Integrating Conservation and Transportation Planning

Tools for Integration, Ecological Assessment, CWA & ESA Compliance, and Crediting
Speaking Today

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Some of the Big Challenges of Today

- Achieving the most with environmental spending
- Working more efficiently and productively
- Responding to changing context
  - Tight budgets, more operational demands
  - Ecosystem and watershed restoration needs
  - Species recovery needs – holistic view of ESA, connecting recovery planning and ESA Section 7 consultation
  - Changing habitat ranges and greater pressure to take long term needs into consideration with climate change
The Good News

It is doable and relatively economical to marshal the resources among us, to tangibly improve species and ecosystem recovery, & watershed restoration.
Resources

- **Time:** Better use of the environmental permitting and consultation processes, especially 404 and Section 7.

- **Money:** About $2.9 billion spent annually on 404 mitigation, nationwide (all sectors). Better use of the public sector’s annual spending on mitigation will mean:
  - Mitigation more effectively targeted, strategically located
  - Better addressing the needs of the intended resources
  - More stable/viable over the long term even with the changing patterns
  - Addressing multiple resource needs whenever possible

- **Environmental laws:** Focus the regulatory process to better achieve the larger purposes of laws - recover species and ecosystems, restore and maintain the biological, chemical, physical integrity of our nation’s waters.
C06 Purpose

1. **Understand barriers** to implementation of Eco-Logical and ecosystem approaches as well as interests, incentives, and potential solutions

2. **Create an ecological framework for making decisions** about transportation capacity enhancements and the surface **environment**
   - A way to integrate transportation planning and conservation planning
   - Basis for step-wise guidebook

3. **To address the scientific and technical obstacles** to the adoption of an integrated conservation and transportation planning process described in Eco-Logical
C06 Key Outcomes

- **C06A**: Process and business cases (FHWA & DOTs, USFWS, Corps, EPA) for integration of conservation and transportation planning, especially in the 404 permitting and ESA section 7 consultation processes.

- **C06B**: Three areas of focus for tools developed by the 6B team, placed within the context of the step-wise Framework developed by 6A:
  1. Cumulative Effects and Alternatives Analysis
  2. Regulatory Assurances
  3. Ecosystem Crediting

Interactive database of methods, tools, systems and case studies that support the Ecological Assessment methods.
Findings: Top 3 Barriers

From 150 interviews and Surveys in 2009

- Lack of resources – time and manpower
- Lack of data, information, and tools – especially lack of natural resources data on conservation and restoration priorities
- Resistance to change or lack of incentives to change traditional processes

The takeaway:

Ecosystem-based approaches have got to be easier, more practical, and a management priority if they are going to be widely implemented.
Top 3 Recommended Solutions

- Integrate transportation & land use planning – *the Holy Grail*, but there are **clear, feasible steps** we can take. Framework/Guide help outline.

- Identify priority conservation areas

- Make data available to all decision makers early in the process (for earlier decision making)
Draft Framework & Guidebook

- Framework approved in 2009, Guidebook due in Dec. 2010
- Kept a strong relationship to EcoLogical
- Structured as a 9 Step Process that provides a start to finish guide to integrating conservation and transportation planning, with cumulative effects assessment and ecosystem crediting providing a link to projects
  - Encourages early/timely decision making – make rational decisions in planning instead of in project development
  - Developed to adapt to various natural, regulatory and political contexts
  - Designed to address key ESA and CWA issues in outcome-based ecosystem approach
- Guidebook will include recommended tools, methods
C06 Business Cases

- Brief, agency specific documents that “make the case” for the different agencies that have a stake in the transportation decision making process to implement ecosystem-based approaches
- Identifies areas where change or adaptation may be necessary for full benefits to be realized
- Provides a basis for developing further agreements to implement the lessons learned in this research
Timeline for Current Work

- Methods Developed, and in Pilot Testing

- Pilot Studies, Development
- Business Case
- Draft Guide
- June-July, 2010
- Pilot Studies Results
- Symposium on Guide, September, 2010
- Results
- Final Reports and Tool
- Oct. & Dec., 2010
Integration Framework

- Step 1: Build & Strengthen Collaborative Partnerships and Vision
- Step 2: Integrate Ecosystem Plans
- Step 3: Create Regional Ecosystem Framework
- Step 4: Assess Transportation Effects
- Step 5: Establish & Prioritize Ecological Actions
- Step 6: Develop Crediting Strategy
- Step 7: Develop Agreements
- Step 8: Implement Agreements
- Step 9: Monitoring and Adaptive Management
Practical Applications - Long Range Transportation Planning

Key Decision Name: LRP-2
Key Decision Title: Approve Vision and Goals

Description: At this key decision, the community’s values, whether stated as a vision and goals or simply agreed upon by the stakeholders for the planning area, are used to guide the transportation-specific vision and goals. This decision is the first opportunity for public stakeholders to inform the process, or provide their input. Linkages are also established with the scoping and goal-setting key decisions in corridor planning and environmental review, so the vision and goals approved at this key decision point should eventually influence what transportation projects are built. In order to facilitate collaboration, partnerships with other planning processes are established at this key decision.

There is information developed in prior key decisions that informs this step.

Purpose
To develop a common, comprehensive set of vision and goals for the planning area that incorporate the vision and goals from previous or existing plans, if applicable.

Outcome
Where no community vision and goals exist, transportation-specific vision and goals consistent with community values.
Where a regional community vision and goals exists, transportation-specific goals for the planning area consistent with the regional vision and goals.

Partner Roles

<table>
<thead>
<tr>
<th>Role</th>
<th>MPO</th>
<th>FHWA</th>
<th>State DOT</th>
<th>Resource Agency</th>
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<tr>
<td>Decision Maker</td>
<td>Advisor</td>
<td>Advisor</td>
<td>Advisor</td>
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Share your thoughts with your Colleagues

Topic Name - LRP-2 Approve Vision and Goals
posted 6 months ago
Welcome to the forum (admin) Administrator
## Ecosystem Based Tools Site

<table>
<thead>
<tr>
<th>Tech Question</th>
<th>Data</th>
<th>Methods</th>
<th>Tools</th>
<th>Case Studies</th>
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<tbody>
<tr>
<td><strong>Technical Questions</strong></td>
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<td>Questions that relate to details for implementing the step. E.g.:</td>
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<td>What areas are identified in conservation plans?</td>
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<td><strong>Methods</strong></td>
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<td>Methods that further step(s). E.g.:</td>
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<td>Inter-agency teams</td>
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<td>Programmatic agreements</td>
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<td><strong>Data</strong></td>
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<td>Permitting data</td>
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<td><strong>Tools</strong></td>
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<tr>
<td>Natural Heritage Program S-Ranks</td>
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Purpose:

- Develop a shared vision of regional goals for transportation and conservation.
- Develop agreements on the process for stewardship and streamlining throughout transportation project delivery.

Outcomes:

- Understanding, appreciation and agreement on transportation and resource agencies’ priorities and goals, including areas of concern.
- Understanding of land use issues that impact goals and needs.
Step 2: Integrate Ecosystem Plans

- **Purpose:**
  - Compile all existing data and plans into a refined set of conservation priorities to guide decision making.
  - Develop conservation priority spatial data and cumulative effects outline.
  - Provide basis for developing the Regional Ecosystem Framework (REF).

- **Outcomes:**
  - Identification of resources and issues to be addressed in the REF.
  - Data needed for assessment, identification of data gaps, how to address gaps.
  - Commitments for data delivery and modeling to fill data gaps.
  - Outline of cumulative effects at a landscape level.
  - REF-ready data and planning inputs
Step 2: Integrate Existing Data
Step 2: Use New Tools - LIDAR
Step 2: Create Comprehensive Data
Step 2: Moving Beyond Observed
Step 2: Model Presence Data

- Distribution models to inform decision making.
Example: REF
Step 3: Create Regional Ecosystem Framework

- **Decisions:**
  - What areas will be directly impacted by transportation development?
  - How severe are the likely impacts (cumulative impacts)?
  - What areas and measures could be used for mitigate?
  - How can conservation goals be met through these mitigation approaches?
Step 3: Create Regional Ecosystem Framework

- **Roles:**
  - Review and verify REF and data sources used.
  - Distribute completed REF to all jurisdictions, agencies and affected parties.

- **Technical Questions:**
  - What site level measures are needed to verify progress?
  - What impacts are likely to be avoided, which ones should be replaced on site or off-site?
  - What unprotected conservation priorities can be protected through project mitigation?
Example REF Product
Step 4: Assess Transportation Effects

- **Purpose:**
  - Analyze transportation project scenarios in relation to resource conservation objectives and priorities.
  - Identification of preferred alternative to meet transportation and conservation goals.

- **Outcomes:**
  - Refined quantification of transportation effects under each scenario.
  - Identification and quantification of mitigation needs.
  - Cumulative effects scenarios of future land uses and transportation.
  - Identification of best transportation plan alternatives in relation to conservation goals.
Using REF and Models for Priorities

### Summary

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<th>Occ.</th>
<th>Avg. Condition</th>
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### Element evaluation details

**Element**

http://salol/Elements/monument Creek PCA553338711.html

**Name**

Monument Creek PCA

**Total**

1,000,000 acres

**Selection**

1,000,000 acres

**Selection Average CV**

0.8

**Selection Minimum CV**

0.5

**Selection Maximum CV**

0.5

**Goal**

100% of acres

**Response**

Negative

**Viable**

1,000,000 acres

100% of acres; 100% area

**% Viable**

100% of acres; 100% area

**Selection Viable**

1,000,000 acres

100% of acres; 100% area

**Selection % Viable**

100% of acres; 100% area

**Chart: Visible Occurrences**

- Viable Area
  - 1,000,000 acres; 100% area; 54% area

**Chart: Visible Compatible**

- 1,000,000 acres; 100% area; 54% area

**Selection Compatible**

- 1,000,000 acres; 100% area; 54% area

**Selection % of Goal: Compatible**

- 1,000,000 acres; 100% area; 54% area

**Chart: Visible Occurrences**

- Chart: Compatible
  - 1,000,000 acres; 100% area; 54% area

**Chart: Visible Compatible**

- 1,000,000 acres; 100% area; 54% area

**Map**

[Map of relevant areas]
Step 5: Establish & Prioritize Ecological Actions

- **Purpose:**
  - Develop and agree on a Regional Mitigation Strategy based on preferred alternative.

- **Outcome:**
  - Prioritized mitigation areas.
  - Quantitative and qualitative valuation of mitigation areas.
  - Documented goals for each mitigation site, mitigation methods and lead agency.
Step 5: Establish & Prioritize Ecological Actions
Step 6: Develop Crediting Strategy

- **Purpose:**
  - Integrate mitigation sequence at site level: avoidance, minimization, compensation.
  - Development of a crediting system to accelerate implementation and improve the results of mitigation.
  - Support implementation tools like conservation/mitigation banks, programmatic permitting, and advance mitigation.

- **Outcomes:**
  - Agreement on rules for field measurement of ecological functions.
  - Agreement on approved mitigation/conservation banking.
  - Outcome-based performance standards using credit system.
Crediting must:
• Be enforceable
• Link to REF
• Be easily measured
Step 7: Develop Agreements

- **Purpose:**
  - Develop MOUs, agreements, programmatic permits or biological opinions for transportation projects.

- **Outcomes:**
  - Agreement on resource management.
  - Programmatic permits and biological opinions including outcome based performance standards.
  - Implementation guidance.
  - Monitoring strategies.
  - Adaptive management plans.
Step 8: Implement Agreements

- **Purpose:**
  - Assure transportation project design, construction and operation and mitigation actions are implemented in accordance with negotiated agreements.

- **Outcomes:**
  - Accurate recordkeeping and tracking of all commitments by transportation agency.
  - Effective monitoring and adaptive management.
  - Feedback of information from construction and operation into REF.
Step 9: Monitoring and Adaptive Management

- **Purpose:**
  - Assure continued updating of REF and modification of transportation facility operation and mitigation project implementation in response to new information.

- **Outcomes:**
  - Methods for assuring monitoring information informs revisions to the REF.
  - Adjustments in on-going mitigation project implementation and transportation facility operation as needed in light of new information.
Initial Pilot Methodology

- Testing occurring under the C06B project in Colorado, Michigan and Oregon.
- Cumulative Effects and Resource Modeling being tested on previous capacity projects to discover benefits from methods.
- Ecosystem Crediting tested via case studies and interviews with agency staff – identifying needs and opportunities for various tool applications.
Initial Pilot Methodology

- **Case Study Methodology:**
  - Developing REF for study area
  - Analyze REF through development of conservation priorities and targets
  - Compare results of REF analysis against historic decisions made on case study
  - Analyze Mitigation Opportunities (Avoidance, Minimization and Compensation)
Summary – 06 Assessment Goals

- **Products**
  - Create a framework to integrate conservation and transportation planning
  - Develop supporting tools, methods, and case studies

- **Objectives**
  - Faster permitting for new highway projects
  - More efficient permitting and consultation processes
  - Decision making on a planning level (instead of foregoing analysis or decision making about natural resources at that level)
Contact Information

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