Natural Resource Damage Assessment
Past, Present, and Future Trends

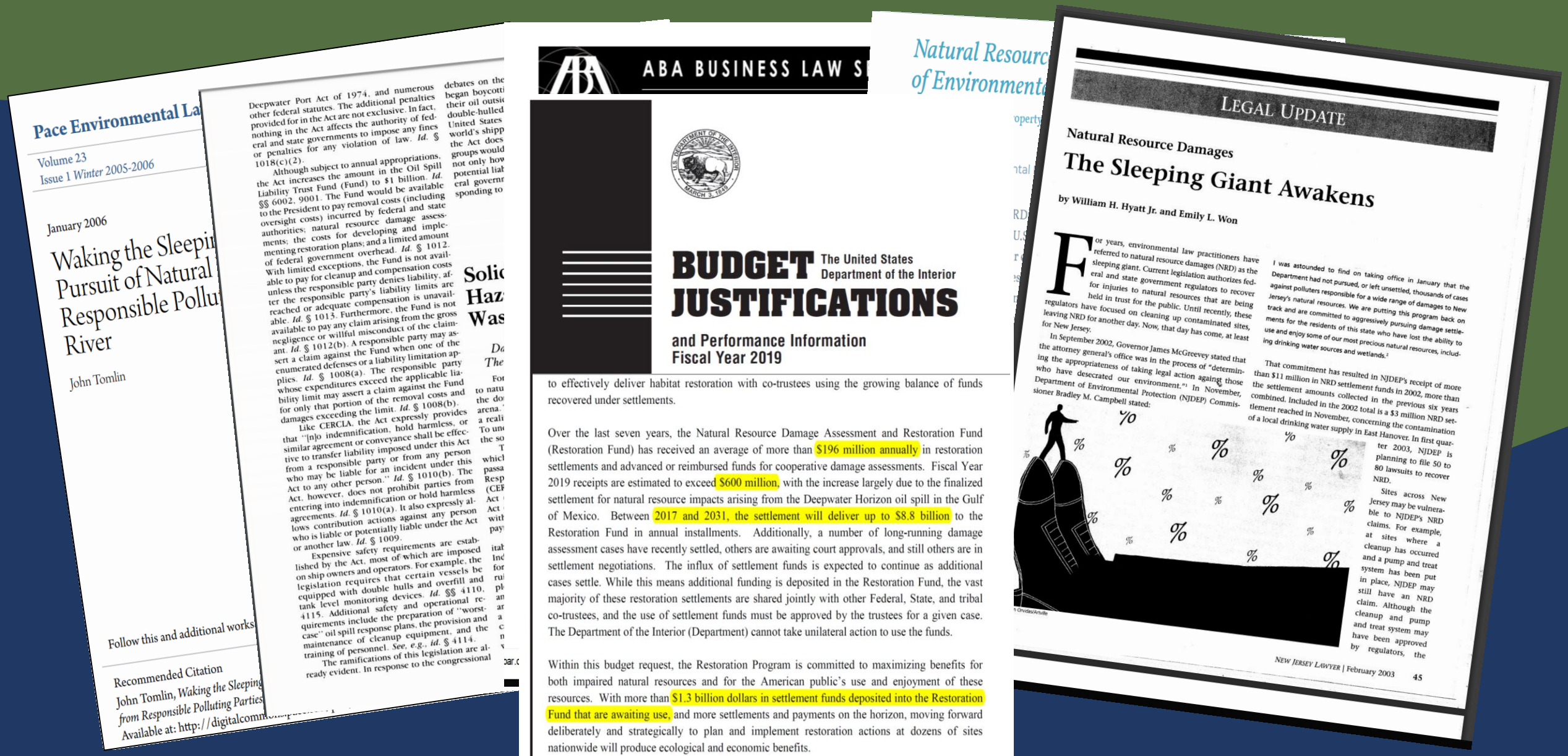
EcoAnalysts, Inc.

Natural Resource Damage Assessment

Presented By: EcoAnalysts, Inc.

January 23, 2019

Natural Resource Damage Assessment



Pace Environmental La

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Waking the Sleepi
Pursuit of Natural
Responsible Pollu
River

John Tomlin

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Deepwater Port Act of 1974, and numerous other federal statutes. The additional penalties provided for in the Act are not exclusive. In fact, nothing in the Act affects the authority of federal and state governments to impose any fines or penalties for any violation of law. *Id.* § 1018(c)(2).

Although subject to annual appropriations, the Act increases the amount in the Oil Spill Liability Trust Fund (Fund) to $1 billion. *Id.* §§ 6002, 9001. The Fund would be available to the President to pay removal costs (including oversight costs) incurred by federal and state authorities; natural resource damage assessments; the costs for developing and implementing restoration plans; and a limited amount of federal government overhead. *Id.* § 1012. With limited exceptions, the Fund is not available to pay for cleanup and compensation costs unless the responsible party denies liability, after the responsible party's liability limits are reached or adequate compensation is unavailable. *Id.* § 1013. Furthermore, the Fund is not available to pay any claim arising from the gross negligence or willful misconduct of the claimant. *Id.* § 1012(b). A responsible party may assert a claim against the Fund when one of the enumerated defenses or a liability limitation applies. *Id.* § 1008(a). The responsible party whose expenditures exceed the applicable liability limit may assert a claim against the Fund for only that portion of the removal costs and damages exceeding the limit. *Id.* § 1008(b).

Like CERCLA, the Act expressly provides that "[n]o indemnification, hold harmless, or similar agreement or conveyance shall be effective to transfer liability imposed under this Act from a responsible party or from any person who may be liable for an incident under this Act to any other person." *Id.* § 1010(b). The Act, however, does not prohibit parties from entering into indemnification or hold harmless agreements. *Id.* § 1010(a). It also expressly allows contribution actions against any person who is liable or potentially liable under the Act or another law. *Id.* § 1009.

Expensive safety requirements are established by the Act, most of which are imposed on ship owners and operators. For example, the legislation requires that certain vessels be equipped with double hulls and overfill and tank level monitoring devices. *Id.* §§ 4110, 4115. Additional safety and operational requirements include the preparation of "worst-case" oil spill response plans, the provision and maintenance of cleanup equipment, and the training of personnel. *See, e.g., id.* § 4114.

The ramifications of this legislation are already evident. In response to the congressional

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U.S. DEPARTMENT OF THE INTERIOR MARCH 3, 1849

BUDGET JUSTIFICATIONS

The United States Department of the Interior

and Performance Information
Fiscal Year 2019

to effectively deliver habitat restoration with co-trustees using the growing balance of funds recovered under settlements.

Over the last seven years, the Natural Resource Damage Assessment and Restoration Fund (Restoration Fund) has received an average of more than $196 million annually in restoration settlements and advanced or reimbursed funds for cooperative damage assessments. Fiscal Year 2019 receipts are estimated to exceed $600 million, with the increase largely due to the finalized settlement for natural resource impacts arising from the Deepwater Horizon oil spill in the Gulf of Mexico. Between 2017 and 2031, the settlement will deliver up to $8.8 billion to the Restoration Fund in annual installments. Additionally, a number of long-running damage assessment cases have recently settled, others are awaiting court approvals, and still others are in settlement negotiations. The influx of settlement funds is expected to continue as additional cases settle. While this means additional funding is deposited in the Restoration Fund, the vast majority of these restoration settlements are shared jointly with other Federal, State, and tribal co-trustees, and the use of settlement funds must be approved by the trustees for a given case. The Department of the Interior (Department) cannot take unilateral action to use the funds.

Within this budget request, the Restoration Program is committed to maximizing benefits for both impaired natural resources and for the American public's use and enjoyment of these resources. With more than $1.3 billion dollars in settlement funds deposited into the Restoration Fund that are awaiting use, and more settlements and payments on the horizon, moving forward deliberately and strategically to plan and implement restoration actions at dozens of sites nationwide will produce ecological and economic benefits.

Natural Resourc
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LEGAL UPDATE

Natural Resource Damages

The Sleeping Giant Awakens

by William H. Hyatt Jr. and Emily L. Won

For years, environmental law practitioners have referred to natural resource damages (NRD) as the sleeping giant. Current legislation authorizes federal and state government regulators to recover for injuries to natural resources that are being held in trust for the public. Until recently, these regulators have focused on cleaning up contaminated sites, leaving NRD for another day. Now, that day has come, at least for New Jersey.

In September 2002, Governor James McGreevey stated that the attorney general's office was in the process of "determining the appropriateness of taking legal action against those who have desecrated our environment."[1] In November, Department of Environmental Protection (NJDEP) Commissioner Bradley M. Campbell stated:

I was astounded to find on taking office in January that the Department had not pursued, or left unsettled, thousands of cases against polluters responsible for a wide range of damages to New Jersey's natural resources. We are putting this program back on track and are committed to aggressively pursuing damage settlements for the residents of this state who have lost the ability to use and enjoy some of our most precious natural resources, including drinking water sources and wetlands.[2]

That commitment has resulted in NJDEP's receipt of more than $11 million in NRD settlement funds in 2002, more than the settlement amounts collected in the previous six years combined. Included in the 2002 total is a $3 million NRD settlement reached in November, concerning the contamination of a local drinking water supply in East Hanover. In first quarter 2003, NJDEP is planning to file 50 to 80 lawsuits to recover NRD.

Sites across New Jersey may be vulnerable to NJDEP's NRD claims. For example, at sites where a cleanup has occurred and a pump and treat system has been put in place, NJDEP may still have an NRD claim. Although the cleanup and pump and treat system may have been approved by regulators, the

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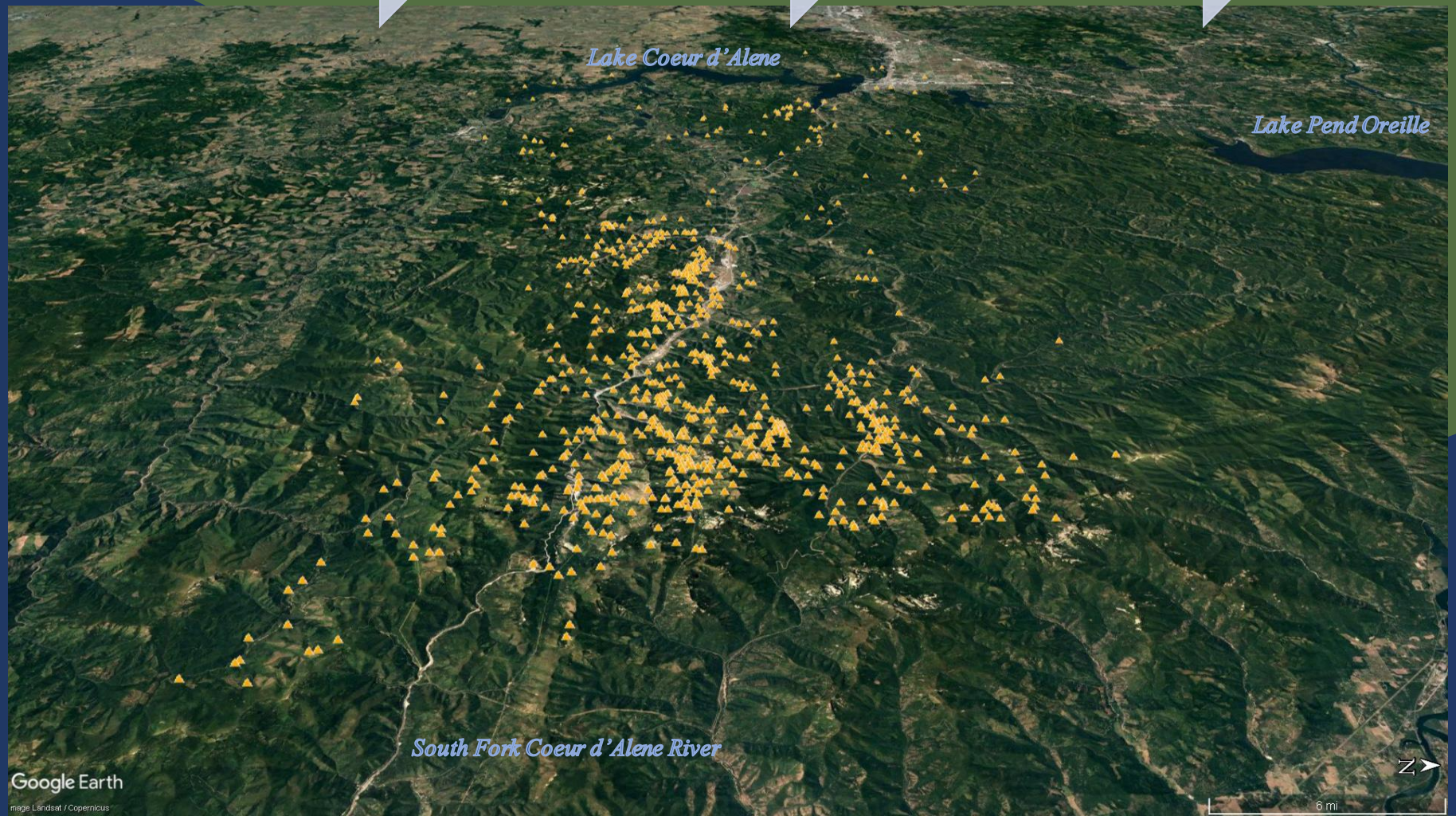
1983
- First site listed on National Priority List
- State of Idaho initiates civil action against mine operators

1991
- Coeur d'Alene Tribe begins NRDAR process
- Later joined by US DOI and State of Idaho

1993
- Phase I Injury Determination Plan

2000
- Phase II Injury Quantification and Damage Determination Assessment Plan

2018
- Final Restoration Plan
- Pilot restoration projects selected



Natural Resource Damage Assessment

Fundamentals – Legal Authority

CERCLA, OPA (the Oil Pollution Act), the Clean Water Act, and Park System Resource Act all authorize claims for damages to natural resources. CERCLA, 42 USC § 9607(a) (4) (C)(1); OPA, 42 USC § 9651(c) (1); CWA § 33 USC 1321(f) (5); Park Act, 16 USC § 19 JJ.

Natural Resource Damage Assessment

Fundamentals – Legal Authority

Under CERCLA, a responsible party is liable for remediation costs and "…damages for injury to, destruction of, or loss of natural resources, including the reasonable costs of assessing such injury, destruction, or loss resulting from such a release…." 42 USC § 9607(a)(4)(C).

Natural Resource Damage Assessment

Fundamentals – Legal Authority

The Governor is Idaho's natural resources trustee, although he or she does delegate trustee authority to other state officers on a case-by-case basis. For instance, the Governor has March 1, 2018 delegated trustee authority to the Directors of the Departments of Fish and Game and Environmental Quality regarding the Bunker Hill Mining Superfund Site.

Idaho has no dedicated NRD office, but it does have staff within the Departments of Fish and Game and Environmental Quality who focus on the issue. Idaho began pursuing NRD claims with respect to mining sites in 1983. Since then, Idaho has settled a total of five NRD cases, with restoration work in two cases, Blackbird Mine and Bunker Hill, ongoing.

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Fundamentals – Purpose

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.

Natural Resource Damage Assessment

Fundamentals – Structure

EPA CLEANUP

- Reduce or eliminate present and future threats to human health and/or the environment from release of a hazardous substance
- Often focused on substance
- Cleanups do not make up for injuries to Natural Resources

NRD

- Asses past, present, and future injuries from a hazardous substance
- Determine restoration costs and collect damages
- May Include Restoration

Natural Resource Damage Assessment

How much restoration is needed?

HEA - Equation

"Debit: PDV Loss" "Credit: PDV Gain"

$$\sum_{t=t_0}^{t_l} L_t (1+i)^{(P-t)} = \sum_{S=S_0}^{s_l} R_s (1+i)^{(P-s)}$$

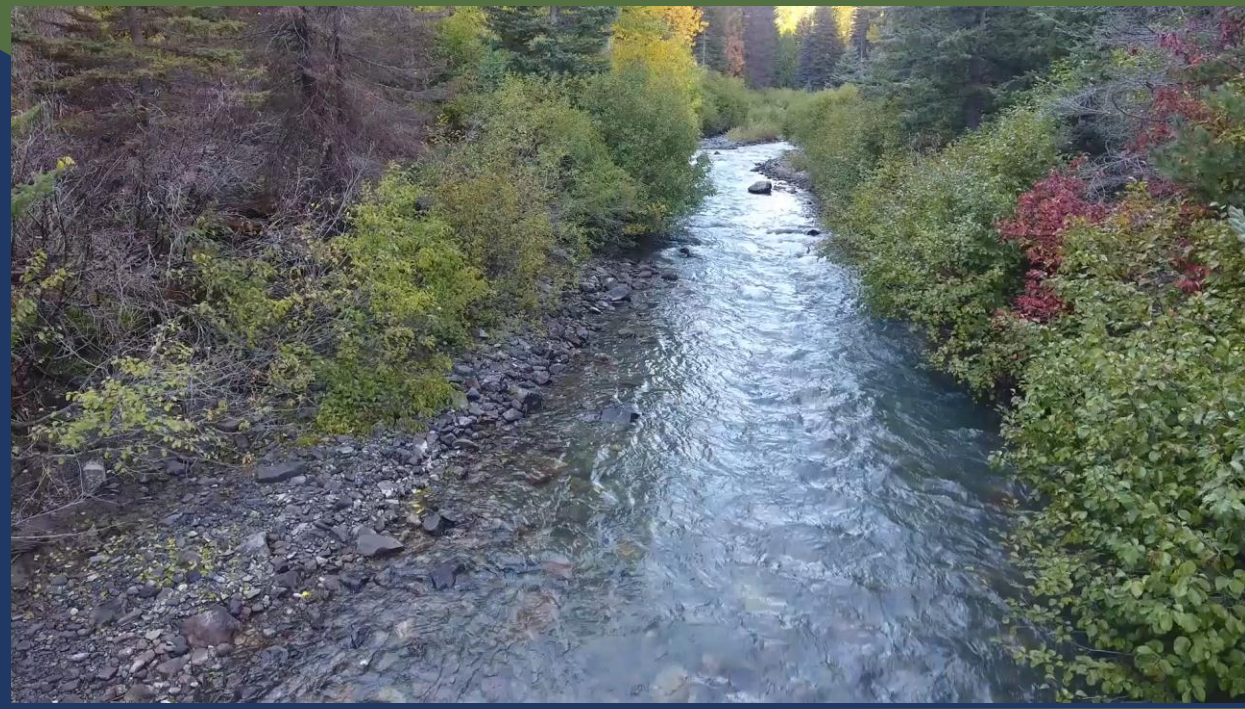
where:

L_t = lost services at time t
R_s = replacement services at time s
t_0 = time when lost services are first suffered
t_l = time when lost services are last suffered
s_0 = time when replacement services are first provided
s_l = time when replacement services are last provided
P = present time when the natural resource damage claim is presented
i = periodic discount rate.

HEA – Habitat Equivalency Analyses

REA – Resource Equivalency Analyses

Other Specific Injuries (monetizing lost value of goods; Lost social metrics)



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Fundamentals – Purpose

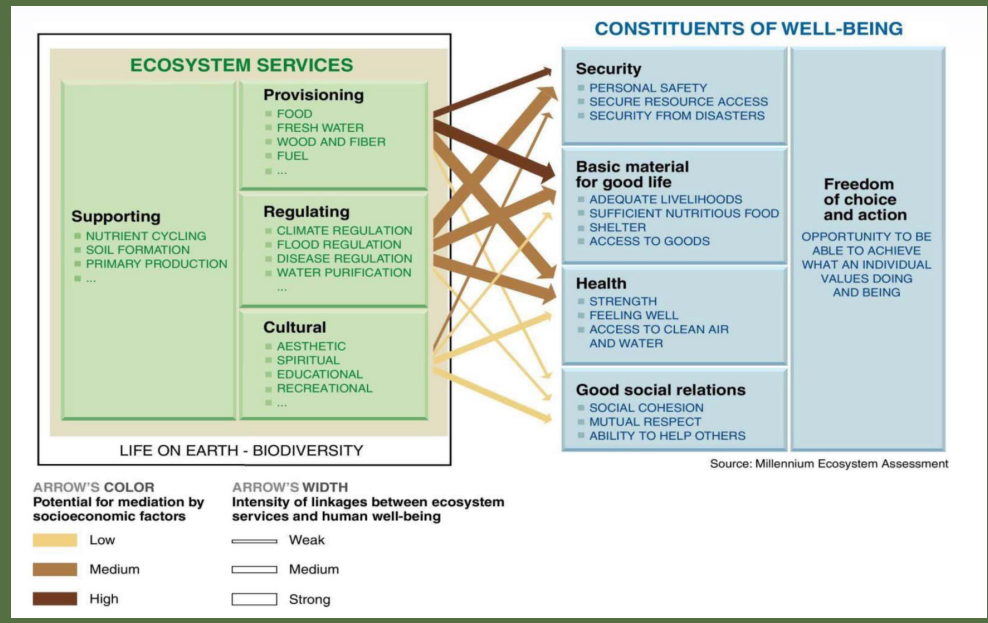
D S A Y

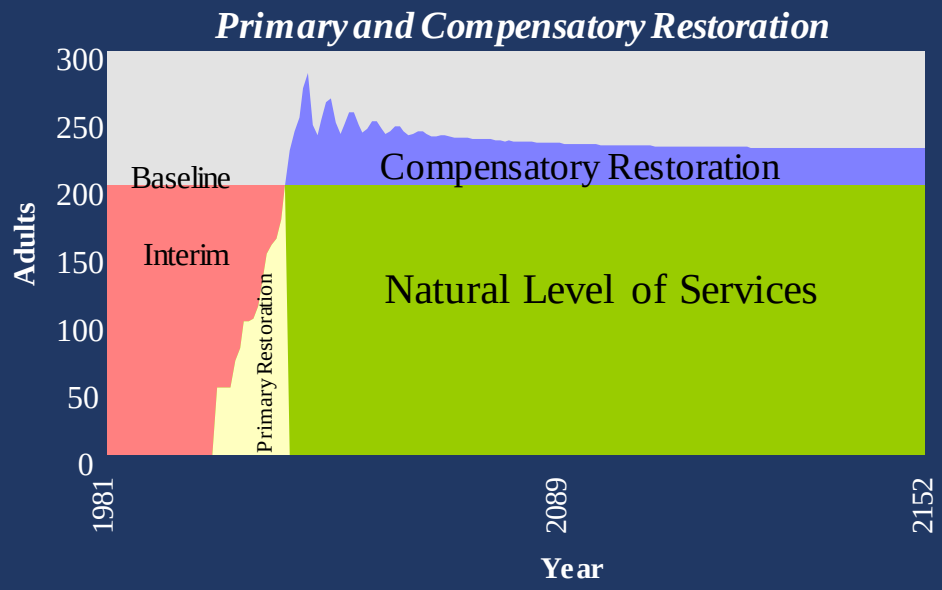
Discount

Service

Acres

Years





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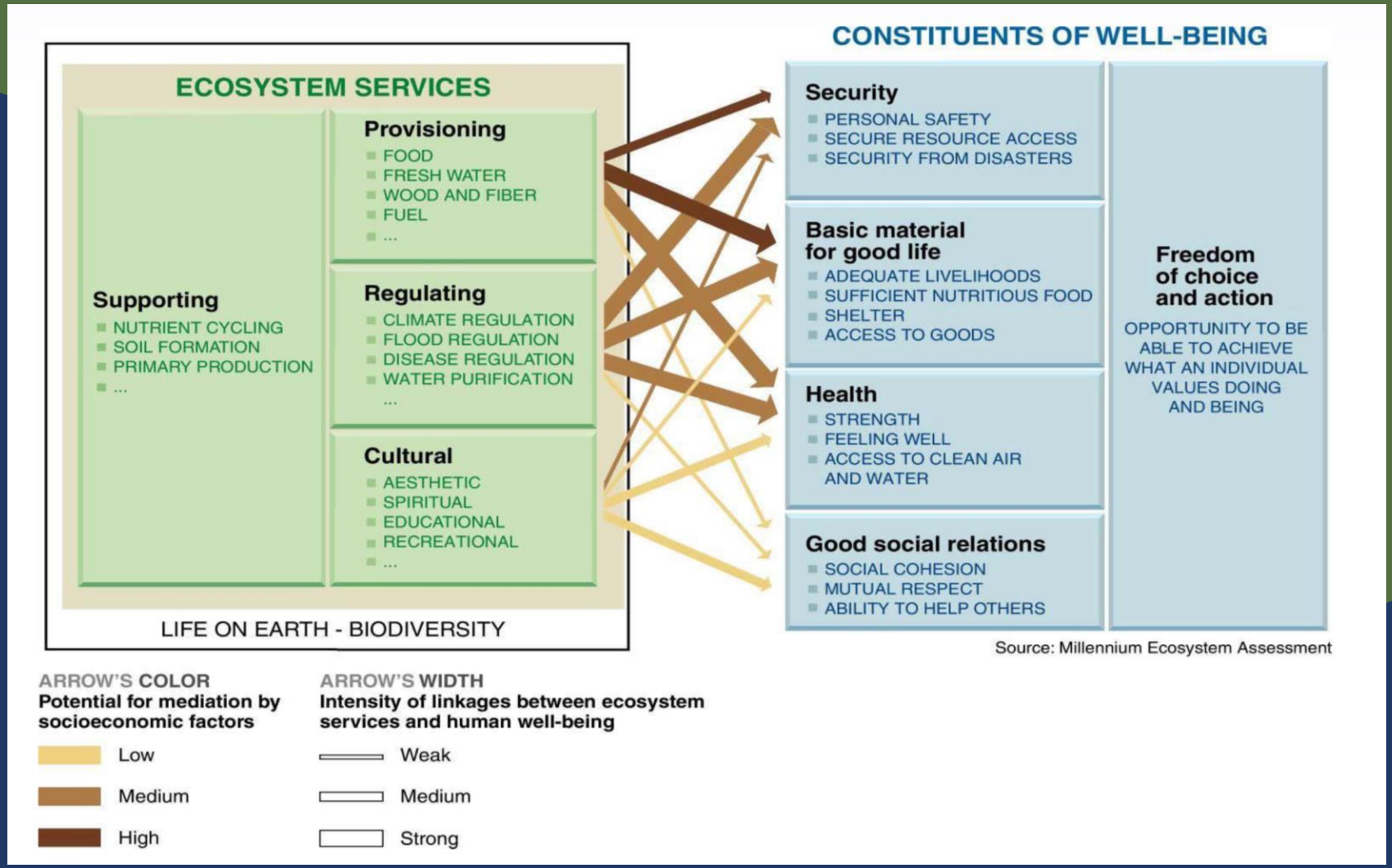
Ecosystem Services



Source: Millennium Ecosystem Assessment

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Valuing a DSAY

Value may be determined by:

- Use Value
  - consumptible value such as lost resource uses by sportsmen
  - non-consumptive uses such as photographers or bird watchers

- Non-Use Value
  - Existence values that reflect the value of knowing that resource is there
  - Bequest values as a legacy to pass on

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Valuing a DSAY

Value may be determined by the cost of the restoration (including design, management, monitoring)

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Past Lessons Learned

Natural Resource Damage Assessment

Past Lessons Learned

•Bayou near refinery which discharged to Bayou from 1920 to 1984

- 1992 Investigation showed high levels of lead, chromium, zinc, polycyclic aromatic hydrocarbons

- Until 2000 there was:
  - Threat of litigation
  - Data concealed
  - Public not involved
  - Trustees not involved

- In 2002, companies, State and Federal agencies had a canoe trip and picnic on the levee where discussion began about desired end results for cleanup and restoration

- Parties agreed to work together

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Past Lessons Learned

- Parties agreed to use reasonable estimates of injury and expedited methods of assessment
- Cleanup and restoration was planned in one process
- 2003
  - Legal agreements reached
  - Cleanup construction began
- 2004
  - Draft restoration plan became available
- 2005
  - Cleanup construction completed

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Lessons Learned

The Reasonably Conservative Approach to Natural Resource Damage Assessment

"… it is sometimes better to make reasonable, conservative estimates of natural resource injuries/losses using information obtained for other purposes than to spend additional time and money on injury assessment studies."

Natural Resource Damage Assessment

Lessons Learned

High levels of heavy metals such as copper, cobalt and arsenic are present in surface waters and/or sediments up to 25 miles downstream of the mine

Copper concentrations at some sites are over 100 times chronic AWQC

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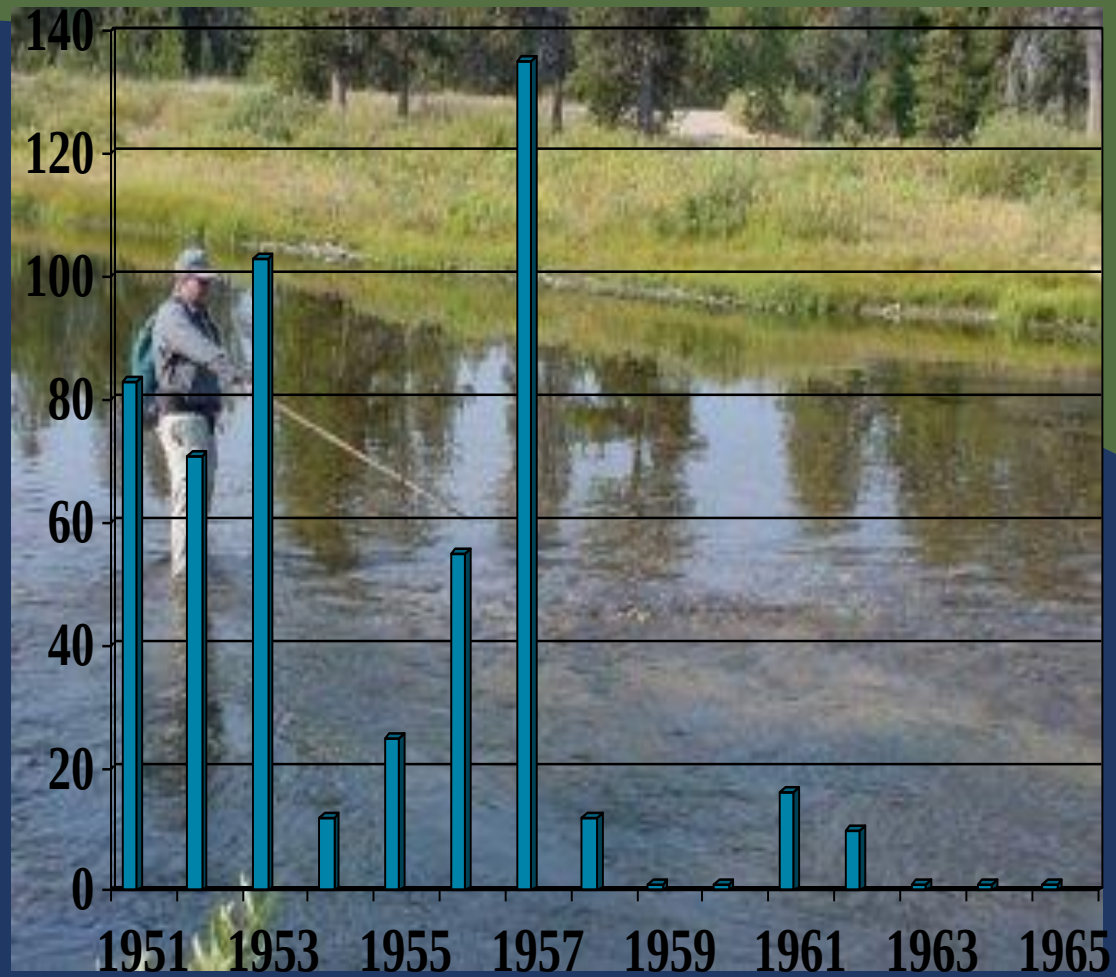
Lessons Learned



Panther Creek Redd Count

Contaminated discharge from the mine site directly affects habitat

Anadromous fish species eliminated from the drainage

Resident trout populations depressed

Streambed fauna biomass and species complexity reduced

Natural Resource Damage Assessment

Lessons Learned

- Evaluated benefits of restoration actions through fish population models
- Cattle impacts on riparian habitat and stream sedimentation a major problem
- Results:
  - Fence riparian corridor along Panther Creek
  - Fence 10.5 miles of riparian corridor on other salmon-producing streams in watershed
  - Stream bank modification, riparian and floodplain planting in Panther Creek

Natural Resource Damage Assessment

Lessons Learned

Takeaway

Both Primary and Compensatory Restoration was straight forward, did not need to be valued for settlement.

Injury was directly mitigated alongside habitat enhancement to restore injured resources which were:

- Measurable
- Attainable
- Reasonable

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Current Efforts

Upper Columbia River

2012 - Injury Assessment

- **Tribal Services**
- **Recreational Fishing**
- **Surface Water Resources**
- **Groundwater Resources**
- **Geological Resources**
- **Air Resources**
- **Biological Resources**

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Current Efforts

The Reasonably Conservative Approach to Natural Resource Damage Assessment

"… it is sometimes better to make reasonable, conservative estimates of natural resource injuries/losses using information obtained for other purposes than to spend additional time and money on injury assessment studies."

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Future

All practitioners recognize the need to accelerate the process.

- **Applicability of a Screening Approach**
- **Defining Default Services**
- **Default Valuations for specific habitat types**


DOI's Office of Restoration and Damage Assessment opens 60-day Public Comment Period on Advanced Notice of Proposed Rulemaking

08/27/2018 - 17:44

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Future

Examine Parallels Between CERCLA Remedy Process An How It Has Evolved To See The Future Of NRD Approaches:

- **Like risk based screening, methods will be modified to streamline the process over the next 5 years. Such methods will prove of limited use to only the simplest of sites.**

- **Like exposure factors that feed into a risk based cleanup, we will likely see a standardization of the Ecosystem Services and their values over the next 5 years. These standardized characterizations will become the state of the practice with parties choosing to challenge them on a site by site basis.**

- **Look for a greater push to coordinate the remediation and the restoration as one activity where site impacts can be restored.**

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Future

Examine The Parallels Between The Wetland Restoration Process (Clean Water Act) and the CERCLA NRD Process

- **Restoration Banking**

- **Other criteria are likely to come into play as we gain more restoration experience**
  - **Likelihood of success becomes a cost factor**
  - **Empowerment of local resource professionals**
  - **Selection of restorations that are more likely to be successful**

- **Moving the restoration to part of the initial process, rather than after the Record of Decision**

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Summary

- EcoAnalysts is excited to be a part of what is likely to be a significant contribution to our Ecosystems.

- We try to bring parties together early and encourage everyone understand the injury and the potential
  mitigation options

- Resource options analyses that is creative, and applies state of the art thinking is often quite useful. It is quite common that parties can not agree on issues such as toxicity/injury, the value of resources; the timing of restorations; however, parties can agree and get behind the right restoration projects and having the right restoration project(s) can focus the team to a positive, efficient restoration of public resources.

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Summary

Thank You

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