

Planning for Growth and Open Space Conservation

This webinar series is sponsored by:
USDA Forest Service
State and Private Forestry - Cooperative Forestry

Organized by
Rick Pringle, Susan Stein, Sara Comas, Susan Guynn (Clemson University)
and the
Forest Service National Open Space Conservation Group



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Learn About the Series

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Listen to our past webinars:

- ▶ [Session #9](#): Private land conservation programs from the Farm Bill: Natural Resources Conservation Service, Farm Service Agency, and US Forest Service.
- ▶ [Session #8](#): Landscape Conservation Initiatives: US Fish and Wildlife Service, Bureau of Land Management, Department of Defense, Natural Resources Conservation Service
- ▶ [Session #7](#): Science to inform Open Space Conservation: Land use changes, forest fragmentation, and the Wildland-Urban Interface
- ▶ [Session #6](#): Facilitating Large Landscape Conservation Efforts: Working effectively across boundaries in the Northeast and Crown of the Continent
- ▶ [Session #5](#): Local and Regional Land Trusts: Essential partners and the tools they provide
- ▶ [Session #4](#): The Forest Service Toolbox: Conservation easement and land acquisition programs
- ▶ [Session #3](#): Green Infrastructure Planning: Connecting partners and greenspaces
- ▶ [Session #2](#): YES YOU CAN! Participating in Growth Planning Beyond the Green Line
- ▶ [Session #1](#): National Forest Management in the Face of Housing Growth

Learn about future topics!

Future Topics:

Please [register](#) in advance if you would like to attend these presentations.

- ▶ [Session #11](#): An All Lands Approach to Ecosystem Services for Water

Submit feedback about the series!

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Learn About the Series

Click on the session titles for more info on recordings and slide presentations



[Listen to our past webinars:](#)

▾ [Session #9: Private land conservation programs from the Farm Bill: Natural Resources Conservation Service, Farm Service Agency, and US Forest Service.](#)

- **Bruce Wight:** *NRCS Conservation Technical Assistance, EQIP, WHIP, CSP, Statewide Forest Action Plans*
- **Katina Hanson:** *FSA: Emergency Forest Restoration Program (EFRP), Conservation Reserve Program (CRP).*
- **Karl Dalla Rosa:** *USFS Forest Stewardship*

Join us for a discussion of current and future Farm Bill programs administered by the Forest Service, Natural Resource Conservation Service, and Farm Service Agency that support private landowner efforts to protect working forests and conserve open space.

[Link to video presentation](#)

[Link to pdf presentation](#)

▸ [Session #8: Landscape Conservation Initiatives: US Fish and Wildlife Service, Bureau of Land Management, Department of Defense, Natural Resources Conservation Service](#)

▸ [Session #7: Science to inform Open Space Conservation: Land use changes, forest fragmentation, and the Wildland-Urban Interface](#)

***Session #12 - Greening Grey Infrastructure:
Federal Highway's Eco-Logical Program
And Transportation Partnerships on National Forests
I-90 Snoqualmie Pass East Project – Washington
US Route 33 Bypass – Ohio***



Marlys Osterhues
Federal Highway
Administration



Dan Kincaid
Wayne National Forest
Ohio



Patty Garvey-Darda
Okanogan-Wenatchee
National Forest
Washington

Logistics – Q&A

- **Continuing Education Credits**
 - Attend entire presentation
 - Select SAF or APA during Q&A
- **Questions for speakers – chat pod**
- **Technical difficulties – chat pod or email Susan Guynn: SGUYNN@clemson.edu**

Getting to Know You!



Marlys Osterhues
Eco-Logical Program
Federal Highway Administration

Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects



Photo: FHWA

Marlys Osterhues

Federal Highway
Administration

Office of Project
Development and
Environmental Review

March 27, 2013

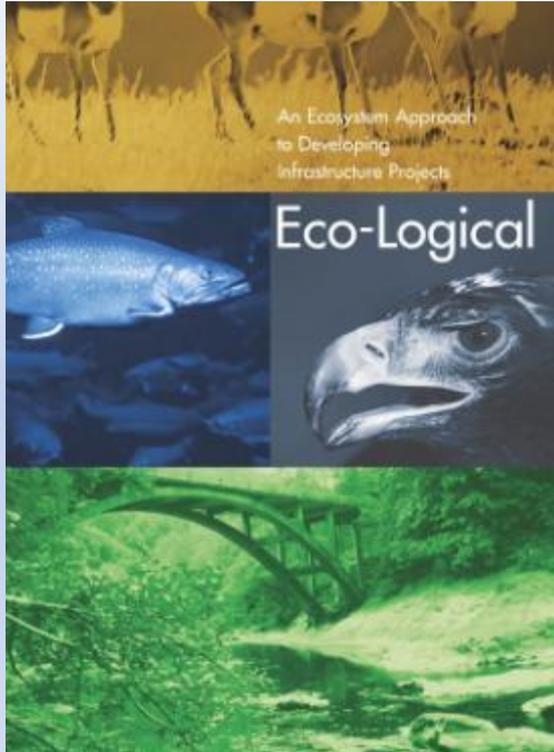


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Background



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

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Assistant Secretary
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James R. Walpole, General Counsel
National Marine Fisheries Service
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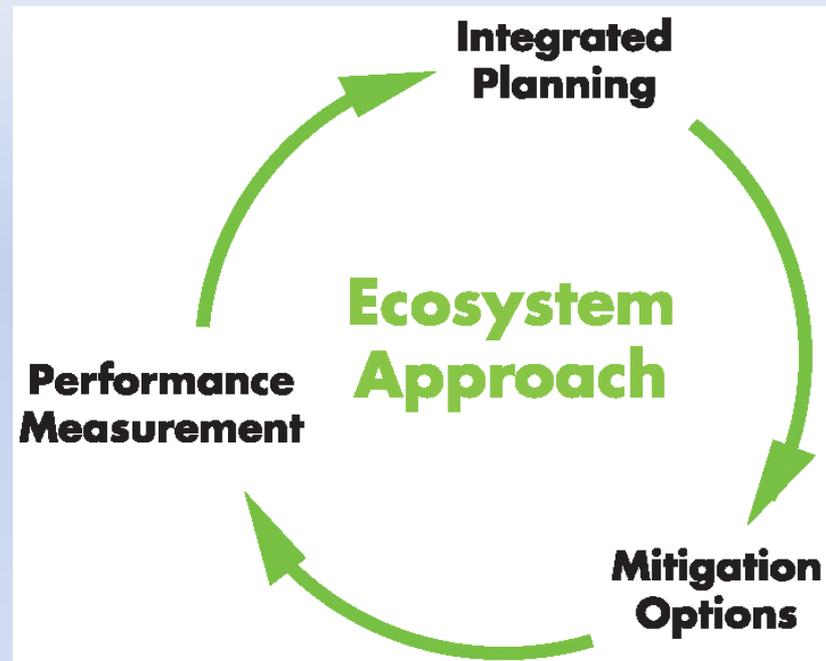
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What is the Eco-Logical Approach?

- Predictability
- Connectivity
- Conservation
- Transparency



Benefits and Importance to Signatory Agencies



- Promotes streamlined and efficient delivery of infrastructure projects
- Improves the predictability of project permitting and environmental review
- Enhances interagency coordination
- Leverages opportunities to optimize environment and natural resource benefits



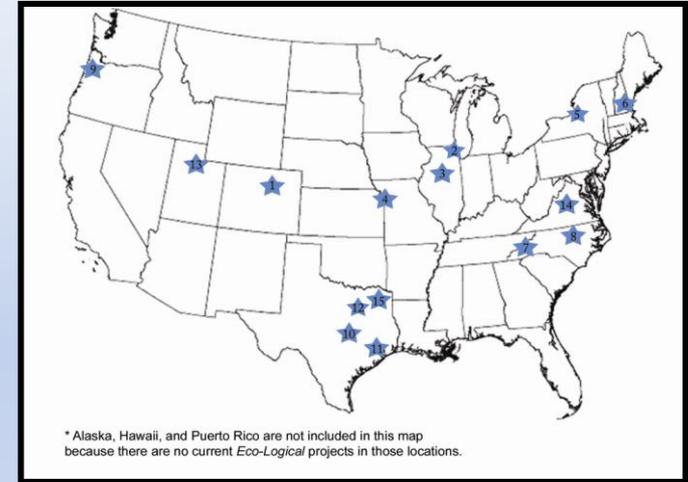
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Ongoing Eco-Logical Program Activities

- Signatory Agency Meetings
- Eco-Logical *Successes*
- Grant Program
- Webinar Series
- Training Needs Assessment and Training Strategy
- Eco-Logical Benefit Assessment Framework



Eco-Logical Website:

http://www.environment.fhwa.dot.gov/ecological/eco_entry.asp

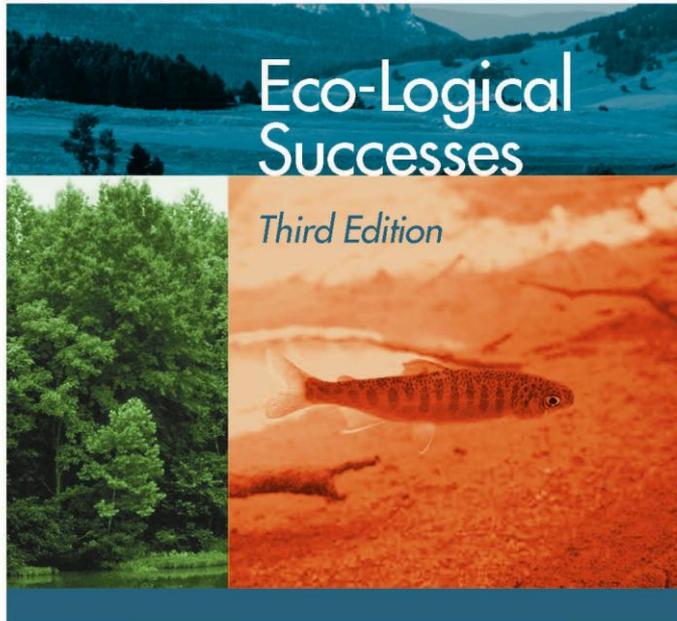


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Eco-Logical Successes, Third Edition



Introduction

Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects outlines an ecosystem-scale approach to prioritizing, developing, and delivering infrastructure projects. *Eco-Logical* emphasizes interagency collaboration in order to create infrastructure projects in ways that are more sensitive to terrestrial and aquatic habitats.

The eight *Eco-Logical* signatory agencies are:

- Bureau of Land Management
- Federal Highway Administration
- National Oceanic and Atmospheric Administration
- National Marine Fisheries Service

- National Park Service
- U.S. Army Corps of Engineers
- U.S. Department of Agriculture Forest Service
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service

Eco-Logical Successes highlights signatory agencies' strategic environmental programs, projects, and efforts that share the vision set forth in *Eco-Logical*. This edition of *Eco-Logical Successes* focuses on two agency programs: the U.S. Forest Service's Open Space Conservation Strategy and the National Park Service's (NPS) Inventory and Monitoring Program.

Forest Service's Open Space Conservation Strategy

The U.S. Forest Service works to sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations. An interconnected network of open space provides invaluable environmental and social services: it supports healthy ecosystems, protects drinking water supplies, provides recreation opportunities, and leads to improved public health. Current patterns of growth—namely, low-density development that subdivides formerly large swaths of forest and grasslands—threatens the vital ecosystem, social, and economic benefits that open space provides. In response to the negative impacts caused by fragmentation and parcelization, the Forest Service created its Open Space Conservation Strategy to encourage cross-boundary partnerships to strategically conserve open space across the landscape.

The Open Space Conservation Strategy identifies actions to protect the most ecologically and socially important lands and to reduce potential negative impacts and risks of development. Four priority actions guide the strategy:

1. Convene partners to identify and protect priority open space

The Forest Service works closely with States, communities, landowners, and nonprofit organizations to strategically conserve open space across the landscape. The Forest Service conducts science-based assessments of open space change and incorporates information from other sources, such as State forest resource assessments, State wildlife action plans, and ecoregional assessments to identify priority open space locations. Once they have identified regional priority lands, the Forest Service works in partnership with willing landowners and other public and private groups to protect land through land acquisition and conservation easements.

What is Open Space?

The Forest Service defines open space as land that is valued for natural processes and wildlife, agricultural and forest production, aesthetic beauty, active and passive recreation, and other public benefits. Such lands include working and natural forests, rangelands and grasslands, farms, ranches, parks, stream and river corridors, and other natural lands within rural, suburban, and urban areas. Open space may be protected or unprotected, public or private.

2. Promote national policies and markets to help private landowners conserve open space

At the national level, the Forest Service promotes policies that provide economic incentives to support landowners who are interested in protecting open space and retaining working land. Such activities include studying the impacts of changes in tax policies, supporting the development of emerging ecosystem service markets, such as water-quality and carbon-credit trading, and providing assistance to help sustain ranching, forestry, and agricultural lands.

3. Provide resources and tools to help communities expand and connect open spaces

The Forest Service shares tools and techniques with local communities to help them restore and connect quality parks, riparian areas, forests, and wetlands to build an interconnected green infrastructure. Forest Service programs, such as the **Forest Legacy Program** and **Urban and Community Forestry** help communities to conserve and manage forests. In addition, Forest Service scientists produce valuable information to help municipalities make informed conservation decisions: regional assessments give an in-depth picture of the consequences of land-use changes and the ongoing forest census provides data and maps about current forest conditions and trends.

4. Participate in community growth planning to reduce ecological impacts and wildfire risks

The Forest Service participates in local, regional, and transportation planning activities to reduce the ecological impacts of new developments and community infrastructure. The agency encourages the use of landscape-scale, natural resource information in planning, and is developing educational materials to inform Forest Service staff how to engage in local planning activities.

Field Implementation

Many of the strategies outlined in the Open Space Conservation Strategy were implemented in the Bozeman Pass Land Conservation Project. Bozeman Pass is located in one of the most important wildlife movement connectivity sites in the Greater Yellowstone region and provides numerous recreation opportunities. The land, which is bisected by Interstate 90, was vulnerable to development and land conversion. To protect this ecologically important area and minimize threats caused by development, the



Second Strategic Highway Research Program (SHRP2) Implementation

SHRP2 Research Products

- Aim to operationalize the Eco-Logical approach
- Four pilots tested in Colorado, West Virginia, California and Oregon
- \$1 million to develop an interagency data tool

New Implementation Activities

- \$1.5 million in Implementation Assistance Grants to State DOTs and MPOs
- State and regional workshops and peer exchanges
- Technical assistance tools and on-call expertise



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Eco-Logical Supports

Major Interagency Initiatives

- **MAP-21:** Planning and Environmental Review Provisions
- **Executive Order 13604:** Improving Performance of Federal Permitting and Review of Infrastructure Projects (March 22, 2012)
- **FHWA Every Day Counts:** Programmatic Agreements, Environmental Document Quality and Geospatial Data Collaboration



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Eco-Logical in USFS Transportation



White Mountain National Forest, NH



Tongass National Forest, AK

- USFS leadership in the Integrated Transportation and Ecological Enhancements for Montana (ITEEM)
- Cherokee and Wayne National Forests
- Opportunities for USFS involvement:
 - Aquatic organism passage
 - Watershed Condition Framework
 - Green Infrastructure Plans
 - Application to ROWs, energy and utility corridors
 - Climate change adaptation pilots



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For More Information

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http://www.environment.fhwa.dot.gov/ecological/eco_entry.asp

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Dan Kincaid
Wayne National Forest
Ohio

Linking Highway Infrastructure Projects with Wildlife and Open Space Conservation Efforts

Federal Highways Eco-Logical Program:

Federal Highways and USFS Partnerships

“Specific Mitigation Measures”

Case Study:

U.S. Rt. 33 Nelsonville By-Pass

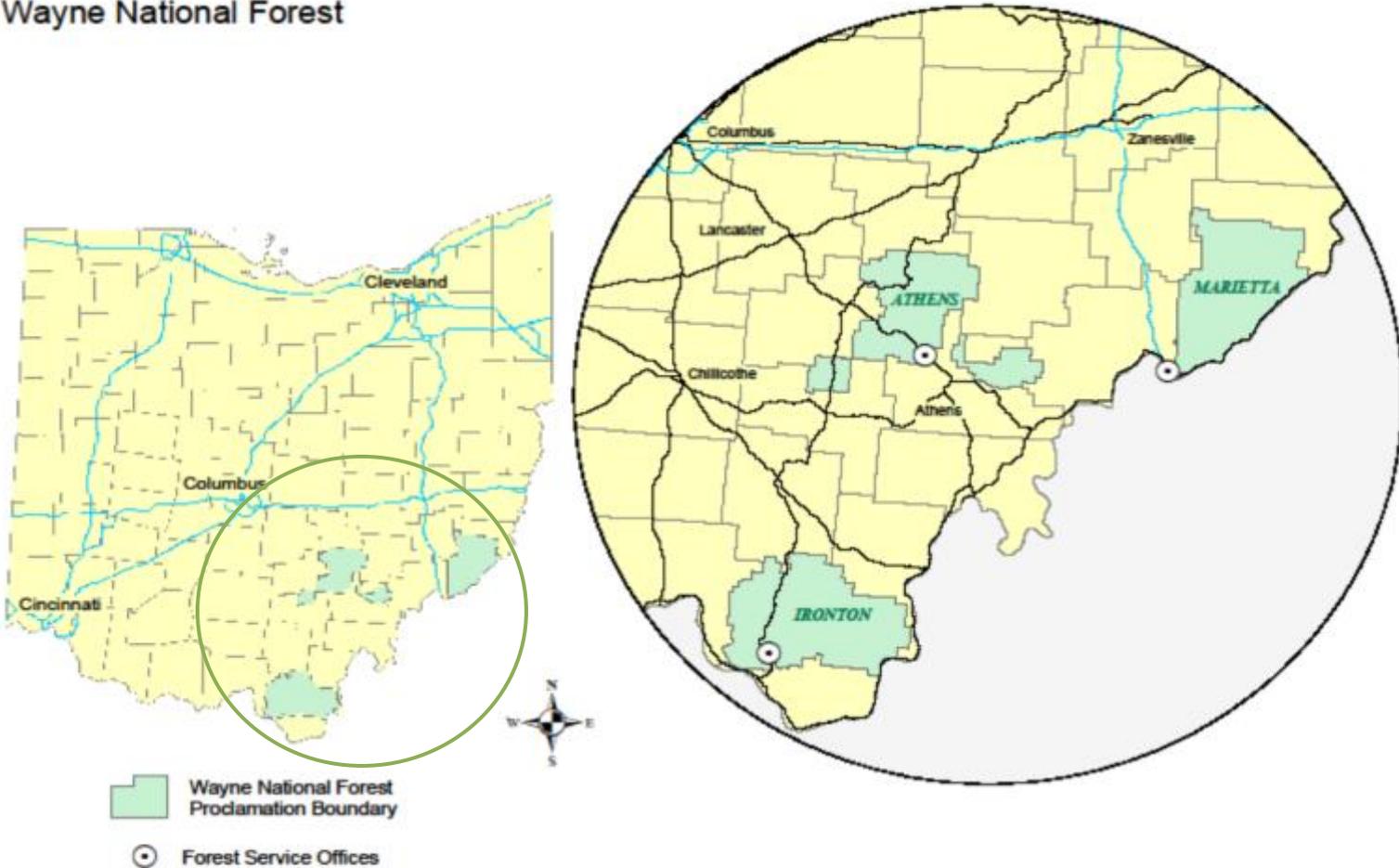
Wayne National Forest, Ohio

Speaker - Dan Kincaid – Highway Liaison



Vicinity Map

Wayne National Forest



MAJOR ISSUES

- **Forest fragmentation**
- **Habitat destruction**
- **Soil/Water impacts**
- **Aesthetics**
- **Recreation impacts**
- **Invasive species**
- **Wetlands**
- **T&E species**
- **Native vegetation**
- **Wildlife:**
 - Deer/bats
 - Other mammals
 - Snakes
 - Amphibians
- **Firefighting access**
- **Safety:**
 - Deer/Vehicle collisions
 - Forest users
 - Maintenance crews

Forest Fragmentation



BACKGROUND

- Timeframe:

- ❖ 8/19/05 FEIS/ROD; 8/26/06 LOC (actual terms and conditions of using this ROW); began construction late 2007
- ❖ Completion – Fall 2013

- Partnerships:

- ❖ Federal - FHWA, USFWS, COE
- ❖ State - ODOT, ODNR, OEPA, (local, university, etc.)
- ❖ Special video produced for those working on this project

- Broad Impacts:

- ❖ Total land cleared 600+ ac.; 360 ac. NF land cleared
- ❖ Timber sold and removed via a Stewardship Contract
- ❖ ROW fence 100,615'; fenced-476 ac.
- ❖ 8.5 mi. long (60% USFS); \$160 million project (stimulus)

- Mitigations: (shown in detail on the slides which follow)

BEFORE/AFTER

2009

2012



MITIGATIONS

Wildlife – Deer Jumpout



MITIGATIONS

Wildlife – Deer Jumpout



MITIGATIONS

Wildlife – Deer Jumpout



MITIGATIONS

- 48" Rattlesnake Culvert
- Grate for Light



MITIGATIONS

Wildlife – Snake Fence



Butterfly Bridge Grizzled Skipper



Plants preferred by the Grizzled Skipper



Wood vetch



Spring beauty



Coltsfoot



Cinquefoil



Wild strawberry

MITIGATIONS

Bat Houses beneath Bridge



MITIGATIONS

Wildlife – Gap Closure Slats



MITIGATIONS

Wildlife Culvert (28' X 11' X 124')



Wildlife Mitigation and Erosion Control

Native Species Plantings

- seed, grass plugs and saplings



Purple coneflower



Tall thimbleweed



Indian grass



River birch



Sumac



Butterfly weed



Blackeyed susan



Big bluestem

Soil and Water Slips/Bank Stabilization



Soil and Water Wetlands



Soil and Water

Acid Mine Drainage Remediation



RECREATION

ORV Culvert

14' X 10' X 122'



RECREATION

ORV Trail - Fence



14' Gates

Fire Access Gates



4' Gates

Inspection Access Gates



CONTACTS

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(Staff Officer)

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Cheryl Coon -

(Botanist)

ccoон@fs.fed.us



Patty Garvey-Darda
Okanogan-Wenatchee National Forest
Washington



Restoring Ecological Connectivity on the Okanogan-Wenatchee National Forest at Snoqualmie Pass



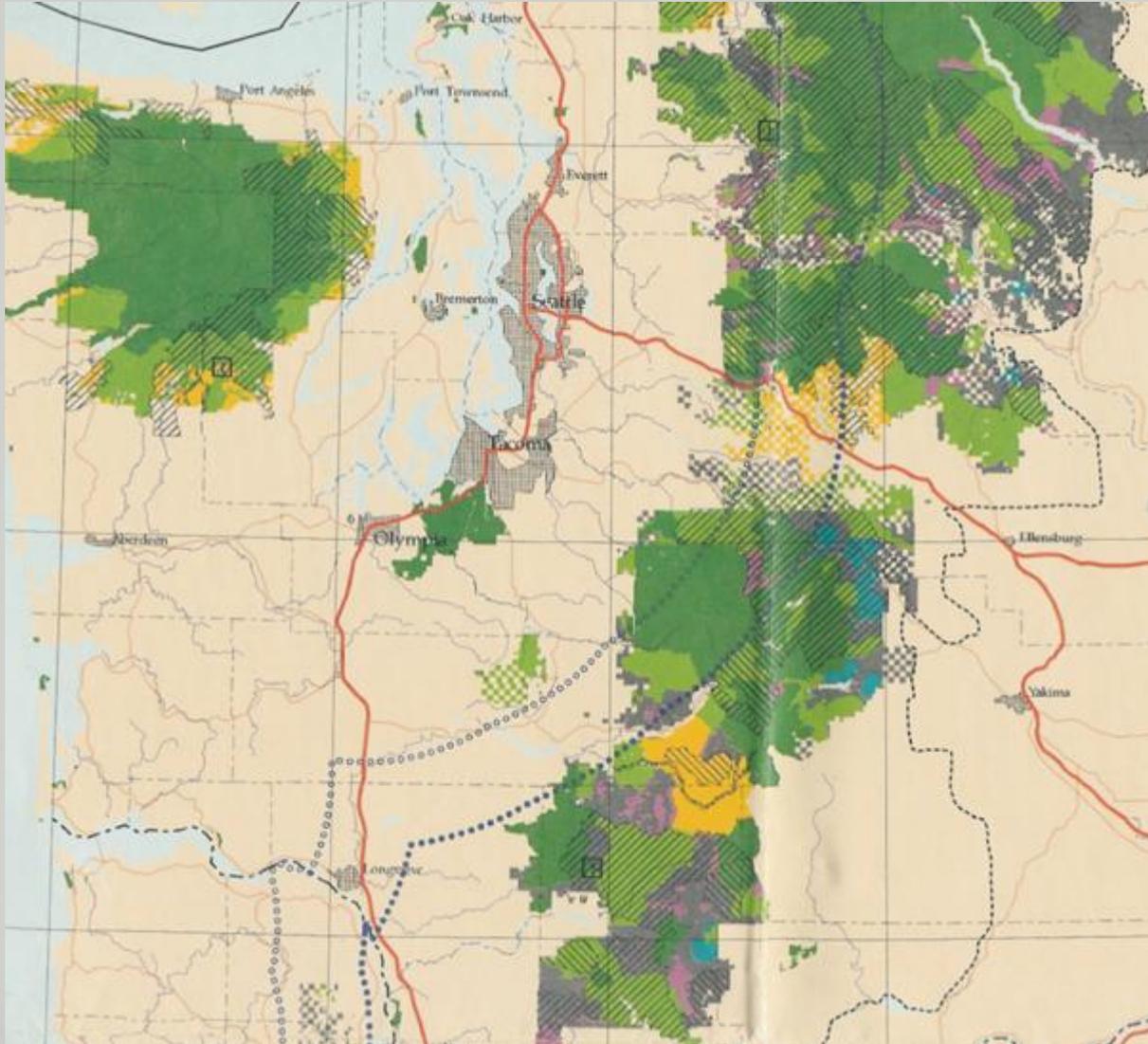
Patty Garvey-Darda



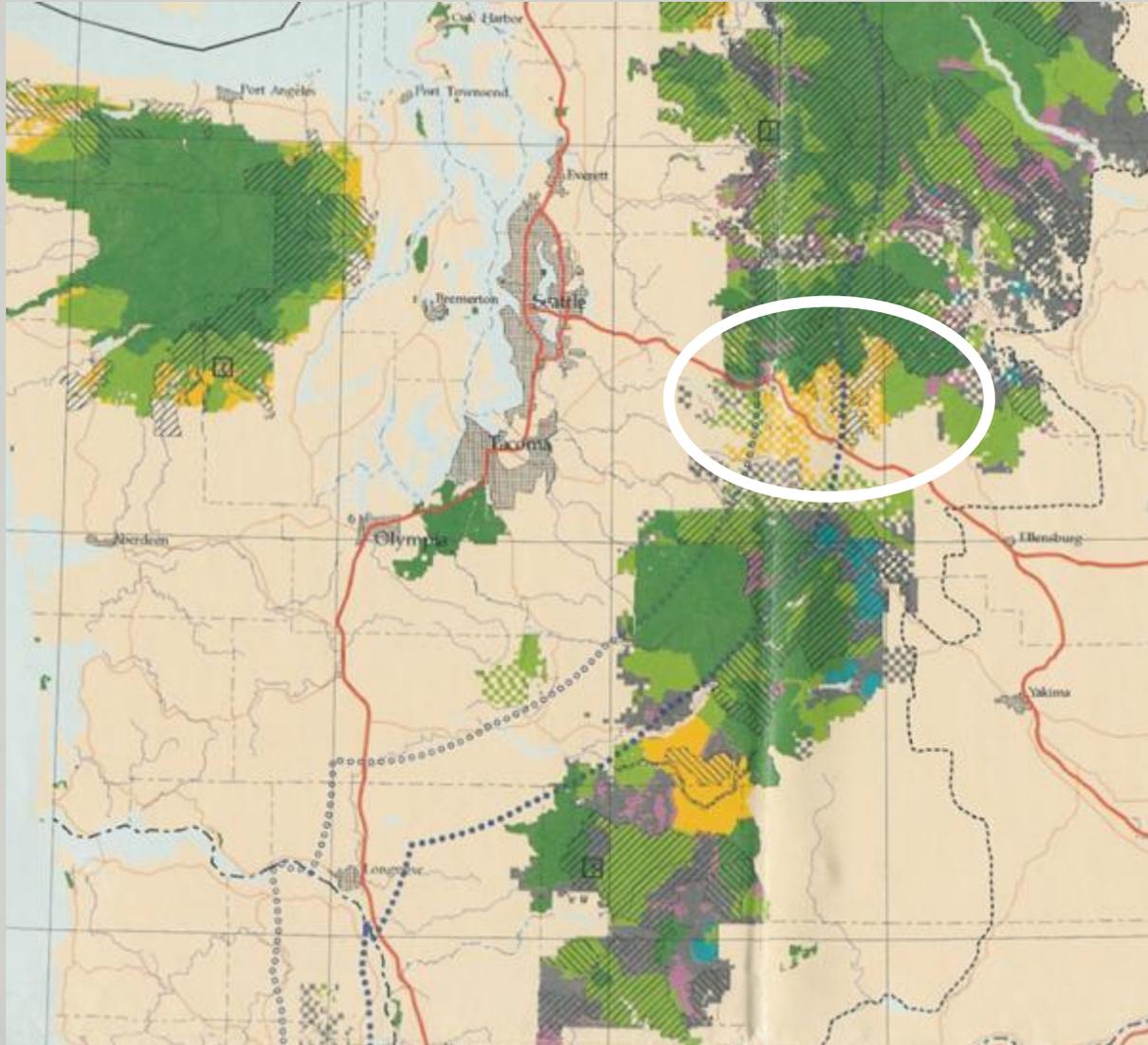
**Okanogan-Wenatchee
National Forest
March 27, 2013**



The Washington Cascades



Snoqualmie Pass Adaptive Management Area



An aerial photograph of a forested landscape. A road, likely I-90, runs horizontally across the middle of the image. To the left of the road, a river flows through a valley. The surrounding area is densely forested with green trees, and there are some cleared areas and small structures visible. The text is overlaid on the left side of the image.

o Habitat Fragmentation

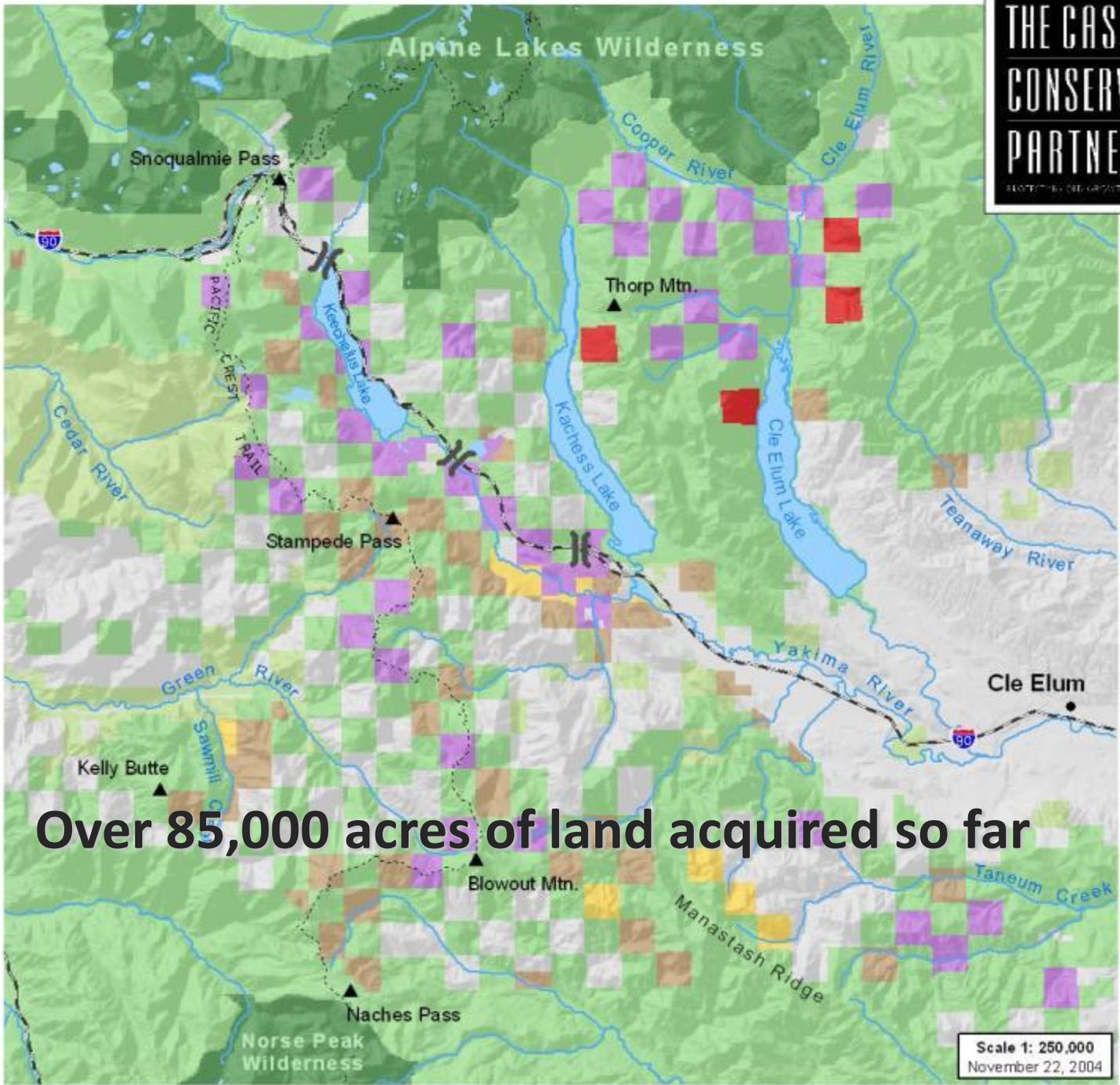
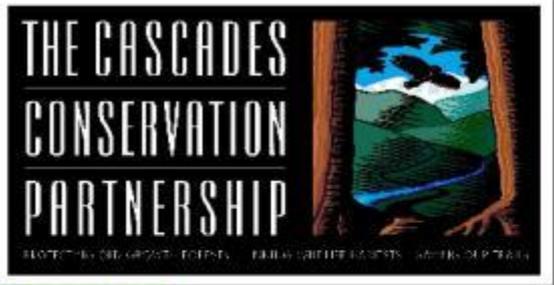
- o Loss of interior forest conditions
- o Risk of localized extinction

o High Road densities

- o Lack of security habitat for wide-ranging carnivores & ungulates

o I-90

- o Barrier to movement
- o Mortality through roadkill



Land Acquisitions

I-90 Corridor

- FY '05 Funded - LWCF (I-90 Option Lands)
- Acquired with Federal Funds
- Donated by TCCP
- Future Target Areas

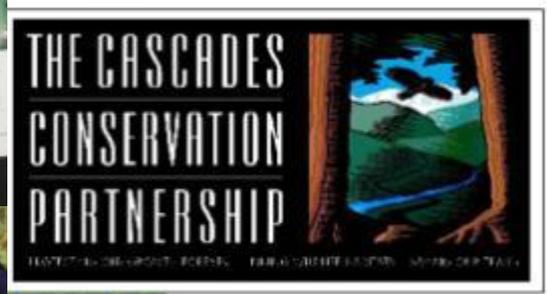
- Wilderness
- National Forest
- Other Public Lands
- Other Private Lands
- Proposed Wildlife Bridges
- Pacific Crest Trail
- Interstate Highway
- Rivers and Lakes

Over 85,000 acres of land acquired so far



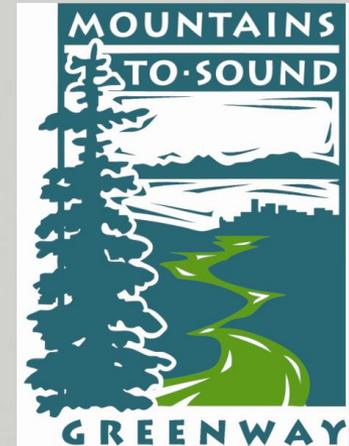
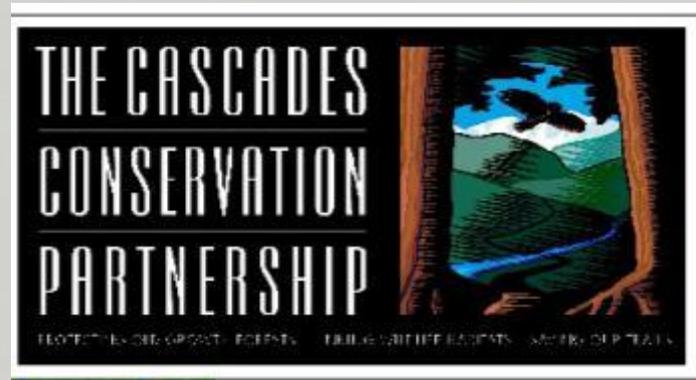
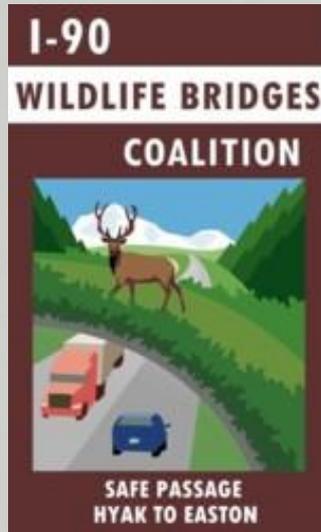
Scale 1: 250,000
November 22, 2004

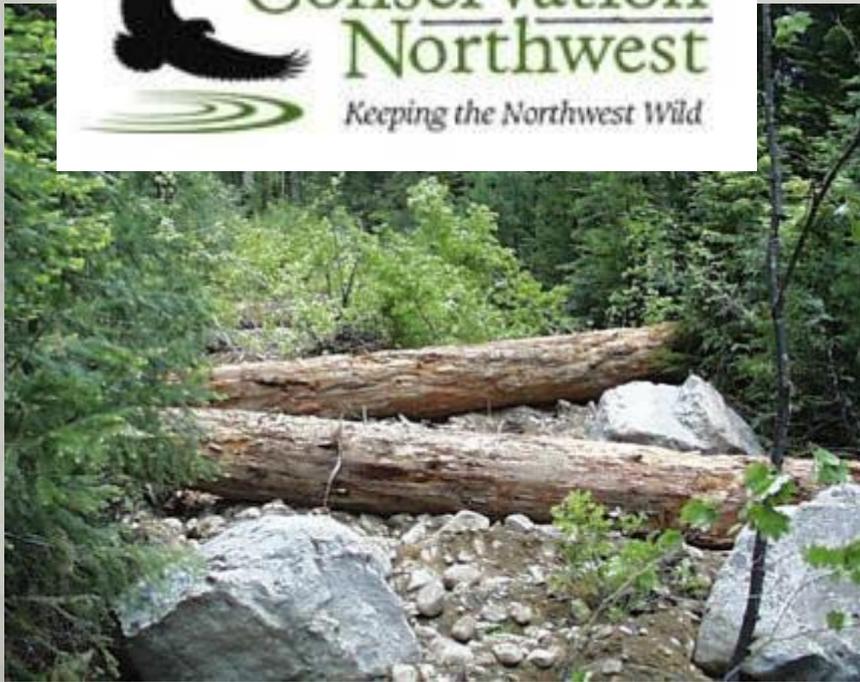
Contact the Partnership at:
3414 1/2 Fremont Ave N.
Seattle, WA 98103
Phone: 206-675-9747
www.cascadespartners.org



Conservation Organizations

Collaboration to restore the I-90 Corridor/Upper Yakima Watershed





Jason Smith

WSDOT South Central Region
Environmental Manager

Randy Giles

WSDOT I-90 Project Director



I-90. . .27,000 vehicles/day

Roads as Ecological Barriers



Snoqualmie Pass 1920

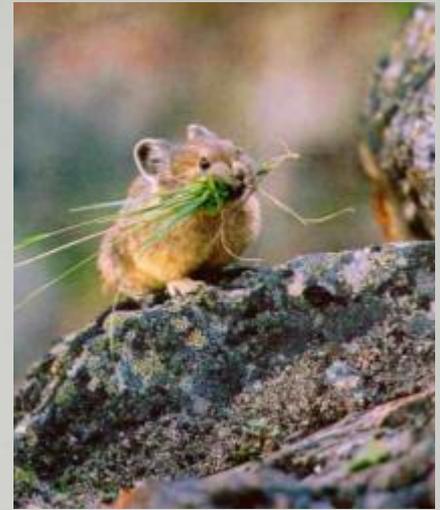


Interstate 90 Today

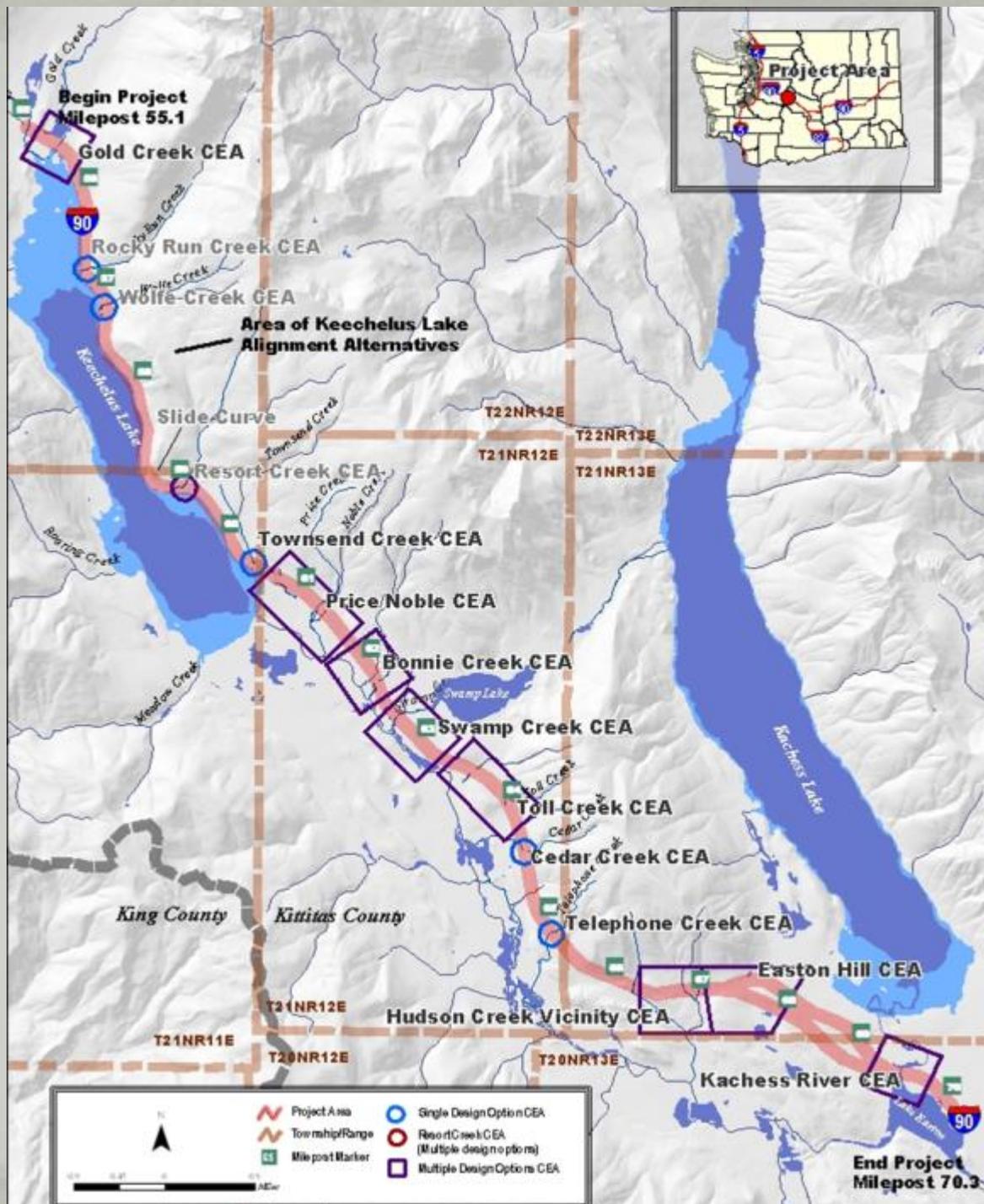
High Mobility Species



Low Mobility Species



Connectivity Emphasis Areas (CEAs)



I-90 Snoqualmie Pass East Final Decision

- 12 Bridges
 - 900-1,100'
 - 600'
 - 230' X 1
 - 120' X 9
- 2 Wildlife Overpasses
- Small and medium culverts (~ every 800m)
- Hydrologic connectivity structures (all hydro features)



I-90

WILDLIFE BRIDGES

COALITION



**SAFE PASSAGE
HYAK TO EASTON**

Steering Committee

Alpine Lakes Protection Society

Biodiversity Northwest

Kittitas Audubon Society

Northwest Ecosystem Alliance

Seattle Audubon Society

Sierra Club

The Cascades Conservation Partnership

Endorsing Organizations

American Rivers

Center for Tribal Water Advocacy

Defenders of Wildlife

Humane Society of the United States

The Nature Conservancy of Washington

Summit at Snoqualmie Ski Area

Washington Environmental Council

and many more.

Gold Creek – Existing conditions



Gold Creek CEA

Year-round wildlife crossing



Fish connectivity structure and wildlife crossing (under water May-July)



Simulation of bridges







**Washington State
Department of Transportation**





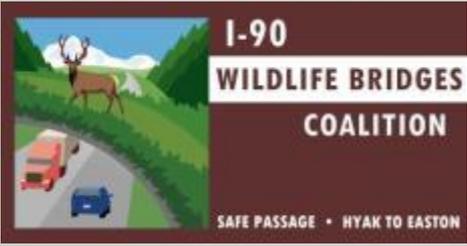


Wildlife Monitoring



Wildlife Monitoring







39F 10/18/07 04:55 PM



04/27/07 02:40 AM



66F 07/23/07 06:38 PM

I-90
WILDLIFE BRIDGES
COALITION
SAFE PASSAGE • HYAK TO EASTON





**Report wildlife
on I-90**



dead or alive

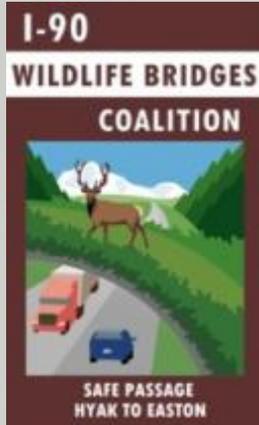
www.i90wildlifewatch.org

33581

LAMAR



Project Partners







MAITLAND
JOHNSON 11

None of this could have happened. . .
without the ACTIVE support of our many partners in the public
and other agencies!



Questions and Answers

Ask questions through the chat pod

Session #12

City and County Open Space Programs

Wednesday, April 24 at 2:00 pm Eastern

Andrew du Moulin – Trust for Public Land's
Center for Conservation Finance Research

Jackie Corday – City of Missoula, Montana's
Open Space Program

Don Outen – Baltimore County, Maryland's
Department of Environmental Protection
& Sustainability



Future Webinar Topics

- **May** - Forest Legacy and Protecting Private Lands: Monitoring and Enforcement of Conservation Easements
- **June** - Open Space and All Lands in National Forest Revision Planning

Give us your feedback!

www.fs.fed.us/openspace/webinars

Or Contact

Susan Stein – sstein@fs.fed.us

Sara Comas - scomas@fs.fed.us

Rick Pringle – rpringle@fs.fed.us