A New Data Tool for Implementing Eco-Logical: Eco-Plan Beta Testing

Presenters

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(Learn more about Eco-Logical at the FHWA website)
Steps to Ensure Optimal Webinar Connection

This webinar broadcasts audio over the phone line and through the web room, which can strain some internet connections. To prevent audio skipping or webinar delay we recommend participants:

• Close all background programs
• Use a wired internet connection, if possible
• Do not use a Virtual Private Network (VPN), if possible
• Mute their webroom audio (toggle is located at the top of webroom screen) and use phone audio only
Where did the idea for Eco-Plan originate?
# Steps of the Eco-Logical approach

1. Build and strengthen collaborative partnerships
2. Integrate natural environment plans
3. Create a Regional Ecosystem Framework (REF)
4. Assess effects on conservation objectives
5. Establish and prioritize ecological actions
6. Develop crediting strategy
7. Develop programmatic consultation, biological opinion, or permit
8. Implement agreements, adaptive management, and deliver projects
9. Update REF

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<th>Partner</th>
<th>Share Data</th>
<th>Analyze Effects</th>
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<th>Identify key sites and actions</th>
<th>Document</th>
<th>Implement</th>
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Partner
Share Data
Analyze Effects

Identify key sites and actions

Document
Implement
Evaluate
What is Eco-Plan?

- An interactive, web-mapping tool that overlays national resource data and preliminary project data to inform pre-NEPA discussions regarding resource concerns and mitigation opportunities.
What is the process to develop and support Eco-Plan?

Research
- SHRP2 C06 -> EcoLogical
- SHRP2 C40 -> EcoPlan

Evaluate
- Pilots
- Beta testing

Implement
- Convene, Facilitate, Collaborate
- Host
- Finance
Where does geospatial data fit into the planning process?
Where does geospatial data fit into the planning process?
How can I apply Eco-Plan?

- **CalTrans** evaluated the transferability of Eco-Plan to California’s Regional Advance Mitigation Planning Framework impact assessment method (RAMP)
- **East-West Gateway Council of Governments** explored how those with limited GIS experience and staff at small MPOs could access national level environmental datasets
- **Contra Costa Transportation Authority** compared Eco-Plan’s effectiveness to other tools in a feasibility study
How can I provide feedback?

FHWA is seeking beta testers of Eco-Plan and Eco-Plan Advanced. As you test the tool, please email mike.ruth@dot.gov with feedback on:

1. Ease of use for various levels of GIS expertise
2. User interface
3. Anticipated time/money costs or savings
4. How the tool can be used on current projects
5. Compatibility with other data and tools
6. Relationships to other tools
7. General feedback – Do you like the tool? Would you use it?
Eco-Plan Beta Testing

(Learn more about Eco-Logical at the FHWA website)

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Eco-Plan

SHRP 2 C40A Product Overview

Prepared for:

FHWA Pilot Webinar

Steve Ziegler
September 10, 2014
Agenda

- Project Overview
- Vision
- Architecture
- Eco-Plan Overview
Project Overview

- **SHRP C40A Integration of National-Level Geospatial, Ecological Tools and Data**

- **Scope**
  - Build a national-level GIS tool to provide the data and analysis
  - Support *Eco-Logical* and Integrated Ecological Framework (IEF)
  - Focus on novice users with little in-house GIS resources
  - Leverage Federal web services to provide up-to-date data
  - Pre-NEPA ecological screening

- **Process**
  - Form several groups to provide design input and testing feedback
    - C40Bs, User Group, Technical Expert Task Group, Beta Testers
  - Gathered and documented needs
  - Developed a vision
  - Designed the architecture
  - Tested and updated based on feedback
User and Testing Help

- State, MPO and Research Feedback

State DOTs
- Alaska
- Maine
- Utah

MPOs
- Dallas/Ft. Worth (Dallas/Ft. Worth, TX)
- East-West Gateway Council of Governments (St. Louis, MO)
- North Front Range Metropolitan Planning Organization (Ft. Collins, CO)
- Rogue Valley Council of Governments (Jackson Co., OR)
- Thomas Jefferson Planning District Commission (Charlottesville, VA)

Research
- University of California, Davis
- Missouri Resource Assessment Partnership (MoRAP)

Others
- AASHTO TIG 2
- EPA Region 6
- FHWA
- Parsons
- Idaho Department of Fish and Game
Vision

Primary users are state and MPO planners

Provide Federal data sets

Allow upload of local data

Not a replacement of existing tools

Only for pre-NEPA screening

Support the IEF
Architecture – Eco-Plan and Eco-Plan Advanced

Eco-Plan supports transportation planning by providing prepared maps of national ecological data sets that can be used to avoid and minimize transportation impacts.

- Review maps of national ecological data sets
- Find data and other useful GIS information
- Upload or draw a planning area or transportation network
- No GIS skills needed

Eco-Plan Advanced, a separate website hosted by Esri ArcGIS Online, provides all of the information available through Eco-Plan with additional capabilities.

- Add any data set to the prepared maps of national ecological data
- Set up groups to save, share and comment on maps
- Conduct GIS analysis and create reports
- Requires GIS skills
- Learn More
Architecture - Data

Natural Environment

Land Cover, Soils and Geology
- Natural Resource Inventory and Monitoring, Vegetation (Mapping)
- Inventory Program (National Parks)
- Land Cover
- Forest Density
- Grassland Density
- Soil Survey Geographic (SSURGO)
- U.S. General Soil Map (STATSGO)
- Natural Resource Inventory and Monitoring, Geologic Resources Inventory
- National Geologic Map Database

Water and Wetlands
- Streams
- Water Bodies
- National Wetlands Inventory
- Watersheds/Hydrologic Units (HUC)
- Q3 Flood Hazards
- Flood Hazard Zones

Habitat
- North American Bird Conservation Joint Ventures Map Services
- FWS Critical Habitat
- Riparian Areas of the Western United States
- Areas without Roads

Protected Lands and Waters
- National Wilderness Preservation System
- USFS Wilderness Areas
- USFS National Grasslands
- Protected Areas Database of the United States National Estuaries Restoration Inventory
- USFS Basic Ownership
- US Fish and Wildlife Service Regional Boundaries
- USFS Wild and Scenic Rivers

- USFS Other National Designated Areas
- Administrative Boundaries of National Park System Units
- Protected Areas Database
- Federal Lands
- National Conservation Easement Database
- National Marine Sanctuary Area Boundaries
- Sole Source Aquifers

Built Environment

Environmental Contamination
- Ozone 8-hour (by 1997 and 2008 standards)
- Lead (by 2008 standard)
- Fine Particle (PM2.5) Annual (by 1997 and 2006 standards)
- Hazardous Waste (RCRAInfo)
- Air emissions (AFS)
- Water dischargers (PCS/ICIS)
- Toxic releases (TRI)
- Superfund (CERCLIS)
- Brownfields (ACRES)
- RADinfo
- Toxic Substances Control Act (TSCA)
- USGS water monitors (NWIS)
- EPA water monitors (STORET)
- Impaired Streams and Water bodies

Land Use
- Road Density
- Major land uses in the United States
- Transportation Systems

Cultural/Social

Demographics
- Demographic Characteristics (Race, Ethnicity, Gender, etc. as available from 1990, 2000, and 2010 Census)
- Housing Historic Density (1979 and 2010)
- Housing Historic Density (Projected 2050)

Political Boundaries
- States
- Cities
- Counties
- Urban Areas
- Legislative Boundaries
- MPO Boundaries
Eco-Plan Overview
Demo

- Live demo with slides as backup
Home

- Introduce the user to the tool
- Encourage the user to use a map, view data, or see other tools
- Describe Eco-Plan and Eco-Plan Advanced
Get Started

- Introduce the user to the theme maps
- Provide an interactive view of several themes of data
Ecological Screening

- Provide a simple ecological screening tool based on the user’s shape
- Prototype functionality limited to
  - Several states
  - Only critical habitat, wetlands, and protected areas data
- Waiting for future owner to expand
Maps

- Gallery of themes maps and popular data services

**Recommended Theme Maps**

- **Critical Habitat and At Risk Species Theme**
  - US Fish and Wildlife Service’s Critical Habitats and NatureServe’s At Risk Terrestrial Species layers are displayed.

- **Development Potential in Unprotected Areas Theme**
  - Development potential (road and activity density) is shown with protected areas and critical habitat.

- **Protected Areas and Boundaries Theme**
  - This map shows political boundaries (state, county, municipalities) along with protected areas in the US.

- **Watersheds and Wetlands Theme**
  - Wetlands, watershed boundaries, water monitoring locations, and shoreline in the US.

**Popular Map Services**

- **USGS GAP Land Cover Theme**
  - The USGS GAP national land cover provides information on the vegetation of the United States to help with conservation or land use planning decisions.

- **TNC Protected Lands Theme**
  - Lands and waters in which The Nature Conservancy (TNC) has a legal interest are shown in this map.

- **National Wilderness Preservation System Theme**
  - This map shows boundaries for the National Wilderness Areas that are managed by the U.S. Forest Service (NFS).
Map Details

- Detailed information on the theme maps
  - Description
  - How To Use
  - Tips
  - Things To Be Aware Of
  - Data Services
Data

- List of authoritative data sources useful in transportation planning and resource conservation
  - Natural Environment
  - Cultural/Social
  - Built Environment
Data Details

- Details on authoritative data sets
  - Source
  - URL
  - Status
  - Description
  - User Tips
  - Things To Be Aware Of
  - Additional Information
Other Tools

- Gallery of other useful GIS planning tools
Other Tools Details

- Details of other user GIS planning tools
  - URL
  - Geographic Scope
  - Source
  - Analytical Functions and Reports Available
  - Data Types
  - Highlights
  - When To Use
  - Things To Be Aware Of
Help

- Frequently Asked Questions

Eco-Plan and Eco-Plan Advanced provide valuable data and tools to ease the early screening of transportation projects. Find answers to frequently asked questions below.

Overview
- What is Eco-Plan?
- What is Eco-Plan Advanced?
- Who developed Eco-Plan?
- What is the Integrated Ecological Framework?
- How does Eco-Plan support the Integrated Ecological Framework?
- How is Eco-Plan different from other tools like iPaC and NEPAssist?

Using Eco-Plan
- When should I use Eco-Plan?
- How do I get started?
- How can I load my own data?
- Can I save and share my work?

Using Eco-Plan Advanced
- When should I use Eco-Plan Advanced?
- How do I sign up for Eco-Plan Advanced?
- How much does Eco-Plan Advanced cost?
- How can I copy and then update an Eco-Plan theme map?
- How can I create my own map?
- How can I load Eco-Plan data to my map?
- How can I add notes and simple features to my map?
- How can I load my own data to the map?
Eco-Plan Advanced Overview
Eco-Plan Advanced Home

- Gallery of recent maps
Customize Maps

- Find and copy existing theme maps for customization
- Show/hide data layers
Add Local Data

- Add your own local data from shape files
Add Other Data From Web

- Search for authoritative data sets identified by Eco-Plan
- Add data sets from ArcGIS Online or the Web
Share maps/data with the public or selected groups
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