

Evaluating Environmental Conflict Resolution Using the Systematic Evaluation of Environmental and Economic Results (SEER)

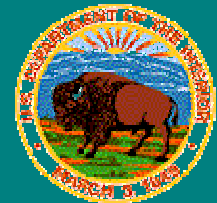
**Developing Common Vocabulary & Methods for
Evaluating Collaborative Action**

**Environmental Evaluator's Networking Forum
June 14, 2007**



U.S. Environmental Protection Agency
Conflict Prevention and Resolution Center

U.S. Department of Interior
Office of Collaborative Action and Dispute Resolution



Topics

- Environmental conflict resolution and evaluation
- Introduction to SEEER methodology
- Highlights of SEEER findings to date
- Conclusions and next steps

What is Environmental Conflict Resolution?

- Third-party assisted conflict resolution and collaborative problem solving in the context of environmental, public lands, or natural resources issues or conflicts, including matters related to energy, transportation, and land use
- ECR is a misnomer to some extent - Parties do not necessarily perceive conflict in choosing to participate in ECR
- ECR = environmental ADR (alternative dispute resolution)
- Whether ECR = collaboration depends on the definition of “collaboration”

ECR Case Examples

(also part of SEEER project)

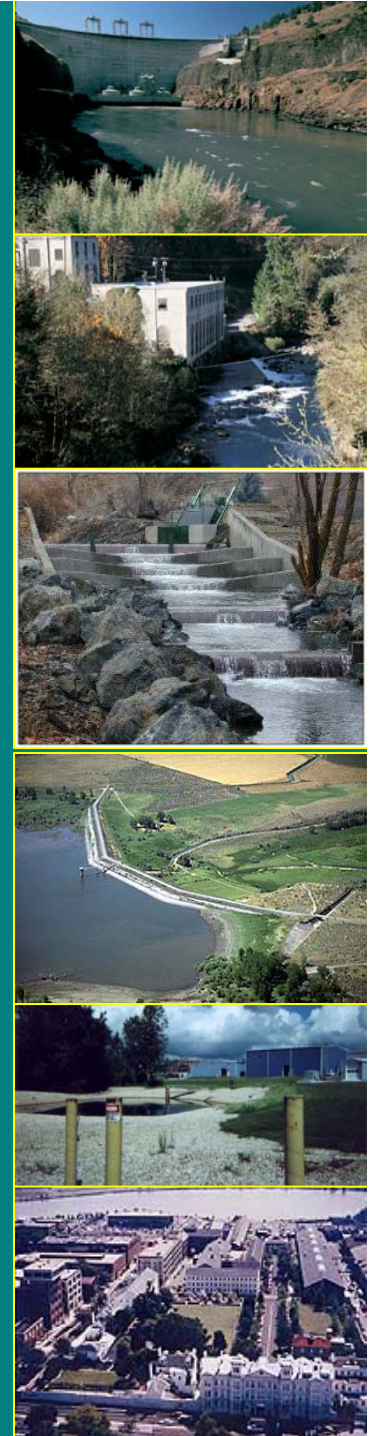
Oregon Cases

- Fish Passage Task Force (Policy)
- Marmot Bull Run Dam De-commissioning
- Pelton Round Butte Hydro Re-Licensing
- Mid Columbia Habitat Conservation Plan
- Umatilla Basin Water Exchange
- Indian Ford Creek (Land Use / Conservation)

EPA Cases

- Combined Sewer Overflow Control Policy
- General Electric Pittsfield Superfund Site
- Philadelphia Prisons Enforcement
- Washington Navy Yard Permitting
- Washington Aqueduct Permitting

SEEER



Evaluating ECR

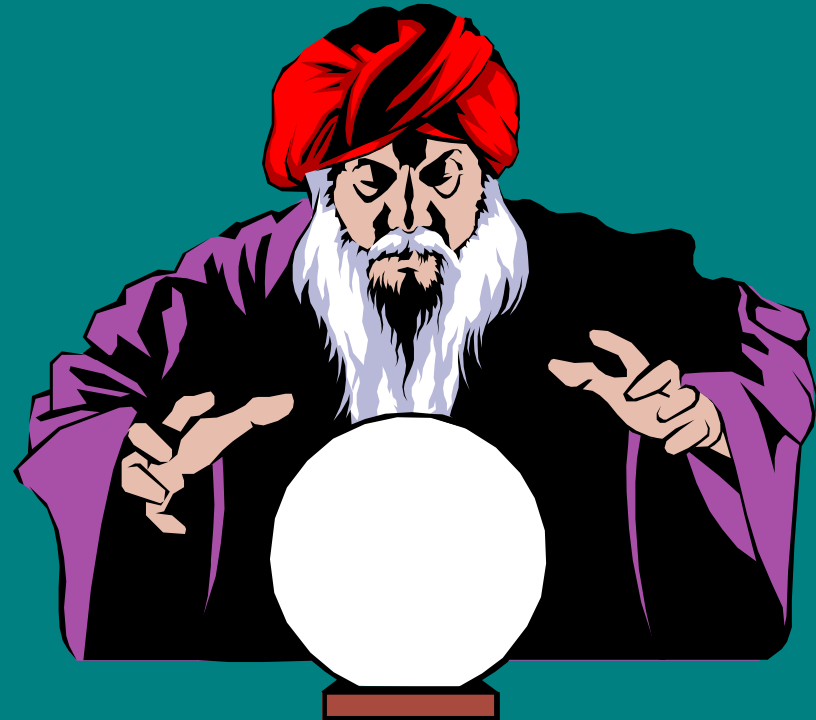
- Why?
 - Federal mandates, including:
 - Government Performance and Results Act
 - OMB Program Assessment and Rating Tool
 - OMB/CEQ ECR policy memorandum
 - Potential users require evidence that ECR is an effective alternative
 - Short-term - comparing cost-effectiveness of processes
 - Long-term - comparing ultimate outcomes
 - ECR practitioners (and programs) must find ways to demonstrate outcomes that are credible to the people who provide the funding and address their key questions

Evaluating ECR, cont.

- Two evaluation targets for ECR
 - Practice of ECR – how well do we adhere to best practice
 - Results of ECR – what outcomes does ECR provide compared to an alternative
- Two levels of evaluation
 - Individual ECR cases
 - ECR/Client Programs
- Most previous efforts to evaluate ECR have focused on practice and primarily on individual cases

Seer vs. SEEER

- Seer - one who attempts to see the *future*
- SEEER -
Systematic
Evaluation of
Environmental and
Economic Results



SEEER Overview

Performance Evaluation Objectives

Compare ECR to an alternative

Attribute results to ECR and the alternative

Apply to both policy and site-specific decisions

Estimate results over multiple time periods

Provide timely results without longitudinal research

Produce valid and reliable results

Feasible from a resource perspective

Cover a range of environmental and natural resource issues

Scalable from case level to program level

SEEER

- Two approaches to determining the alternative
 - Results attributed to the decision reached through ECR and the alternative (as opposed to either process)
 - Adaptable to both types of cases
 - Uses 10 and 60-year timeframes for environmental effects
- Asks multiple sets of respondents to estimate future effects (similar to expert elicitation)
- Collects data from science experts and ECR participants, statistically checks validity and reliability
- Cost is between \$10K and \$20K per case
- Environmental effects tailored to each type of case
- Application to representative sample of cases provides external validity for ECR and client programs

Prepare Case

Interviews with key parties and technical advisors



Case Summary Including main environmental effects, party information, alternative decision process



Review case documents



Evaluate Effects

Parties & advisors complete same SEEER effects questions



Triangulated judgments of each effect



Expert panel facilitated workshop judge effects using SEEER methods



Test and Confirm

Advisors incorporate other data into judgments about effects



SEEER Evaluation of Environmental Effects



Test internal validity & reliability of party, advisor and panel judgments and against external data

SEEER

SEEER Findings to Date

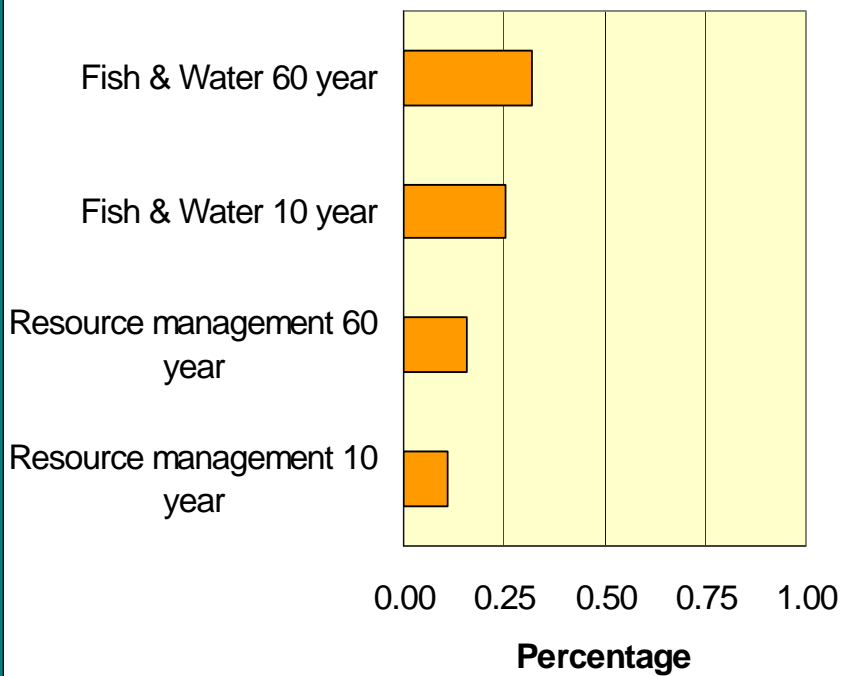
- About the SEEER methodology
 - Results of ECR processes can be estimated despite complexity
 - Parties can provide valid and reliable judgments about the effects of ECR processes
- Effects of Environmental Decisions
 - ECR processes result in positive environmental outcomes
 - ECR processes are effective decision making processes

A Few Caveats

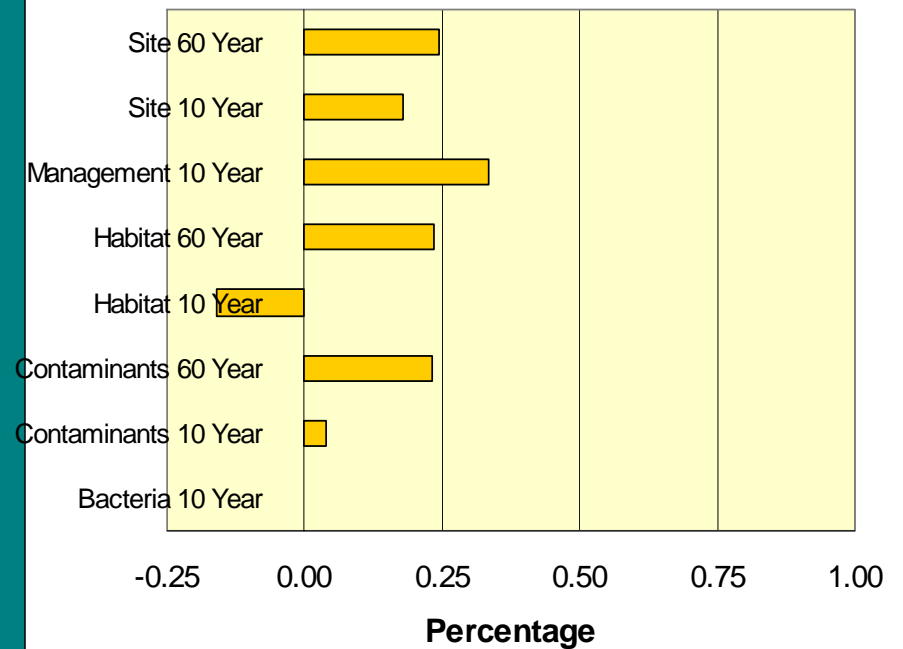
- Judgments of effects are sound for the cases used in the SEEER project to date
- Cases not yet representative of ECR practice
 - Small number of cases to date (9 completed, 3 underway, 13 in early phases)
 - Oregon and first group of EPA cases selected for methodological development utility
 - Potential bias favorable to collaborative processes
- SEEER is still a work in progress

ECR Process Achieved Better Environmental Results

**SCIENCE PANEL JUDGMENTS
OREGON CASES (PELTON, UMATILLA AND MARMOT)**



**EPA CASES
PARTY JUDGMENTS**



Value of Additional Fish From Using ECR Processes

| Species | Per Fish Value Using Benefit Transfer Method | Umatilla | Pelton |
|-----------------|--|------------------------|------------------------|
| | | 1993 – 2014 (\$2004 M) | 2011 – 2021 (\$2004 M) |
| Steelhead Trout | \$72 | \$3.96 | \$1.37 |
| Spring Chinook | \$104 | \$8.32 | \$1.98 |
| Fall Chinook | \$104 | \$12.48 | \$4.47 |
| Coho | \$104 | <u>\$6.24</u> | <u>\$62.9</u> |
| Total | | \$31.00 | \$70.72 |

LESS TIME TO REACH AND IMPLEMENT A DECISION

| | Superfund GE Pittsfield | Permitting Washington Navy Yard | Permitting Washington Aqueduct | Enforcement Philadelphia Prisons |
|--|----------------------------|---------------------------------------|--------------------------------------|--|
| Change in hours per week | -27 | -56 | -41 | 5 |
| Number of weeks over which savings occur | 78 | 13 | 13 | 13 |
| Estimated hours saved per week | -2106 | -728 | -533 | 65 |
| Estimated value of time saved | (\$133,731) | (\$46,228) | (\$33,846) | \$4,128 |

Gains in Environmental Management

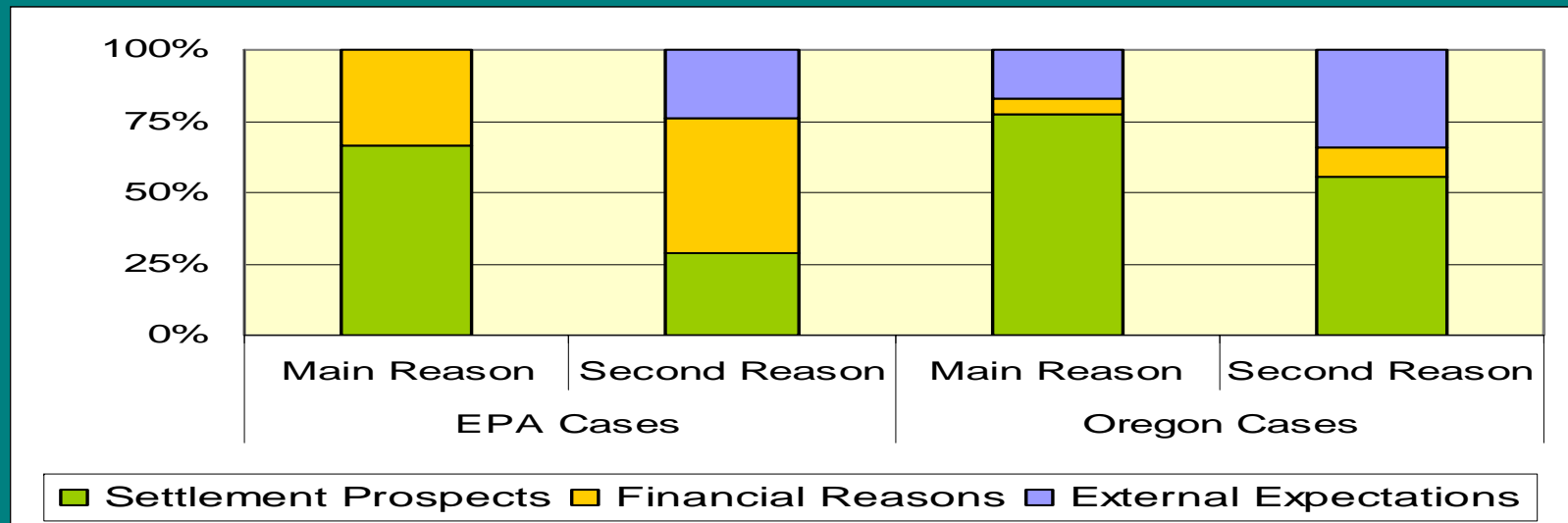
| Effect | Oregon cases 0=totally disagree, 10=totally agree |
|--|---|
| Environmental stewardship more of a priority | 7.09 |
| Better information about environmental conditions | 7.16 |
| Stronger environmental management tools | 6.78 |
| Strengthened focus on actions with the greatest impact | 7.09 |
| Now clear who has management authority on these issues | 6.30 |

- Have now enhanced questions to better match enforcement and permitting settings

Effectiveness

- Lower input costs
 - Savings from reaching agreement sooner = approximately 0.5 to 1.5 PY (\$33,000 to \$134,000 per case on EPA cases)
 - Additional savings in process costs will be included in future effects cases
- Stronger benefits
 - Enhanced environmental effects – about 25% better
 - Gains in environmental management – 35 - 50% better for EPA and Oregon cases respectively
 - Gains in organizational effectiveness through significant improvement in social capital, morale, public image and more harmonious post-agreement relations
 - More durable agreements = less likely to incur significant future expenditures
- Currently obtain most information for summary measures such as Return on Investment
 - Reviewing SEEER to generate RoI or similar measures

Reasons For ECR Process



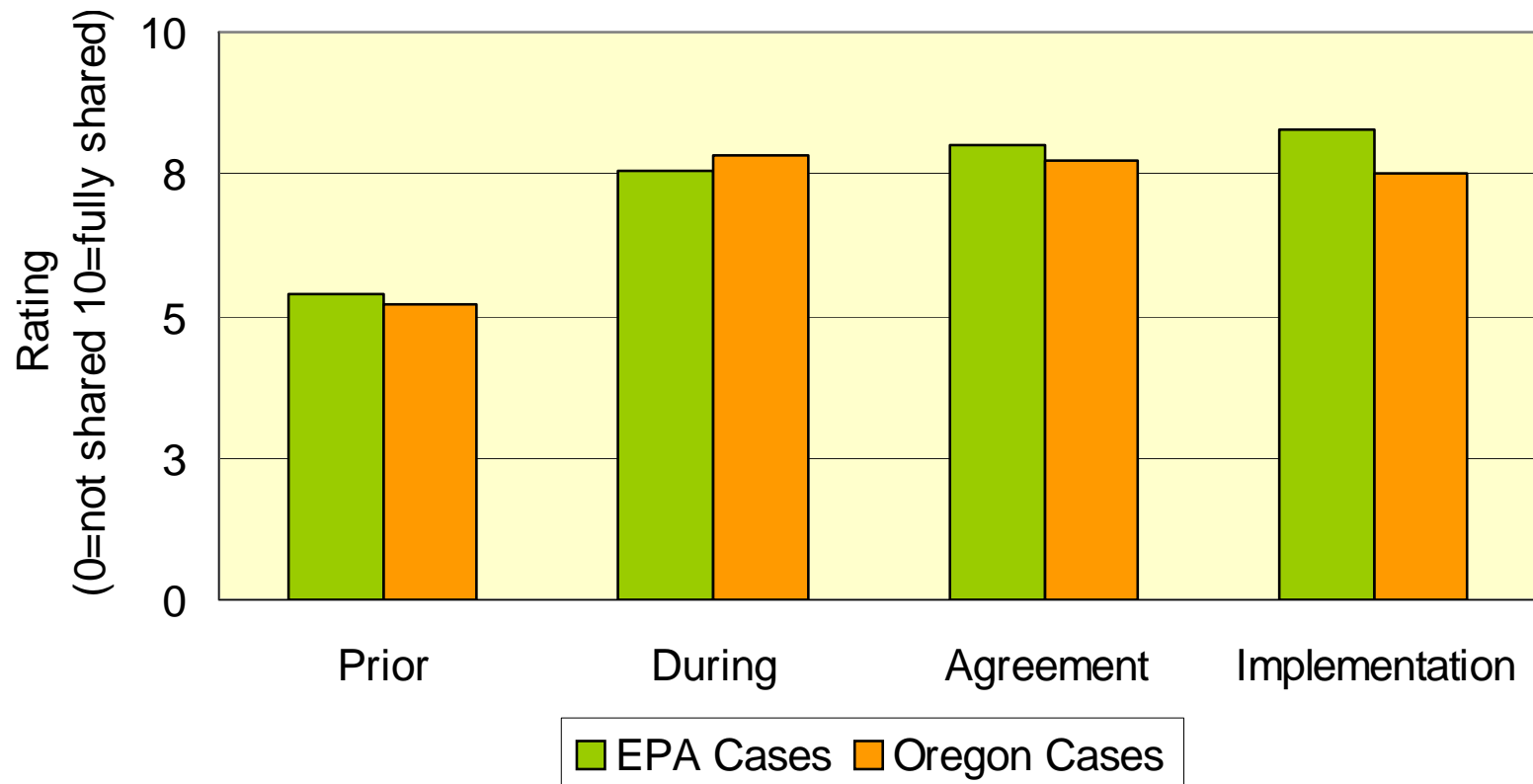
- EPA cases triggered by a regulatory issue
 - External expectations far less important for EPA cases
 - Settlement less of an issue for EPA cases, likely because EPA has permitting and enforcement authority
- Parties to EPA cases viewed the potential financial benefits of ECR processes much more importantly than parties to the Oregon cases

Benefits and Use of Social Capital

| Effects of Social Capital | Oregon EPA | |
|---|------------|-----|
| Our organization benefits directly | 7.2 | 9.4 |
| Can address environmental issues more quickly | | 8.8 |
| Enhances effectiveness of my organization | 6.8 | 8.4 |
| Better address environmental issues | 7.3 | 8.2 |
| Lower risk of negative outcomes | 7.1 | 8.1 |
| Better forecast likely outcomes | 6.7 | 8.0 |
| Enhances my effectiveness within my organization | 7.4 | 7.8 |
| Organizations less likely to take adversarial positions | 6.9 | 7.8 |
| Reduces uncertainty | 7.2 | 7.7 |

scale (0=totally disagree, 10=fully agree)

ECR Decision Making Improves Information Sharing



Conclusions (so far) and Next Steps

- SEEER is feasible
 - Judgments are being made starting from six months following a decision and up to ten years later
 - Costs of evaluating a decision \$10K - \$20K depending on costs of science panel and advisors
 - Much of the information is in the public domain
 - No difficulties obtaining responses from parties or participation of appropriate experts
- Our Next Steps
 - Final report on the Hewlett Foundation portion of the project
 - Completion of initial set of EPA cases and preparation of a final report
 - Completion of the initial set of DOI cases
 - Application of the SEEER methodology to a set of 13 ECR and non-ECR Superfund cases (currently consulting with OMB about ICR)

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END

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