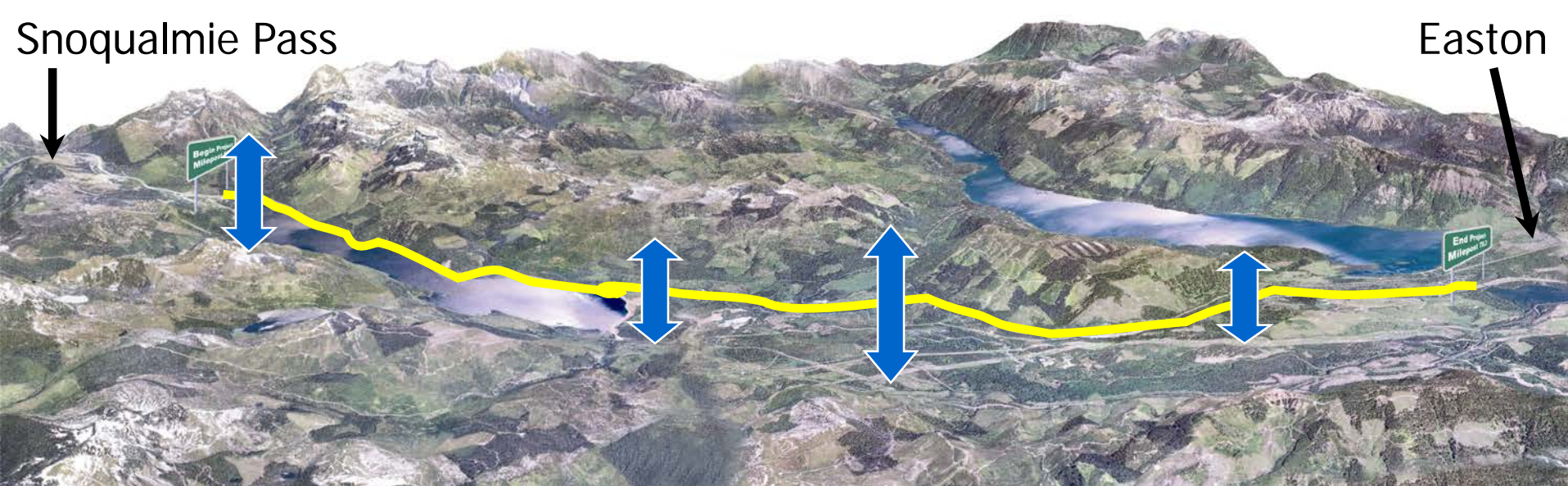


I-90 Snoqualmie Pass East Highway Expansion – Wildlife Crossings



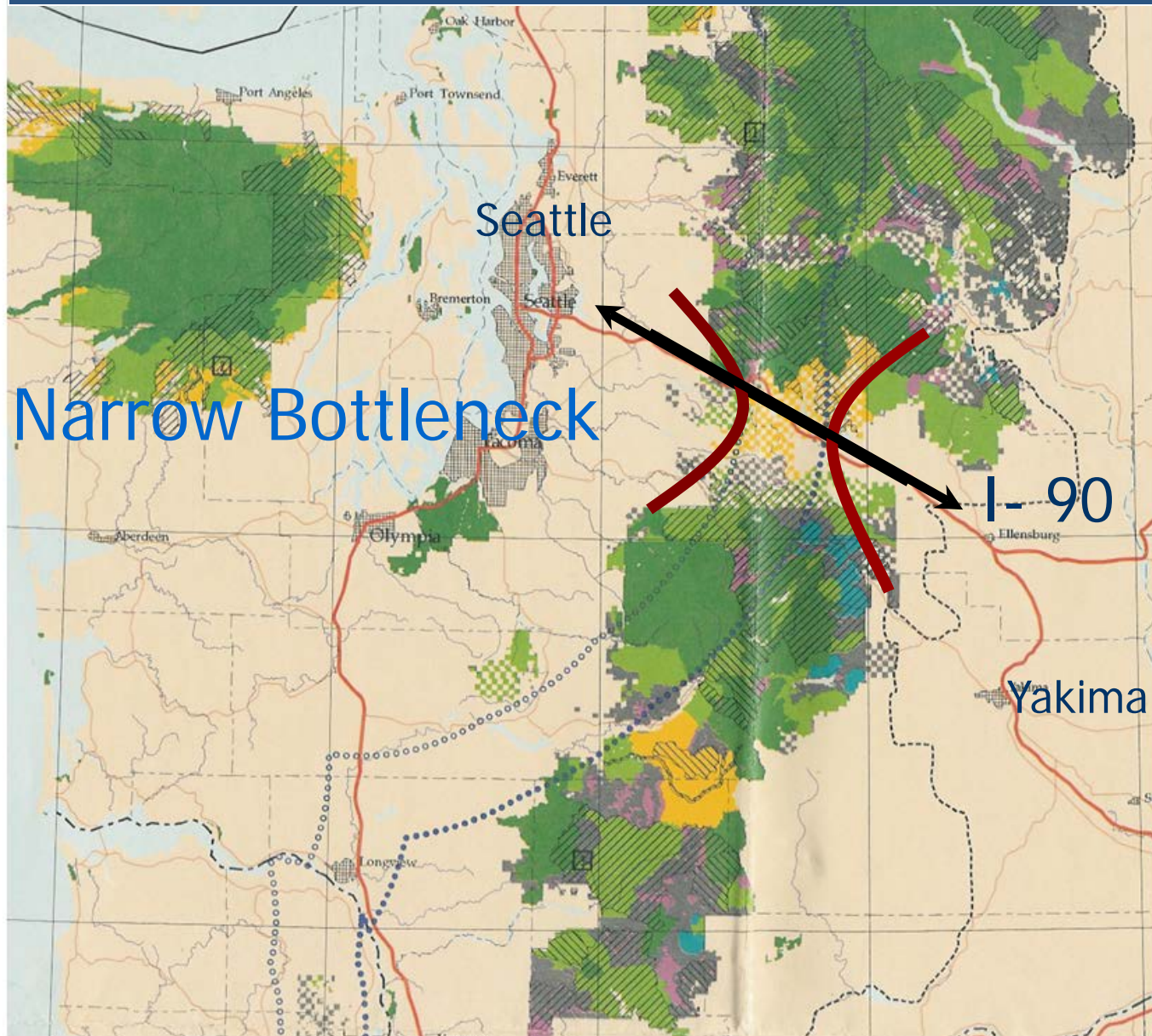
What is the I-90 expansion project?

I-90 Snoqualmie Pass East Project

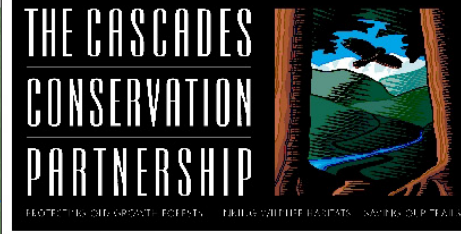


- 15 mile expansion from 4 to 6 lanes for safety and economics
- Provide Ecological connectivity across the highway


Federal Land in Washington State




Recent Land Acquisitions




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

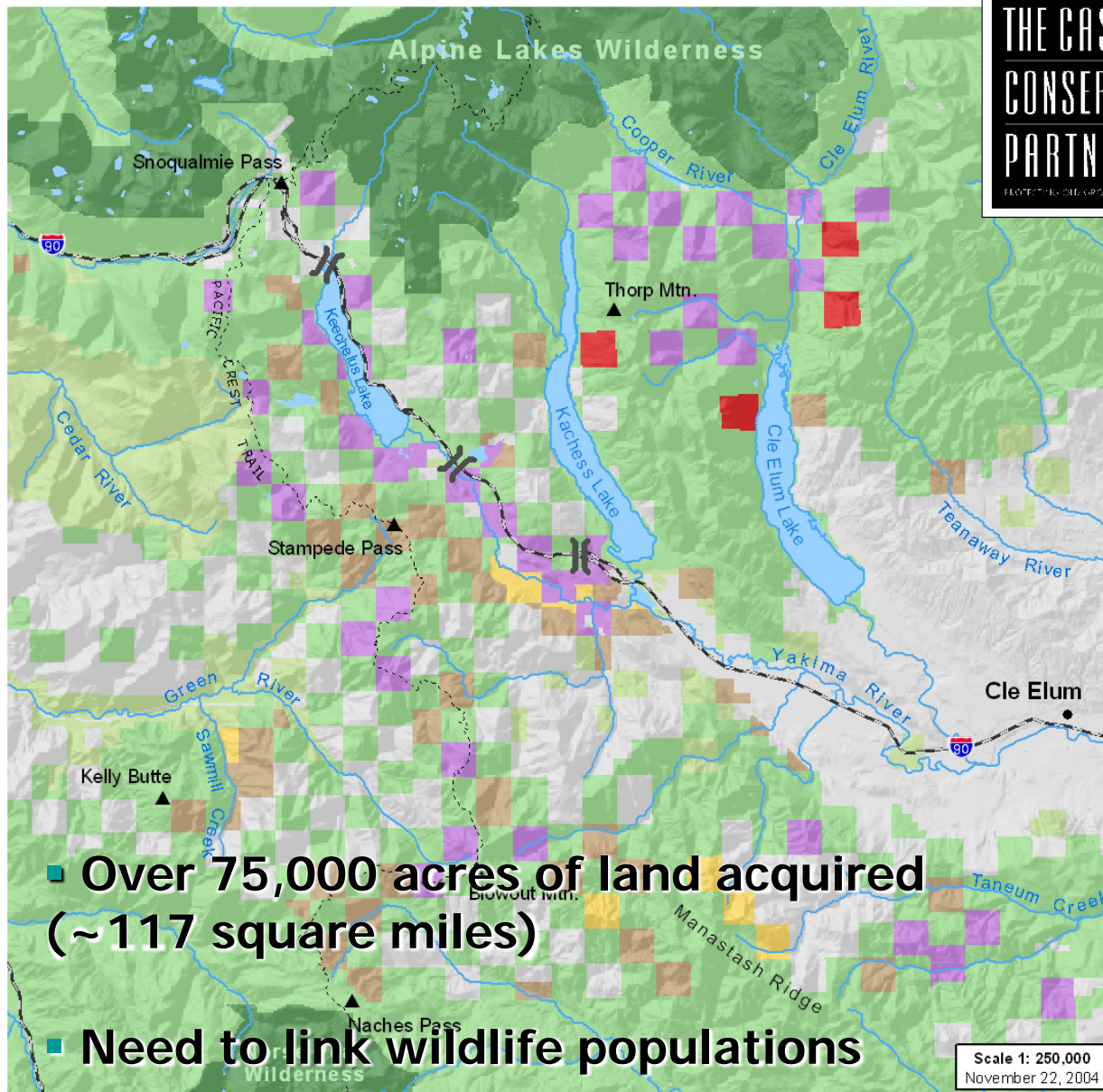
 Other Private Lands

 Proposed Wildlife
Bridges

 Pacific Crest Trail

 Interstate Highway

 Rivers and Lakes



■ Over 75,000 acres of land acquired
(~117 square miles)

■ Need to link wildlife populations



www.cascadespartners.org



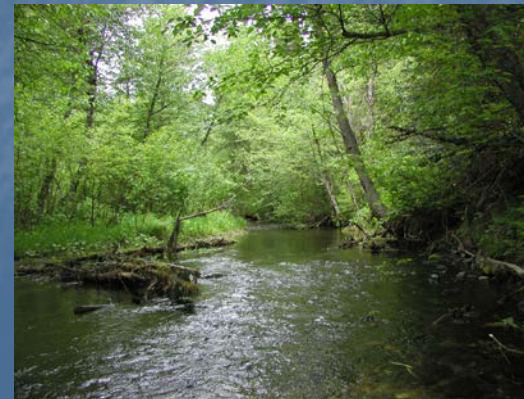
Contact the Partnership at:
3414 1/2 Fremont Ave N.
Seattle, WA 98103
Phone: 206-675-9747
www.cascadespartners.org

Scale 1: 250,000
November 22, 2004

CS-925

What is Ecological Connectivity?

- Reduce demographic and genetic isolation of species
- Reduce wildlife collisions
- Restore biophysical processes



Why is I-90 a barrier?

Roads as Ecological Barriers



Snoqualmie Pass 1920



Interstate 90 Today

How did we get Crossing Structures?

- WSDOT supported the Vision
- Multiple agency Collaboration
- We put Ecological Connectivity in the Purpose and Need Statement
- We presented Sound Scientific Evidence to support our case – See the Mitigation Development Team Report



How much Connectivity is enough?

The \$64 million dollar Questions - literally:

- How much connectivity is enough?

We recommended:

1 Large structure per mile

Secondary structures every 200m



- How do you justify connectivity with science?

Wildlife Studies

(high and moderate mobility species)

■ Wildlife Linkage Assessment

(Singleton & Lehmkuhl 2000)

- Road-kill data
- Snow tracking
- Culvert monitoring
- GIS habitat modeling

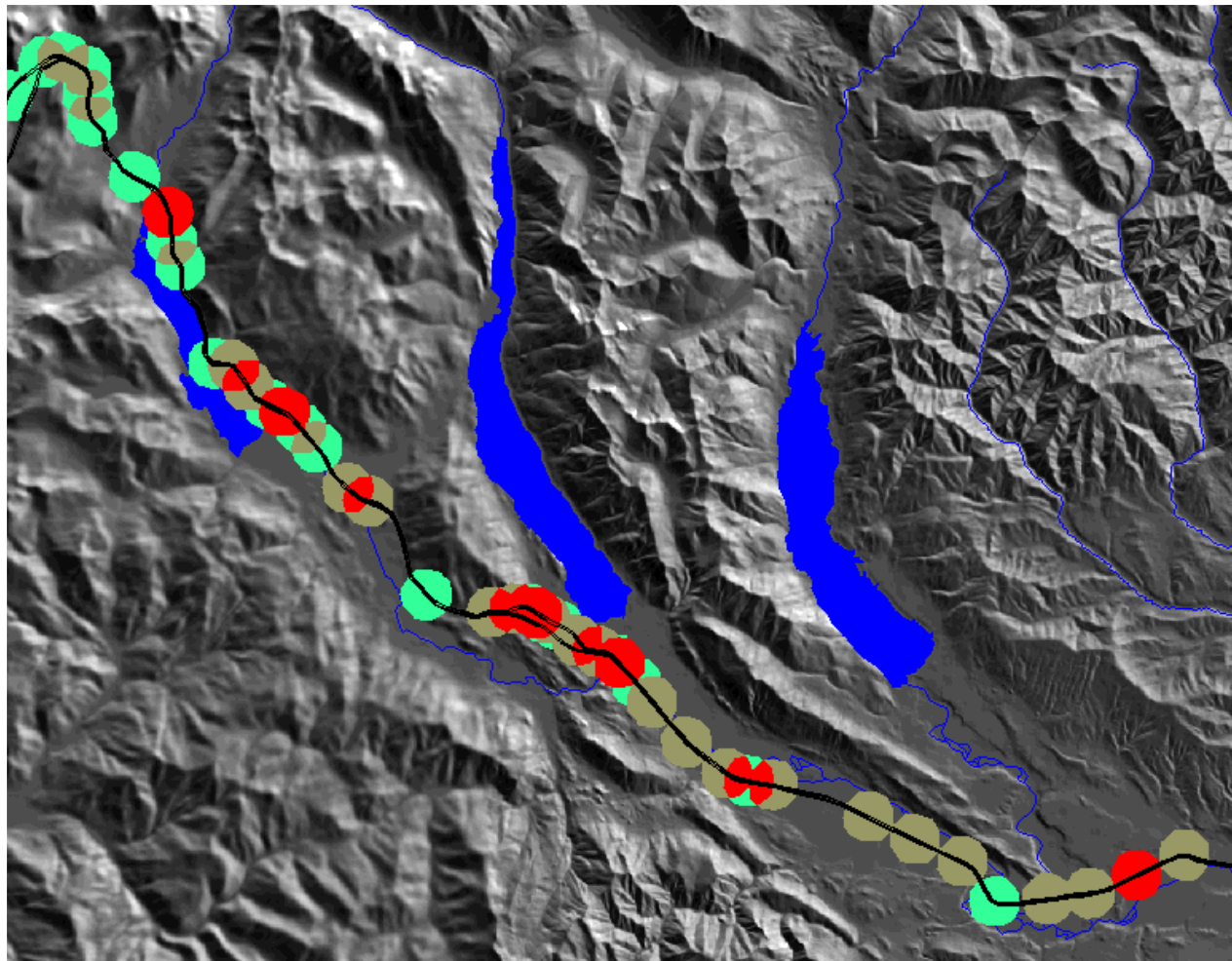


■ Literature Review + other highway projects

■ Mitigation Development Team



Elk Road kill all seasons



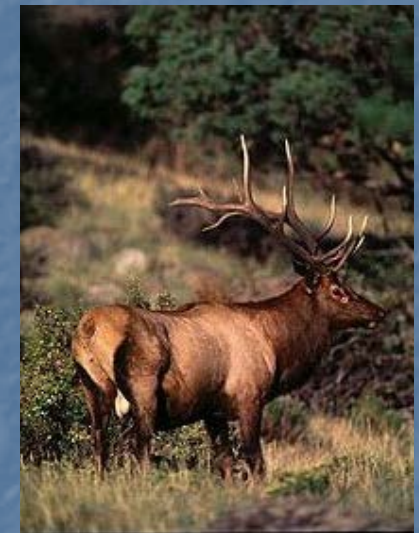
Elk Road-kill Distribution – All Seasons, 1990 to 1998

Elk Road-kill Density

- Low 1 kill/mile
- Moderate 2-4 kills/mile
- High 5-16 kills/mile



North

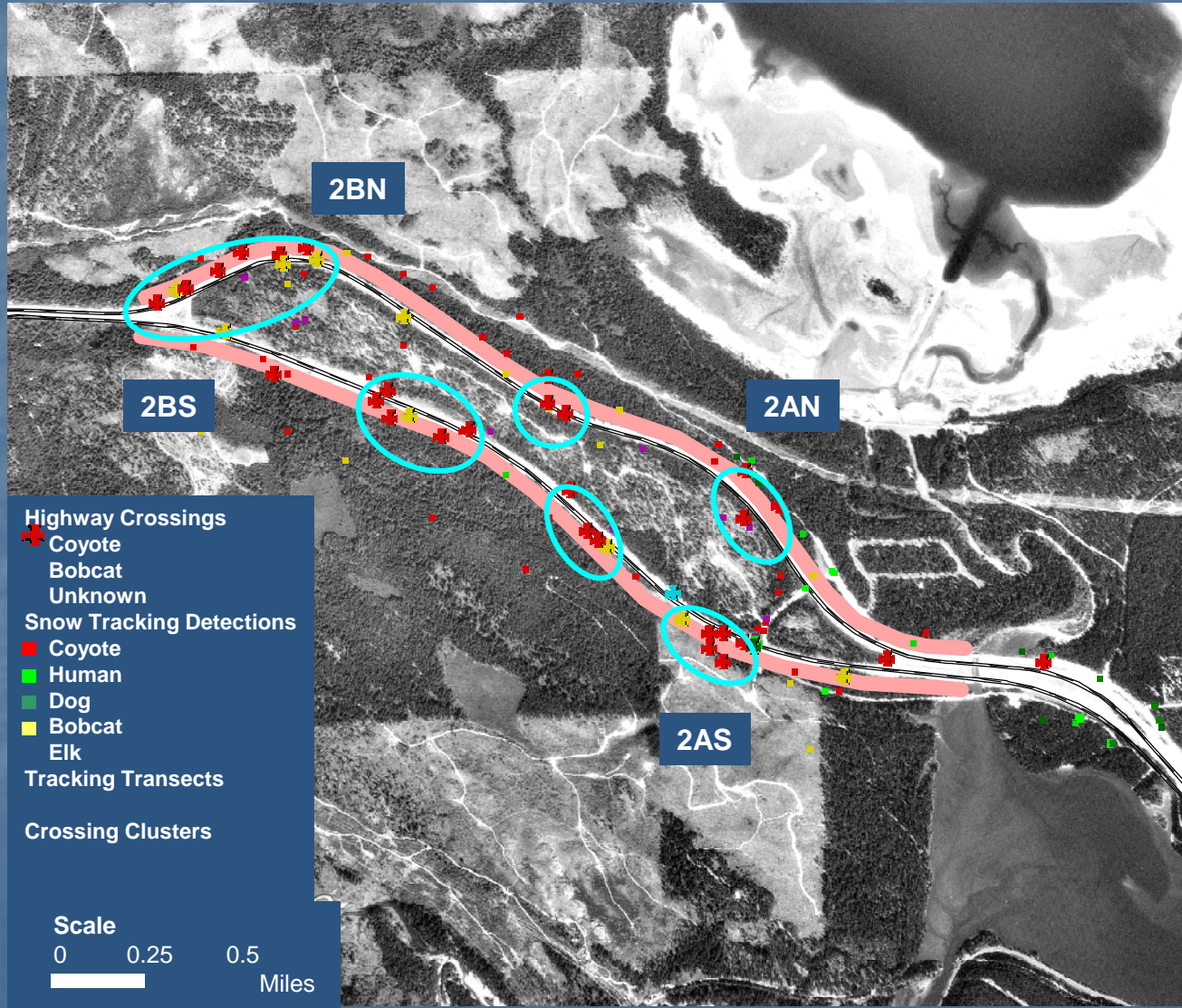


1990 – 1998:

102 elk kills total

345 deer kills total

Easton Hill – Snow Tracking Results



I-90 Species Distribution Study

140 in. Precip.

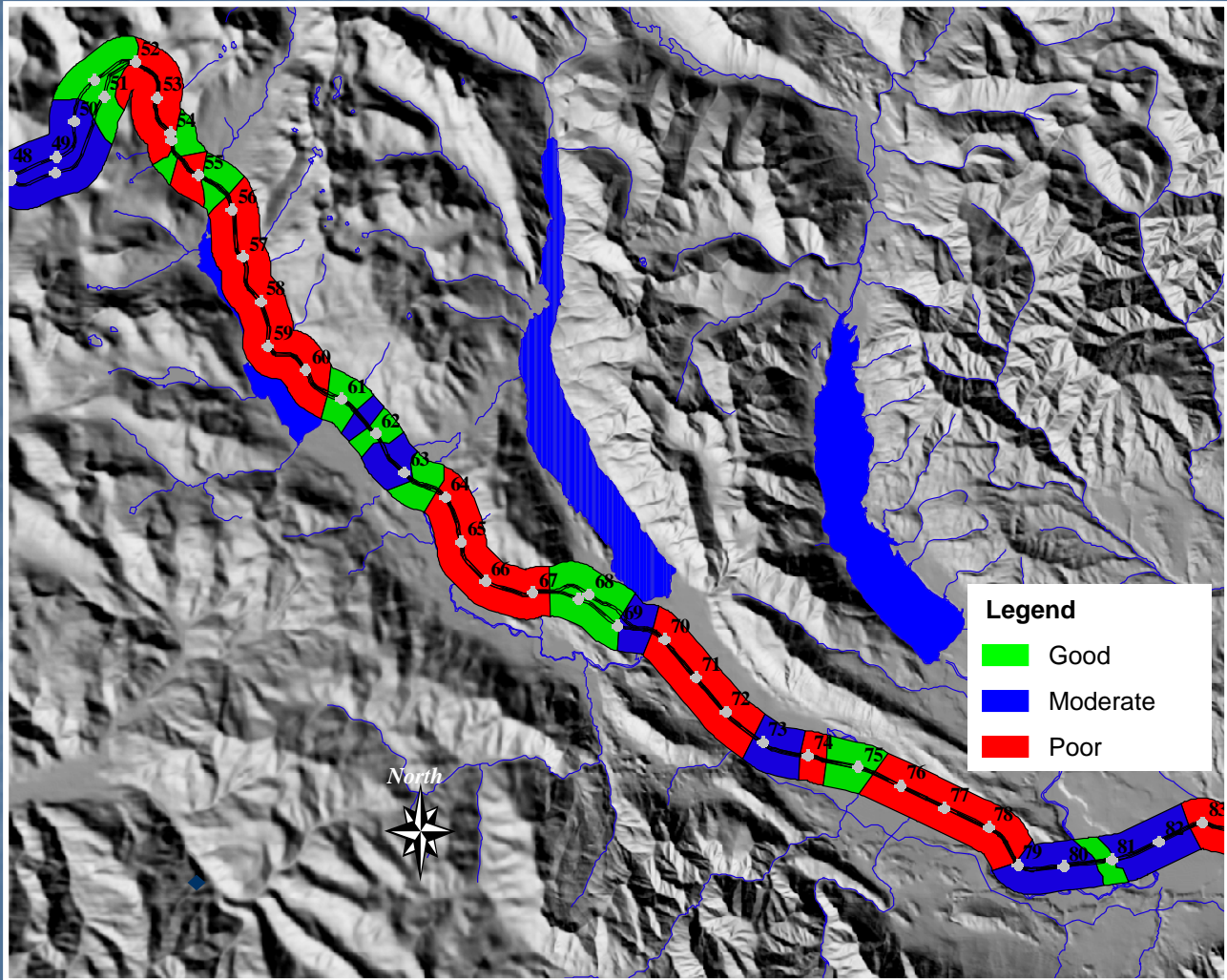


40 in. Precip.



WEST EASTON
END PROJECT
MP 70.1

I-90 Relative Landscape Permeability For High Mobility Species



m River

Low Mobility Species



Western toad



Larch Mt. Salamander



Ensatina



Molluscs



Invertebrates



Connectivity Restoration Areas

Convergence Zones:

- Highest priority area for linking wildlife
- Good Landscape fit
- Streams & wetlands
- Expansion of current bridge

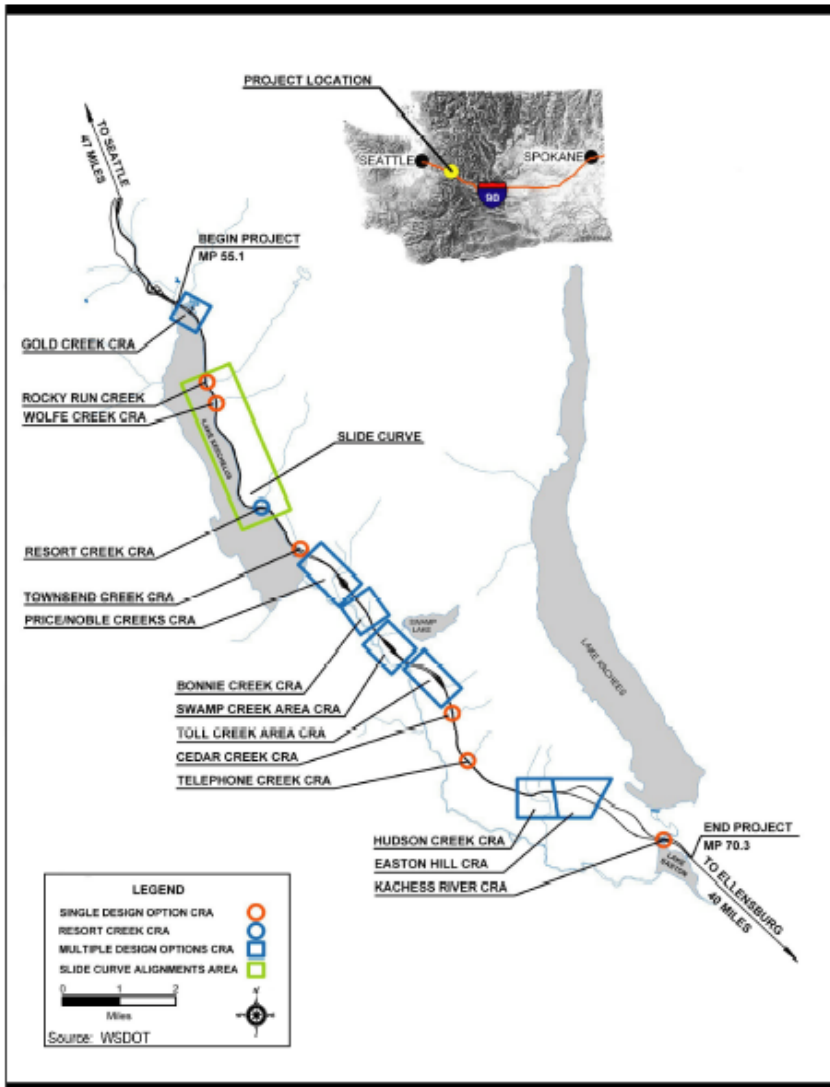


Figure 2-2. Connectivity Restoration Areas and Slide Curve Alignments





Wildlife Crossing Structure

Do Crossing Structures Work?



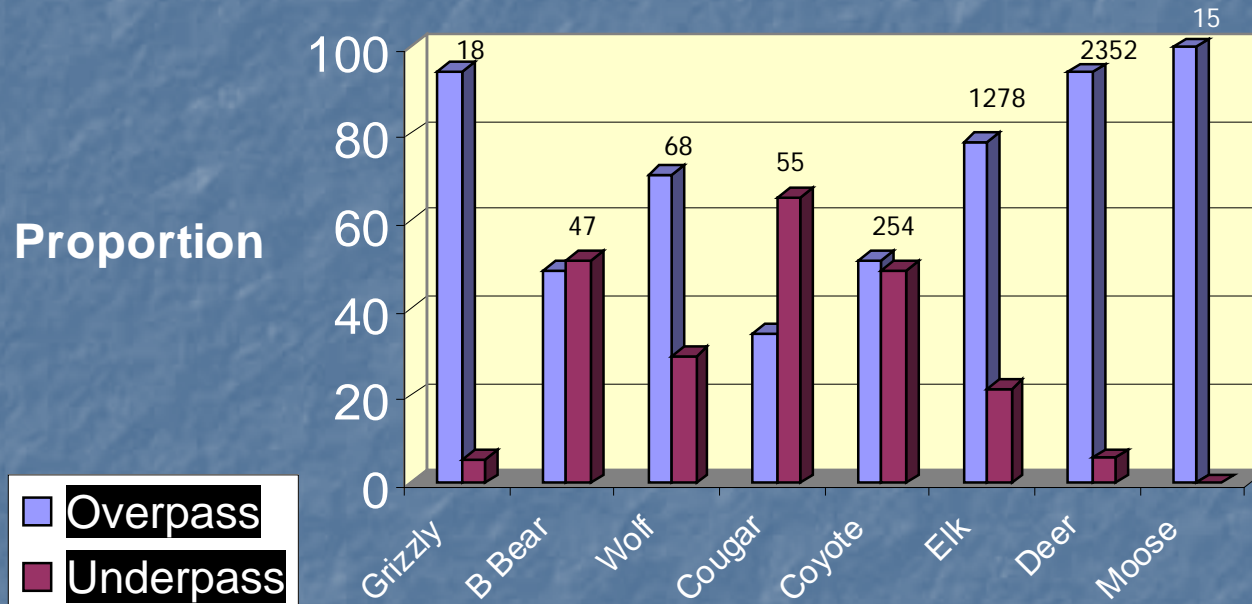
- culverts
- bridges
- wildlife overpasses



Yes! Crossing Structures Work

In ~5 years monitoring 22 structures: 37,379 individual wildlife passes!

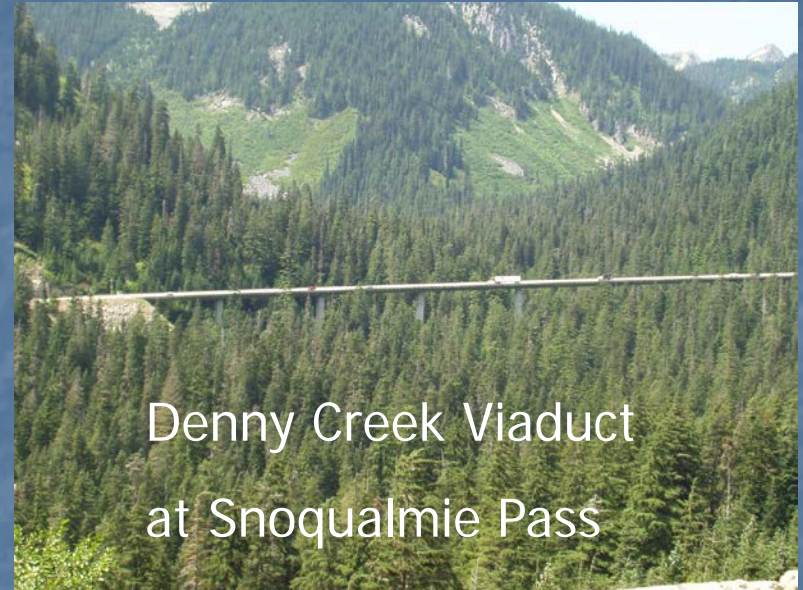
Carnivore and Ungulate use at each overpass and adjacent underpass



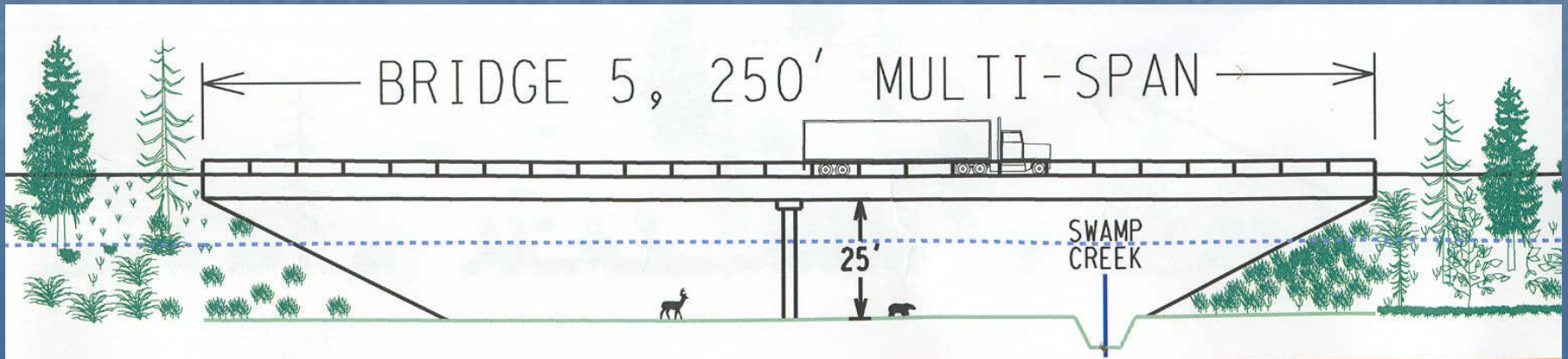
From: Clevenger 2002; Banff Nat'l Park



Wildlife Crossing Structures



Proposed I-90 Wildlife Underpass



Another Idea.....



Questions?

