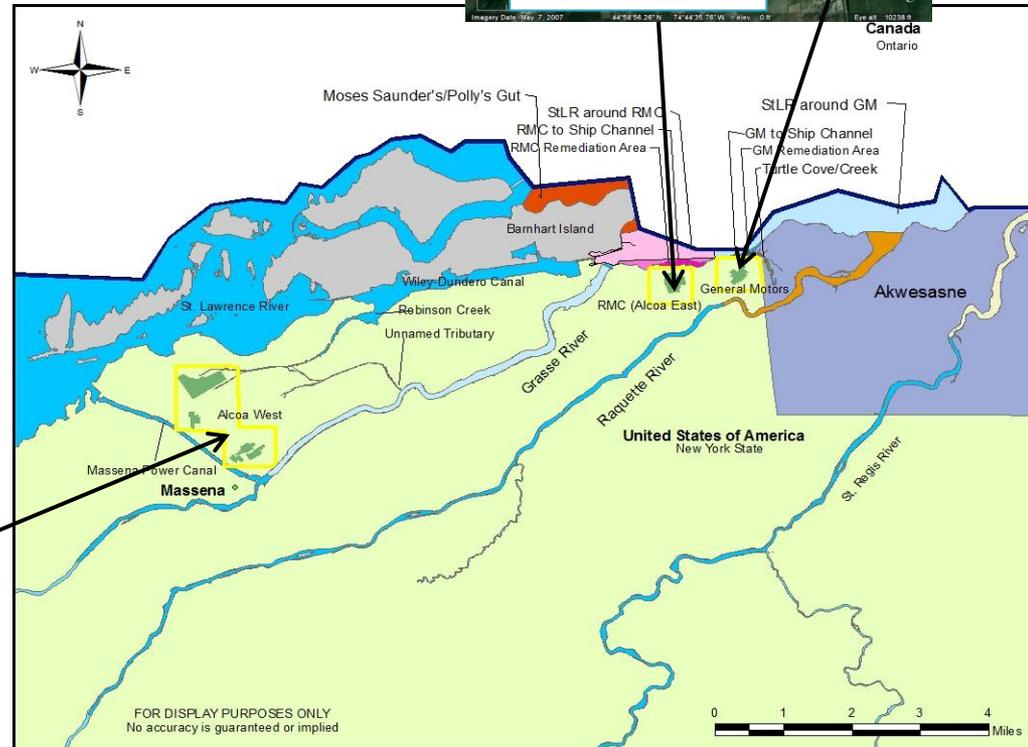
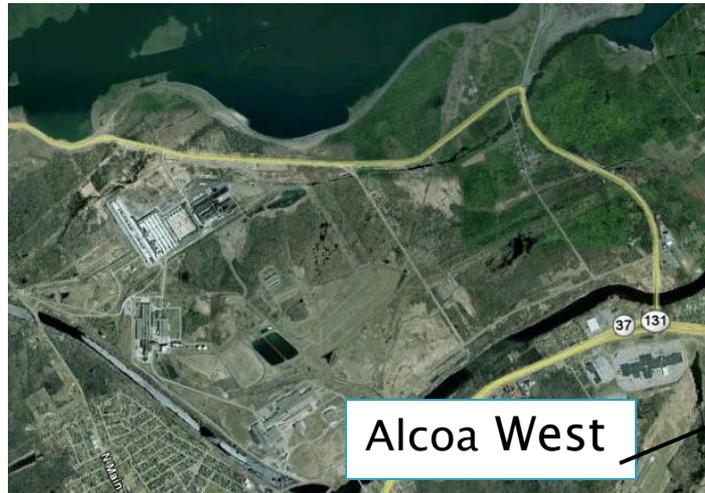
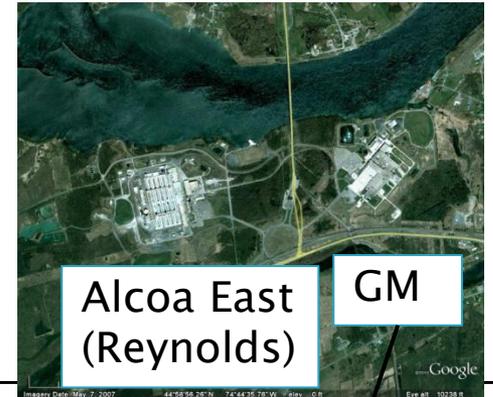
- ▶ State Governors
- ▶ Tribes/Indian Nations
- ▶ Secretaries of Federal Agencies (Agriculture, Commerce, Interior, Energy, Defense)

St. Lawrence NRDAR Trustees

- ▶ NYS Department of Environmental Conservation
- ▶ St Regis Mohawk Tribe
- ▶ U.S. Dept Interior
- ▶ U.S. Dept Commerce



St. Lawrence NRDAR Assessment Area



St. Lawrence NRDAR Case Background

- ▶ Responsible parties:
 - ▶ ALCOA (Reynolds)
 - ▶ General Motors
- ▶ Trustees:
 - ▶ St. Regis Mohawk Tribe
 - ▶ Department of the Interior (US Fish and Wildlife Service)
 - ▶ National Oceanic and Atmospheric Administration
 - ▶ New York State Department of Environmental Conservation
- ▶ Multiple Contaminants: PCBs, PAHs, Fluoride, metals
- ▶ One of first cooperative NRDAR cases
- ▶ One of first cultural assessments



Cooperative NRDAR

- ▶ Companies fund Trustee injury and compensation determination
- ▶ Parallel to remedial effort
- ▶ Enhances exchange of information and expertise
- ▶ Goal is to reduce interim losses, achieve settlements and restoration sooner than through litigation
- ▶ Challenges: trust, agreement, agree to disagree



Three-Pronged Approach to Damage Assessment

- ▶ Ecological Injury/Losses
 - Injury to natural resources
- ▶ Human Use Recreational Fishing Losses
 - Lost fishing opportunities
- ▶ Cultural Injury
 - Injury to natural resources that affects significant cultural uses of those resources

Status of NRDAR

- ❑ GM NRD claim - 2011 bankruptcy settlement
 - \$1.8M for restoration
 - Assessment costs

- ❑ Alcoa NRD claim - 2013 settlement
 - \$8.3 M for ecological restoration projects
 - \$1.8 M for fishing/boating access
 - \$8.4 for cultural restoration projects
 - Assessment costs

- ❑ Release of Restoration Determination and Compensation Plan (RCDP) for public comment

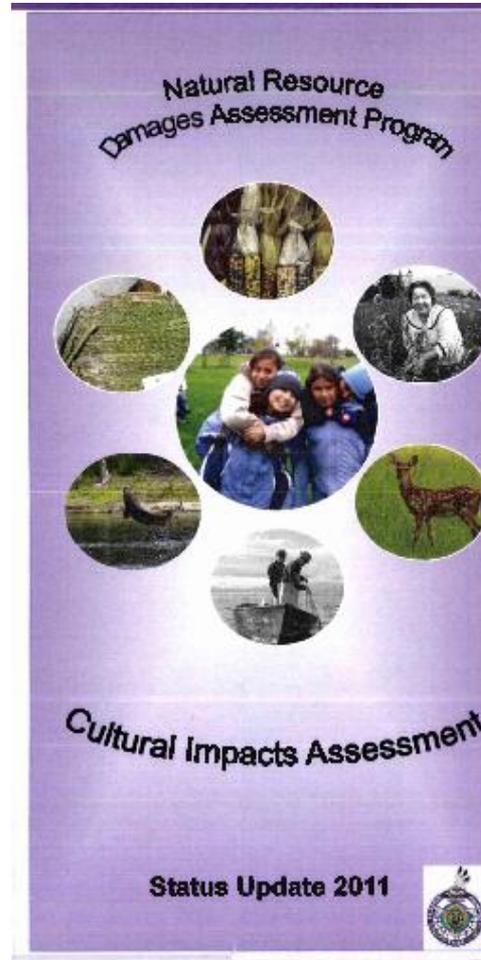
- ❑ Restoration Planning, Implementation and Monitoring

Restoration Planning

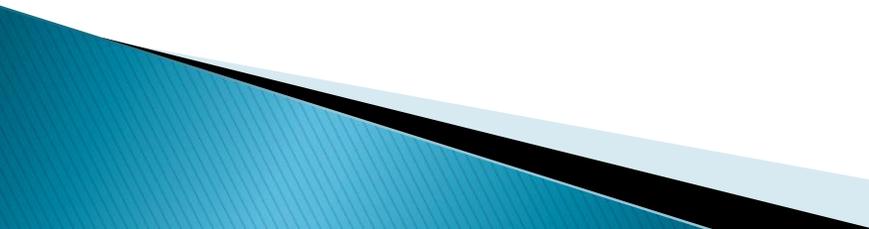
- ▶ Press release and letters sent to potentially interested individuals, agencies, organizations in 2006

RESTORATION SUGGESTION FORM ST. LAWRENCE ENVIRONMENTAL NATURAL RESOURCE DAMAGE ASSESSMENT	
<p>Instructions: Please complete as many sections as possible. Your suggestion will still be considered even if you are unable to fill out every section. If you need more space, please use additional paper and label appropriate sections. This form will also be available on the web at: http://www.stlawenv.org. Send completed forms to: Jan Thompson, St. Lawrence National Environmental Council, 410 South Hill St., Avelikville, NY 13603. Phone: 518-338-0837. Fax: 518-338-6212. jan_thompson@stlawenv.org</p> <p>Deadline: October 26, 2008</p>	
Your Name:	Street Address:
City, State, Zip:	Phone and Email:
<p>Project Description: Please describe the restoration project.</p>	
<p>Project goals: Briefly describe the purpose of the restoration project and explain how the project would address injured resources and/or losses to the public.</p>	
<p>Project goals, continued: Will the restoration project accomplish any of the following (check all that apply):</p> <p><input type="checkbox"/> Enhance fish habitat and/or fish species (e.g., dam removal, fish passage, stocking, spawning habitat, stream improvements)</p> <p><input type="checkbox"/> Enhance avian resources (e.g., nesting enhancement, species protection, habitat enhancement or protection)</p> <p><input type="checkbox"/> Enhance, restore, and protect wetland habitat</p> <p><input type="checkbox"/> Enhance riparian and estuarine</p> <p><input type="checkbox"/> Enhance benthic and benthic habitat (e.g., freshwater mussels)</p> <p><input type="checkbox"/> Provide invasive species control</p> <p><input type="checkbox"/> Enhance or protect rare, threatened and endangered species or species of special concern</p> <p><input type="checkbox"/> Enhance or restore terrestrial, aquatic, and/or semi-aquatic mammals</p> <p><input type="checkbox"/> Provide new or enhance existing recreational/fishing opportunities</p>	

- ▶ St. Regis Mohawk Tribe: Community Advisory Committee, Oral History Project, surveys, radio announcements, Cultural Impacts DVD

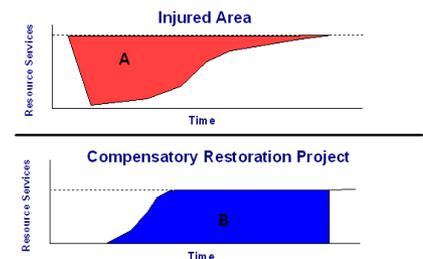
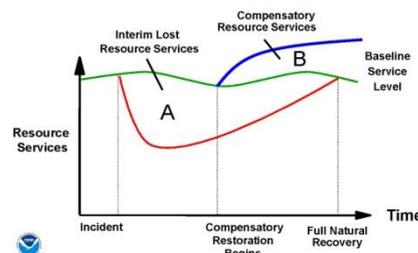


Site-Specific Evaluation Criteria for Restoration Projects

- Location within the St. Lawrence watershed
 - Linkage to injured resources or associated services
 - Proximity to injured resources
 - Habitat connectivity
 - Proximity to lands with protected status
 - Cost effectiveness
 - Potential contamination or other issues that might preclude project selection
 - Benefits to protected species or sensitive or unique habitats
 - Public enjoyment or use of natural resources
 - Likelihood of success
 - Feasibility and sustainability of project
 - Part of larger local or regional restoration plan or vision
- 

Ecological Injury

- ▶ Quantified injury to birds, fish and benthic organisms from PCBs, benthic organisms from PAHs and mammals from fluoride using Habitat Equivalency Analysis (HEA)
 - additional qualitative injury associated with other contaminants
 - toxicity thresholds from the literature
- ▶ Calculated interim (past and future) injury from contaminants
- ▶ Final output for HEA is acre-years of habitat **loss**
- ▶ Restoration projects have nexus to injury
 - selected to provide similar acre-years of habitat **gain**



Challenges to Assessing Ecological Injury

- ▶ Geographical scope
 - ▶ Contaminants of concern
 - ▶ Receptors
 - ▶ Background
 - ▶ Effects thresholds
 - ▶ Service losses over time and space
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Preferred Ecological Restoration

- Wetland Enhancement/Restoration
- Streambank Enhancement/Restoration
- Upland Enhancement/Restoration
- Avian Enhancement/Restoration
- Fisheries Enhancement/Restoration
- Amphibian and Reptile Enhancement/Restoration
- Mammal Enhancement/Restoration
- Land Conservation



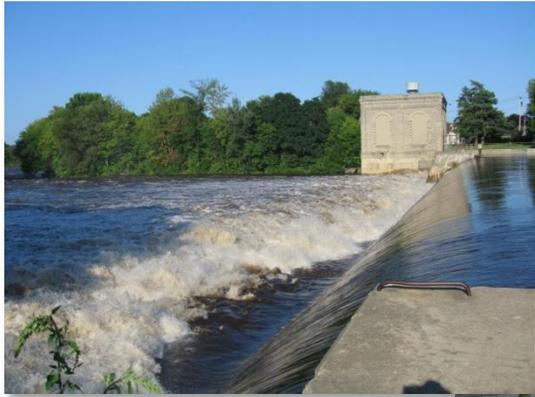
Ecological Restoration Project Examples



Coles Creek Blandings Turtle
Habitat Acquisition and
Restoration

Dickerson Island/Murphy Islands
Predator Control, Revegetation

Ecological Restoration Project Examples



Fish Passage - Hogansburg & Madrid Dams/Little Sucker Brook

Habitat Acquisition - Snye Marsh (RAMSAR) and Wilson Hill

Ecological Restoration Project Examples



Habitat restoration and stocking of lake sturgeon, Atlantic salmon, northern pike



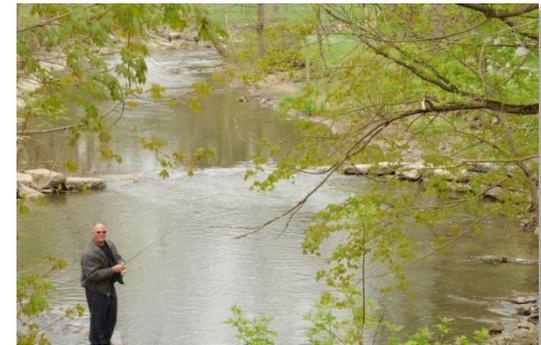
Native warm season grassland restoration



Riparian buffers

Human Use Recreational Losses

- ▶ Fish consumption advisories for PCBs exist for the Grasse River, and St. Lawrence River
- ▶ Used data from “RTI/TER St. Lawrence Area Outdoor Recreation Survey, 1991”
- ▶ Random Utility Model used to estimate loss to recreational fishing
 - calculated “lost” fishing trips between 1981 and 2030
- ▶ Restoration projects sought to replace lost recreational opportunities: shoreline fishing and boat access



Challenges to Assessing Recreational Fishing Injury

- ▶ Source data was planned and gathered without Trustee input.
 - ▶ Random Utility Models are less transparent than HEAs - challenging for most of the group.
 - ▶ Output in trips; damages also expressed in dollars.
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Fishing/Boating Access Restoration Projects Evaluated

Boat and Shoreline Access

- ❑ St. Lawrence River
 - Upstream of Moses Saunders Dam
- ❑ Grasse River
 - Upstream of Massena
 - Lower Grasse post-remediation
- ❑ Raquette River
 - Mid - River
 - Lower River

Fishing/Boating Access Projects Preferred

Boat Canoe Shore Parking Upgrade New

	Boat	Canoe	Shore	Parking	Upgrade	New
Mid-Raquette River Boat Launch	✓	✓	✓	✓	✓	
Lower Grasse River Boat Launch	✓	✓	✓	✓		✓
Lower Raquette River Canoe Launch		✓	✓	✓		✓
Upper Grasse River Boat Launch	✓	✓	✓	✓	✓	
Middle Grasse River Boat Launch	✓	✓	✓	✓		✓

Fishing/Boating Access Projects Preferred



Mid-Raquette River
Launch



Lower Raquette River
Launch



Upper Grasse River
Launch

Cultural Injury



- ▶ Impact on uses of natural resources for cultural purposes
- ▶ Community driven approach
- ▶ Interviews with elders and others to understand sense of cultural loss and identify compensatory restoration projects
- ▶ Professional Anthropologist - Cultural Restoration Plan

Cultural Services Restoration Goals

- ▶ Seek to promote the restoration of land-based cultural practices and traditional economic activities within the community and preservation of the Mohawk language
- ▶ Four areas of traditional cultural practice
 - Water, fishing, use of the river
 - Medicine plants and healing
 - Hunting and trapping
 - Horticulture and basket-making

Challenges to Assessing Cultural Injury

- Culture as practice
- Different world views of all parties
- Isolate the effects of contamination from other influences on culture
- Community-based research approach - *control of research given to Tribe*

Ultimate Goal: *Restore ecosystems to full function (ecosystems include the people)*

Cultural Restoration Projects Evaluated

- ❑ Apprenticeship Program
 - ❑ Funding Various Tribal Cultural Institutions
 - ❑ Access to Resources: Land Acquisition
 - ❑ Promotion of Mohawk Language
- 

Cultural Restoration Projects



Master Apprentice
Program

Youth Programs

Cultural Restoration Projects



Promote traditional use
of natural resources

Next Steps

- ❑ Restoration Planning, Feasibility and Design
- ❑ Project Implementation
 - Ecological (Trustees)
 - Fishing/Boating Access (Alcoa)
 - Cultural (SRMT)
- ❑ Monitoring
- ❑ On-going Outreach

Outreach Materials

- ❑ Websites (see next slide)
- ❑ GM and Alcoa Consent Decrees
- ❑ RCDP
- ❑ Powerpoint Presentation
- ❑ Fact Sheets
 - General NRDA
 - Restoration
 - Ecological Restoration
 - Fishing/Boating Access Restoration
 - Cultural Restoration

Hard copies of the RCDP can be reviewed at locations in Akwesasne and Massena.

- ❑ Akwesasne Library and Cultural Center, 321 State Route 37, Akwesasne, NY 13655, (518)-358-2240;
 - ❑ St. Regis Mohawk Tribe Environment Division, 449 Frogtown Road, Akwesasne, NY 13655, By Appointment: (518) 358-5937;
 - ❑ St. Regis Mohawk Tribe Community Building, 412 State Route 37, Hogansburg, NY 13655, (518)- -358-2272; and
 - ❑ Massena Public Library, 41 Glenn Street, Massena, NY 13662, (315)-769-9914
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Electronic copies can be downloaded from the trustee websites:

- ❑ NOAA: <http://www.darrp.noaa.gov/northeast/lawrence/index.html>
(click on Case Documents)
- ❑ SRMT: http://www.srmtenv.org/index.php?spec=nrda_main
- ❑ USFWS: <http://www.fws.gov/northeast/nyfo/ec/stlaw.htm>

Written comments should be sent to:

Lisa Rosman c/o NOAA
Assessment and Restoration Division
290 Broadway, 20th Floor
New York, NY 10007



Summary

- ▶ Evaluated and quantified effects of contaminants on natural resources and the services they provide
- ▶ Developed restoration projects to compensate for impacts to natural resources/services
- ▶ Cooperative process was successful
- ▶ **For more info and copies of documents:**
 - ▶ http://www.srmtenv.org/index.php?spec=nrda_main
 - ▶ <http://www.fws.gov/northeast/nyfo/ec/stlaw.htm>
 - ▶ <http://www.darrp.noaa.gov/northeast/lawrence/index.html>
 - ▶ <http://www.dec.ny.gov>