



# **Eco-Logical: Landscape-Scale Infrastructure, Planning, Mitigation and Decision-making**

**Reaffirmation Webinar**

**June 28, 2016**

Presenters:

David Williams, FHWA Office of Project Development and Review

Sandra Jacobson, Forest Service

# Overview

- 10<sup>th</sup> Anniversary Eco-Logical Reaffirmation
- Eco-Logical Approach
- Benefits of Eco-Logical
- Forest Service's Application of Eco-Logical
- Panel Discussion on Eco-Logical Past, Present, and Future

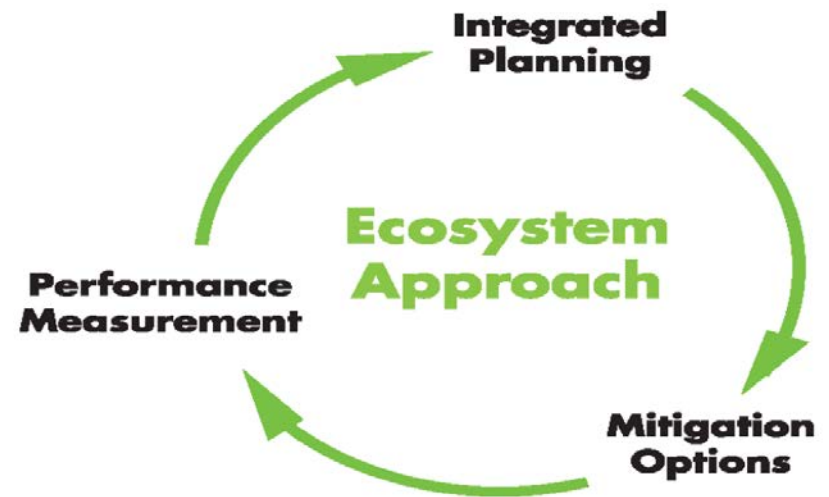
# Reaffirmation Video



Also at: <https://www.youtube.com/watch?v=rEJ7oNsLJdl&feature=youtu.be>

# What is Eco-Logical?

- **Eco-Logical Is:** *A landscape scale approach for planning and developing infrastructure.*
- **The Eco-Logical Approach:**
  - *Draws on collaboration*
  - *Incorporates data*
  - *Establishes and prioritize ecological actions*





# Eco-Logical Background

## Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects

Prepared by the Steering Team  
April 2006

Signed by the Steering Team Partners' Leadership



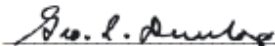
Dale Bosworth, Chief of Forest Service  
Forest Service  
U.S. Department of Agriculture



J. Richard Capka, Acting Administrator  
Federal Highway Administration  
U.S. Department of Transportation



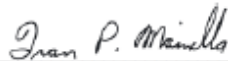
Kathleen Clarke, Director  
Bureau of Land Management  
U.S. Department of the Interior



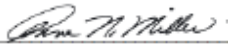
George S. Dunlop, Principal Deputy  
Assistant Secretary  
Department of the Army



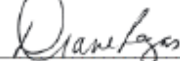
H. Dale Hall, Director  
U.S. Fish and Wildlife Service  
U.S. Department of the Interior



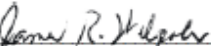
Fran Mainella, Director  
National Park Service  
U.S. Department of the Interior



Anne Miller, Director  
Office of Federal Activities  
U.S. Environmental Protection Agency



Diane Regas, Director  
Office of Wetlands, Oceans, and Watersheds  
U.S. Environmental Protection Agency



James R. Walpole, General Counsel  
National Marine Fisheries Service  
National Oceanic and Atmospheric Administration

- Originated at Montana DOT and Montana FHWA Division Office in the late 90's
- Eco-Logical published and signed by the Signatory Agencies in April 2006



# “Eco-Logical” by Other Names

**General terms that describe Eco-Logical include:** *Watershed approach*; *Landscape-scale planning and mitigation*; *Ecosystem-scale planning*

*Agency programs similar to Eco-Logical:*

- BLM: Rapid Ecoregional Assessments
- DOI: Landscape Conservation Cooperatives
- EPA: Watershed Resources Registry
- NOAA: Integrated Ecosystem Assessment Approach
- NPS: Inventory and Monitoring Program
- USACE: Watershed-Based Mitigation
- USFS: Open Space Conservation Strategy

# Why Eco-Logical?

*Using the Eco-Logical approach leads to mutual benefits for all involved:*

- Improved data sharing and interagency coordination
- Programmatic agreements on advance mitigation
- Time savings through accelerated project delivery
- Improved water quality and wildlife movement
- Improved agency relationships
- Reduces redundancy and increases the efficiency, transparency and predictability of the infrastructure delivery process.



# Landscape-scale Highlights from Signatory Agencies

- **BLM** initiated 14 Rapid Ecoregional Assessments since 2010
- **DOI** established 22 Landscape Conservation Cooperatives (LCCs)
- **EPA** developed the Watershed Resources Registry (WRR)
- **FHWA** gave over \$3.2 million dollars SHRP2 funds for agencies to Implement Eco-Logical
- **NMFS** conducted Integrated Ecosystem Assessments (IEAs) in five of the nation's eight large marine ecosystems
- **NPS** developed a report on the exposure to park infrastructure and assets based on 1 meter of sea level rise
- **USACE** approved 738 mitigation banks and 52 in-lieu fee programs since 2008 and rolled out RIBITS
- **USFS** removed or upgraded 2,100 road-stream crossings for Aquatic Organism Passage between 2008 and 2015.

# Is Eco-Logical feasible for my agency?

**YES!**

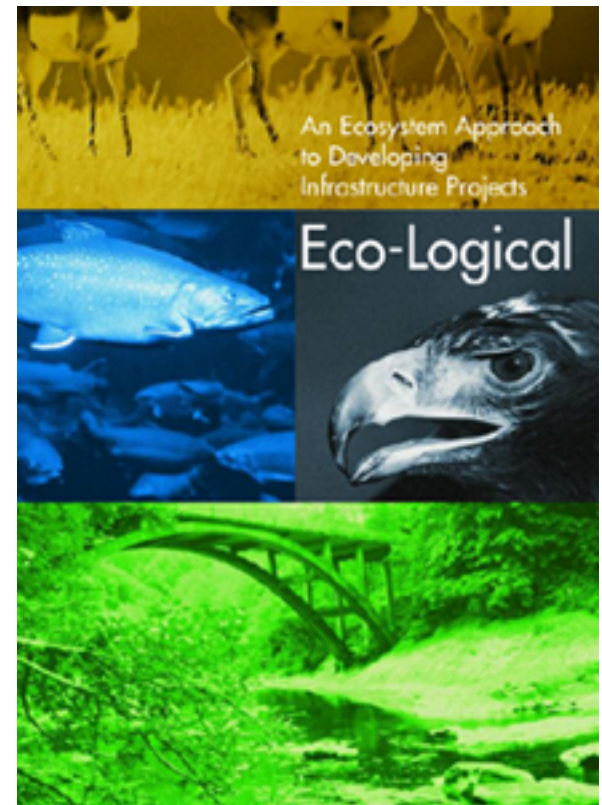
- Implementing Eco-Logical **works within existing regulations and policies** and represents forward-thinking transportation and responsible environmental practice.
- Implementing Eco-Logical can be adopted using a **phased approach** and offers **incremental benefits** in terms of improved interagency collaboration and communication, and more predictable transportation and environmental review processes.



# Panel Discussion

## Panelists:

- Nicholle Braspennickx, USACE
- Brian Carlstrom, NPS
- Rachel Herbert, EPA
- Sandra Jacobson, Forest Service
- Michelle Lennox, NOAA Fisheries
- Catherine Liller, USFWS
- Dixie Porter, Forest Service
- Daniel Shivley, Forest Service
- David Williams, FHWA



# Contacts

## FHWA Office of Project Development and Environmental Review

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Mike Ruth: [Mike.Ruth@dot.gov](mailto:Mike.Ruth@dot.gov); 202-366-9509

[https://www.environment.fhwa.dot.gov/ecological/ImplementingEcoLogicalApproach/default.  
asp](https://www.environment.fhwa.dot.gov/ecological/ImplementingEcoLogicalApproach/default.asp)





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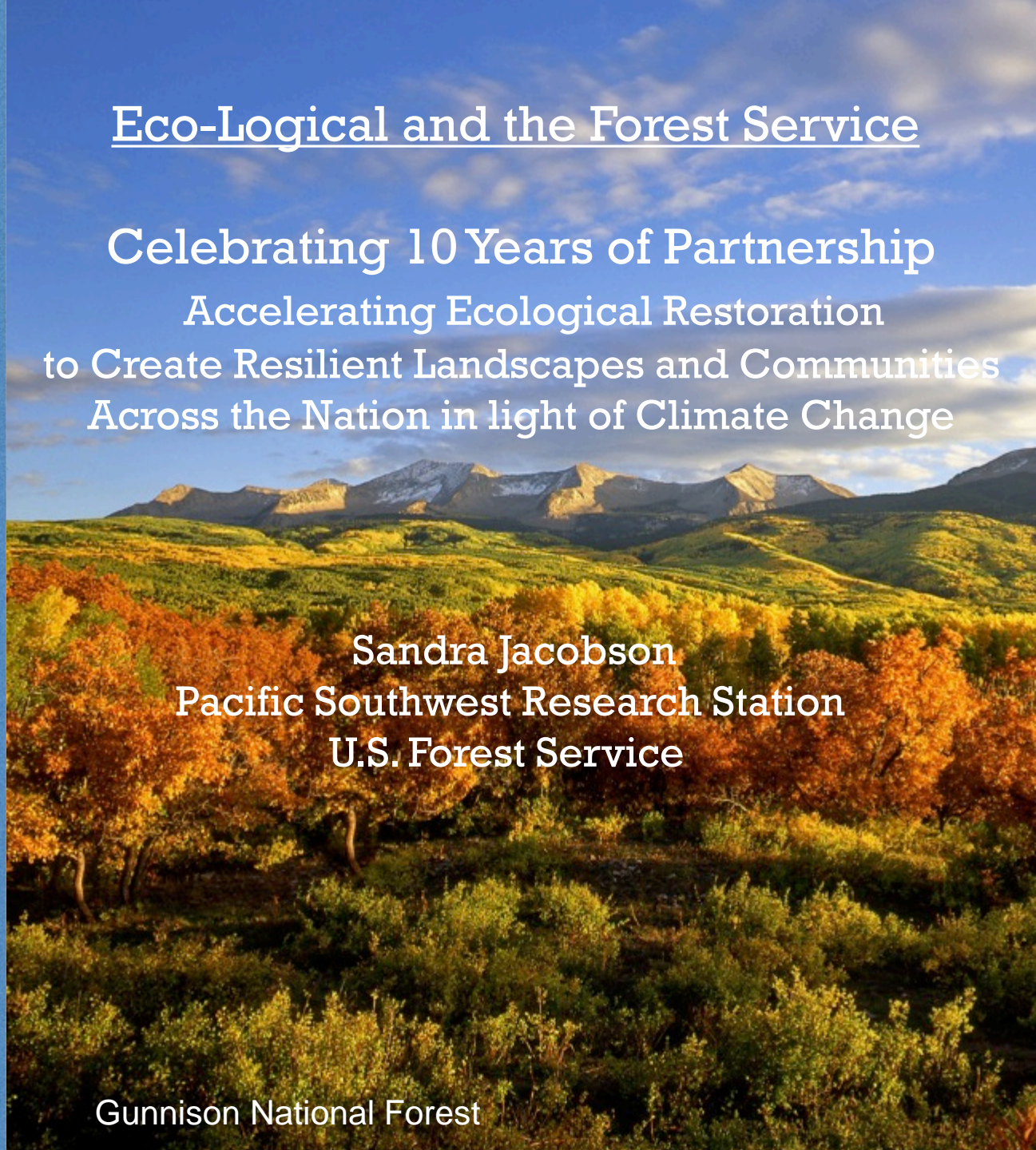


## Eco-Logical and the Forest Service

Celebrating 10 Years of Partnership  
Accelerating Ecological Restoration  
to Create Resilient Landscapes and Communities  
Across the Nation in light of Climate Change

Sandra Jacobson  
Pacific Southwest Research Station  
U.S. Forest Service

Gunnison National Forest





United States Department of Agriculture

# Forest Service Mission

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***The mission of the USDA Forest Service is to sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations.***



Forest Service



# What we do

- 193 million acres of National Forests
- 500 million acres help to S&P forests
- 57,000 miles of trails
- 4,300 campgrounds
- \$13 billion in NF visitor contributions to US Economy

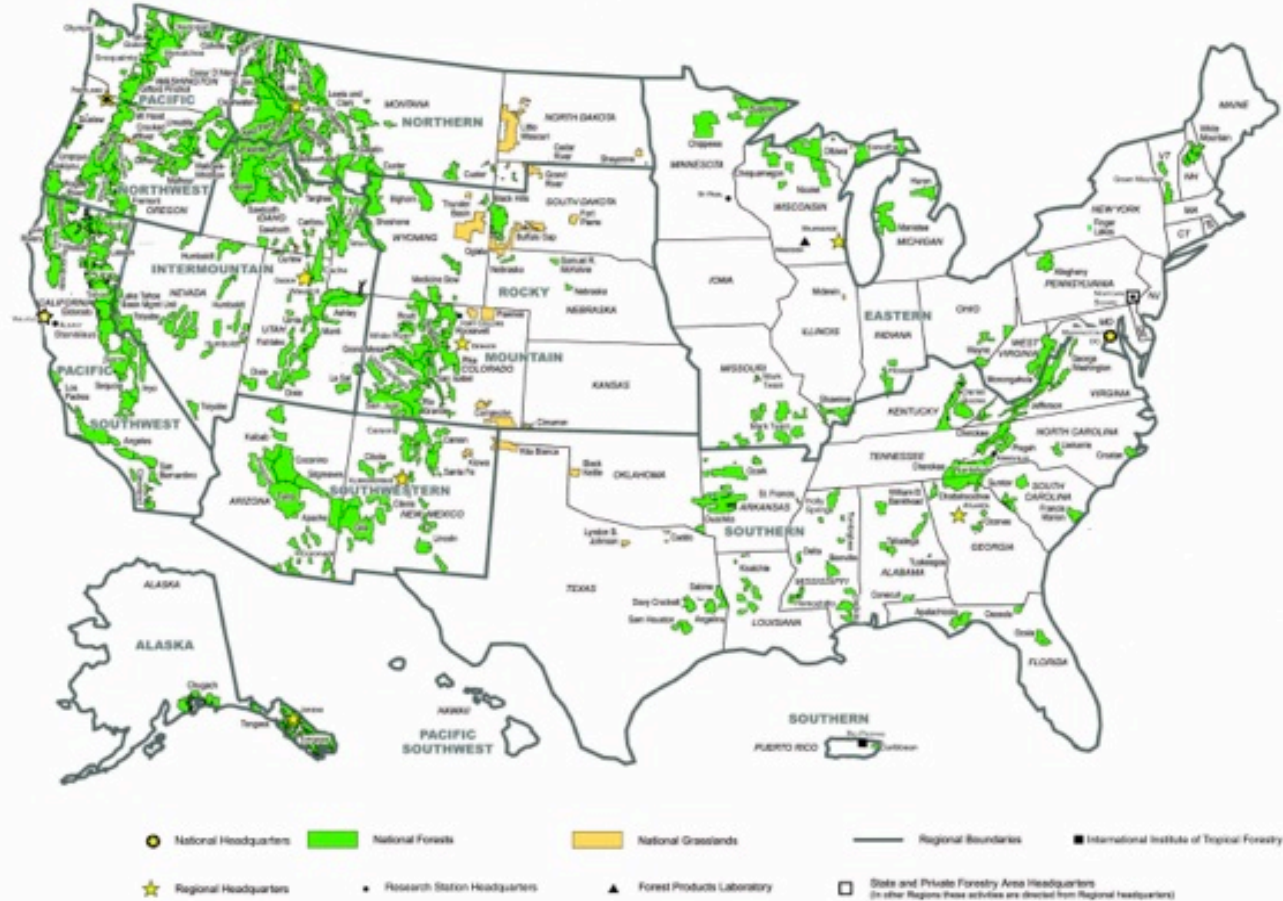




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## Where we do it: National Forest System Lands



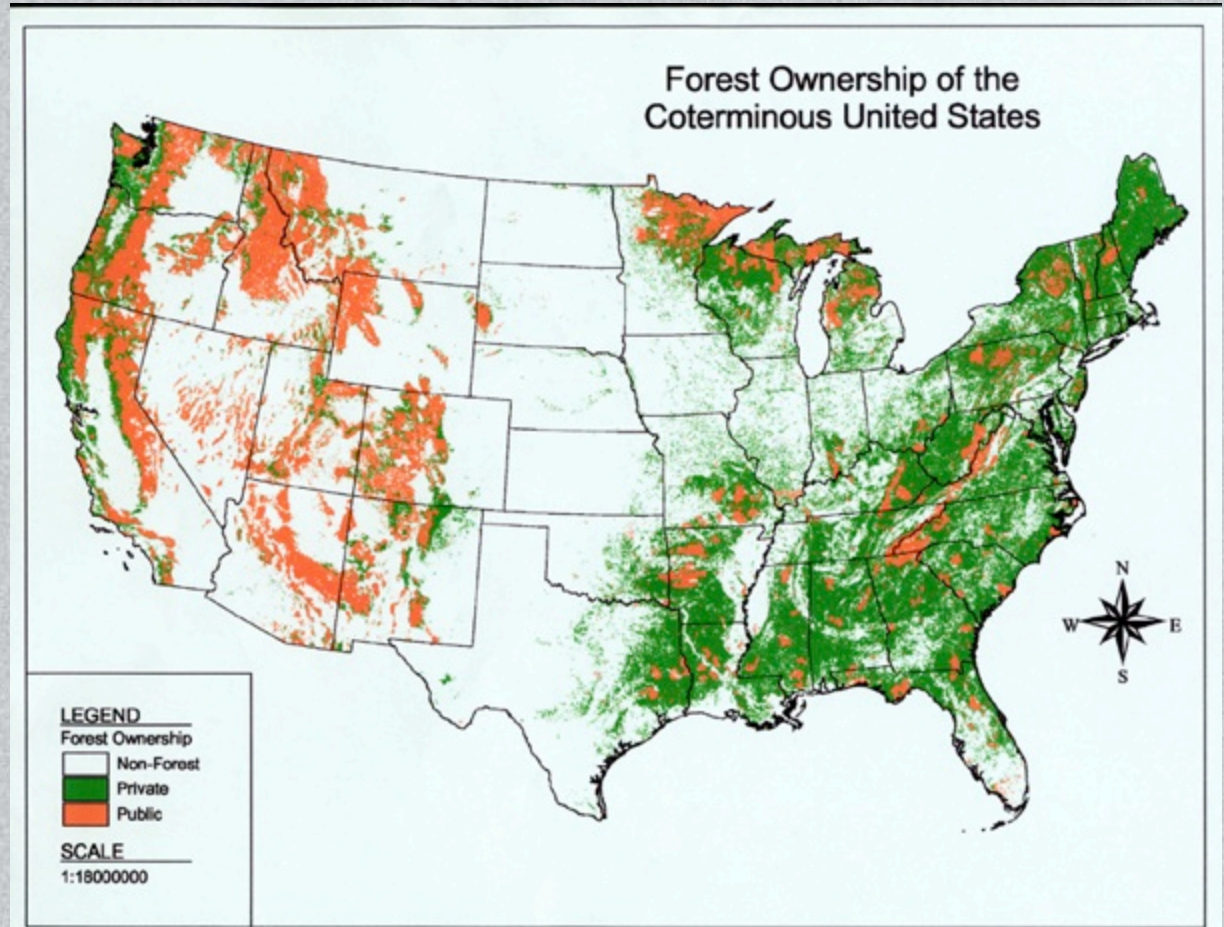




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## Where we do it: National Forest System and State and Private Lands







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## Ecological Restoration







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## Special Values: Water

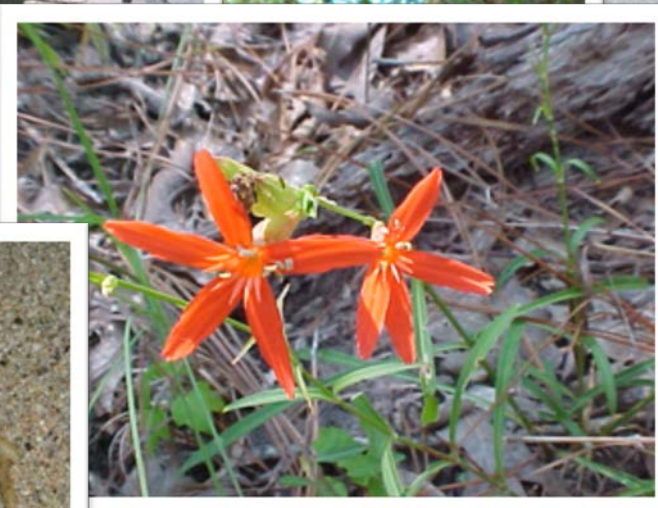
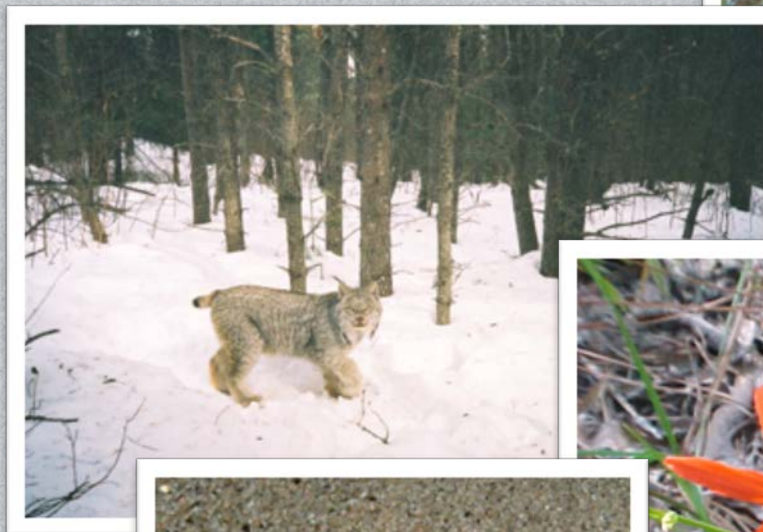






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## Special Values : Habitat Conservation of endangered and at risk species.







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## Special Values: Sustainable Recreation







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# Eco-Logical: The US Forest Service's Experience

*1. High Level Initiatives*

*2. Project Level*

*3. Tech Transfer*

Pisgah National Forest

# Forest Service Initiatives

## Supporting Eco-Logical Concepts

- OSCC
- Watershed Condition Framework
- Open Space Initiative
- Aquatic Organism Passage
- TRB, ICOET, ARC Solutions leadership





# Climate change challenge

## Office of Sustainable Climate Change:

Guides the Agency in developing policies and practices to ensure the Nation's forests and grasslands will meet the needs of present and future generations.



# Aquatic Organism Passage

- FS does 160-350 AOP projects/yr--- 1000<sup>th</sup> in 2015!



# Project Level Eco-Logical Successes

- Transportation Ecology Cadre
- Highway 89 Stewardship Team
- Project Collaboration Examples: I-90 Snoqualmie Pass





# Forest Service Transportation Ecology Cadre

- Provides expertise nationally
- Eco-Highways Workshop
- Expertise is rapidly retiring



# Highway 89 Stewardship Team

- Grassroots interagency team dedicated to reducing WVC
- 89ST mentors 2 new teams through Eco-1 funding





# FS Interagency Project Collaboration

- I-90 Snoqualmie Pass
- Pinedale WY Trappers Point



# FS Tech Transfer Successes

- Innovative Approaches to Wildlife and Highway Interactions course
- ICOET
- Transportation-related ecological research





# Innovative Approaches to Wildlife and Highway Interactions

- Began 2003 as 1-day course
- 20 sessions later, 14 states, hundreds of students
- Advanced and Intro courses



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Numerous FHWA award winners are graduates!

# Forest Service ICOET Involvement

- Conference funding support
- Steering Committee
- Presenters



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ICOET 13 in Arizona: SR-260 Tonto National Forest



# Transportation-related Research

- Videos
- Wildlife Crossings Toolkit
- Forest Service R&D articles, studies, subject matter expertise

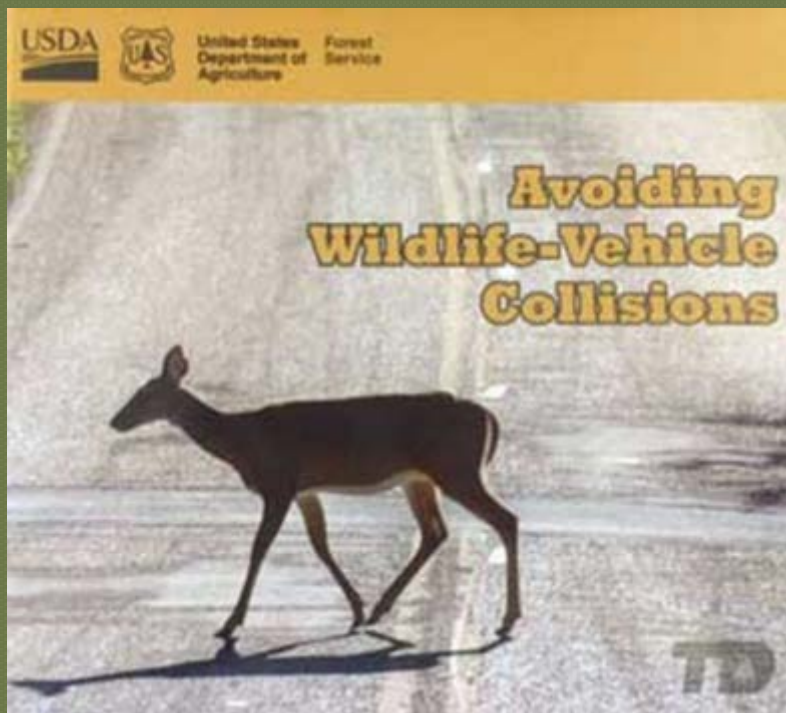




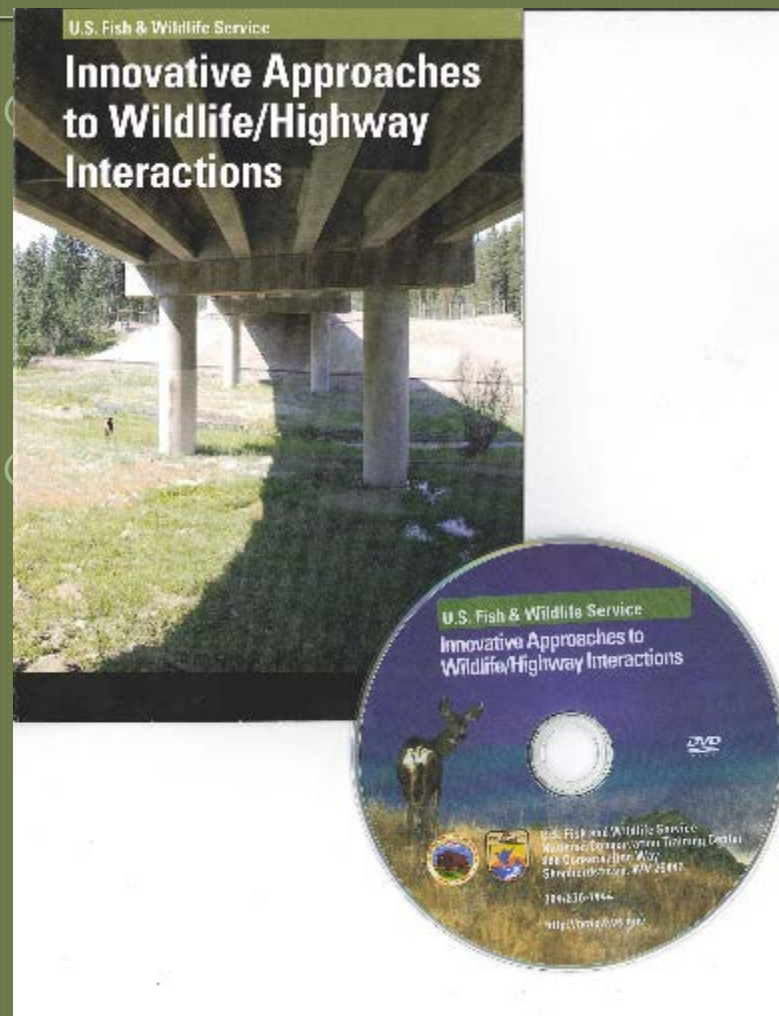
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# Videos

- 2014 Telly Award



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# Wildlife Crossings Toolkit



The screenshot shows a web browser window with the URL [www.fs.fed.us/wildlifecrossings/resources/](http://www.fs.fed.us/wildlifecrossings/resources/). The browser's address bar and search bar are visible. Below the browser window, the website's header includes the text "National Park Service". The main content area is titled "Resources" and features a sidebar on the left with a "Search" box and a "Browse by Subject" menu. The menu includes links to "Home", "Glossary", "Resources", "Conferences and Training", and "Overview". The "Resources" section is expanded, showing a list of topics: "Overview", "Decision Support - Large Scale", "Decision Support - Project Level", "Integrated Planning", "Examples", "Retrofitting Existing Structures", "Monitoring", and "Funding". The main content area displays the "Overview of Transportation Ecology" section, which includes a paragraph about the tools and a list of topics: "Large Scale Transportation Planning", "Highway Development Projects", "Integrated Large Scale and Project-Level Planning", "Tools and Examples for FLMA's", "Retrofitting Existing Structures for Wildlife Passage", "Monitoring Tools", and "Funding Opportunities". Below this is a section titled "Decision Support Tools for Large Scale/Long Term Transportation Planning" with a paragraph about transportation planning levels.

www.fs.fed.us/wildlifecrossings/resources/

Search

Most Visited Pacific Southwest Rese... My Drive - Google Drive Google Scholar NAL Requests: Individ... FitBolt - Main

National Park Service

You are here: [HOME](#) » [Resources](#) » Overview of Transportation Ecology

## Resources

### Overview of Transportation Ecology

Tools here are specifically selected to be useful for natural resource agency biologists and engineers working on public lands. Dive deep into these sections, because there are many examples.

- Large Scale Transportation Planning
- Highway Development Projects
- Integrated Large Scale and Project-Level Planning
- Tools and Examples for FLMA's
- Retrofitting Existing Structures for Wildlife Passage
- Monitoring Tools
- Funding Opportunities

### Decision Support Tools for Large Scale/Long Term Transportation Planning

Transportation departments typically distinguish planning for highways at two levels. The long term, strategic level is called 'transportation planning'. It can be as much as 20 years in the future.

**Browse by Subject**

- Home
- ▼ Glossary
- ▼ Resources
  - Overview
  - Decision Support - Large Scale
  - Decision Support - Project Level
  - Integrated Planning
  - Examples
  - Retrofitting Existing Structures
  - Monitoring
  - Funding
- ▼ Conferences and Training

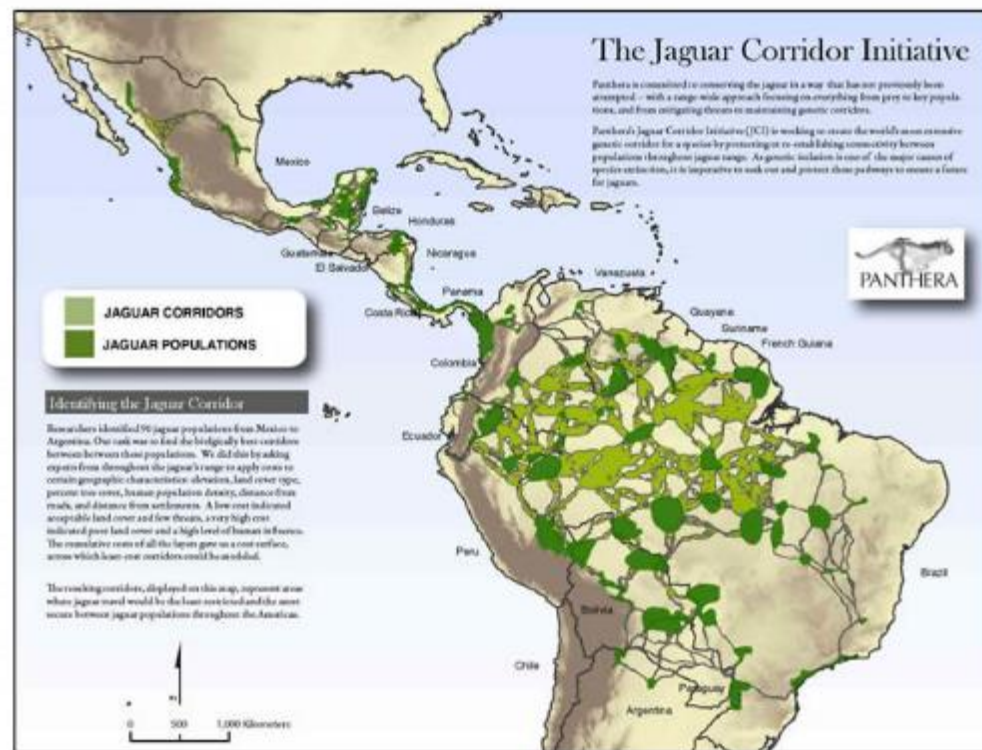


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# Transportation Ecology Research

- Highly collaborative
- Peer-reviewed journal articles
- New studies initiated
- International collaboration







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# Eco-Logical: The US Forest Service's Challenges

1. Funding for transportation ecology
2. Succession planning
3. Diverse cooperating agency mission  
and information-sharing

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# Take Home Message

- The Forest Service is a fully supportive partner in the Eco-Logical concept and process
- Large scale restoration and smaller scale interagency collaboration are key to FS Mission

Gunnison National Forest