

I-90 Snoqualmie Pass East

Developing and Implementing a Comprehensive Design and Mitigation Strategy

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I-90 Snoqualmie Pass East

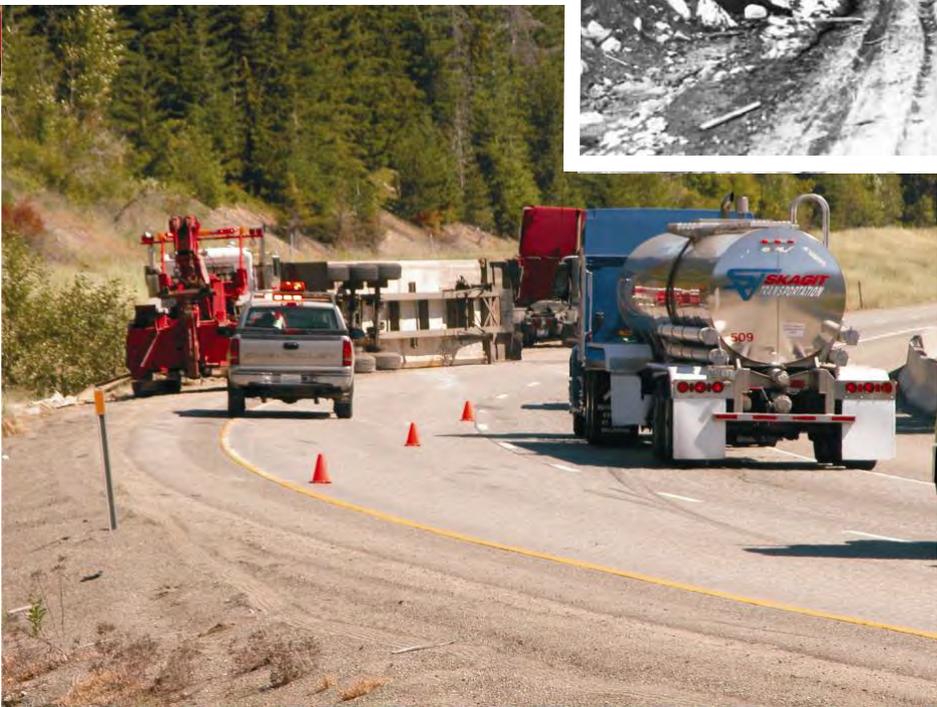


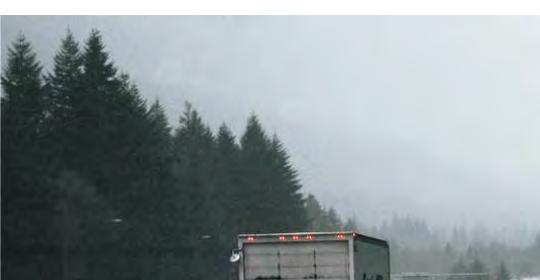
**Washington State
Department of Transportation**





I-90 and Keechelus Lake





Landscape Setting

Habitat Fragmentation

Topography & Climate

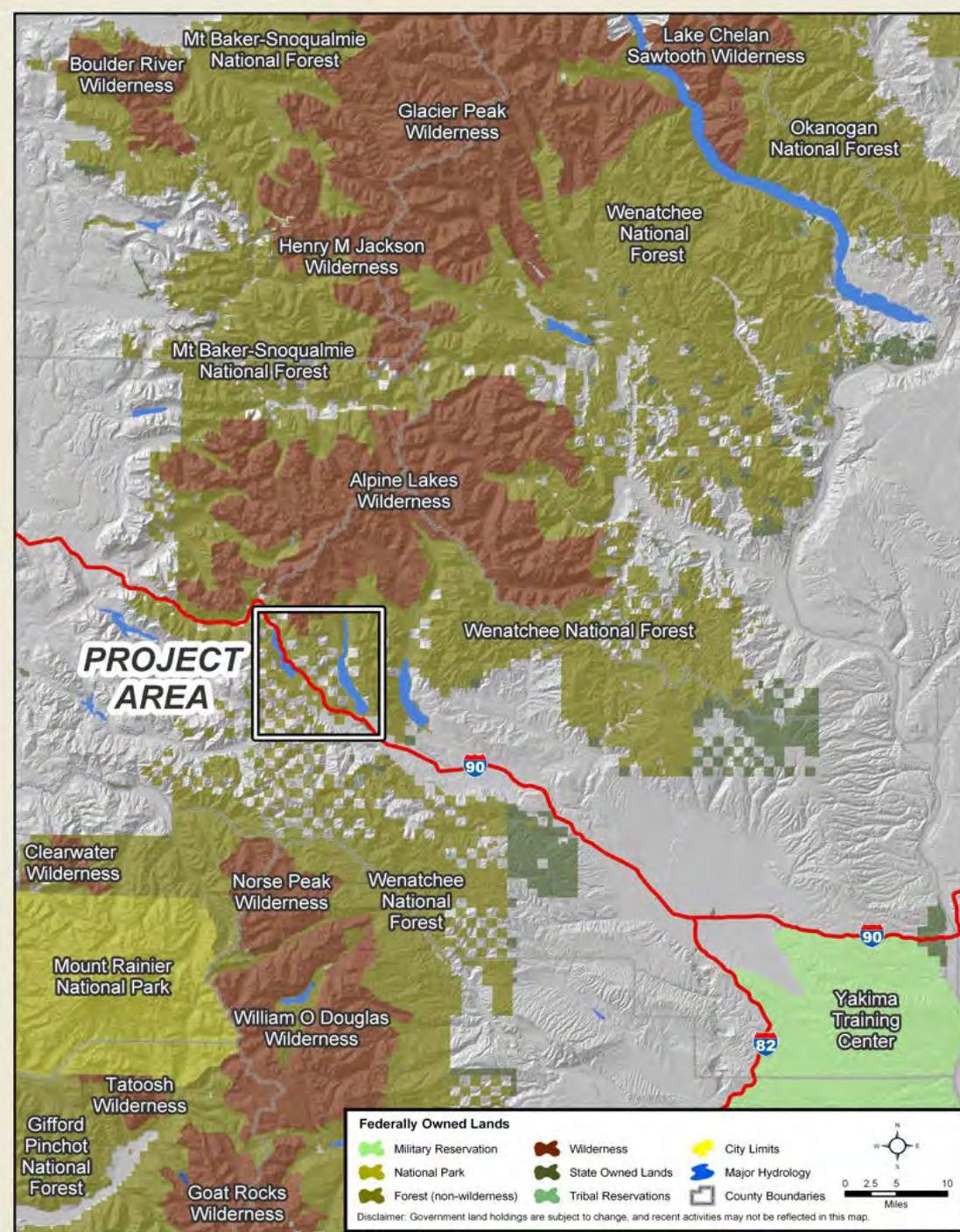
Habitat Types

Land Ownership

Land Use

Local Road Density

Interstate 90



High Mobility Species

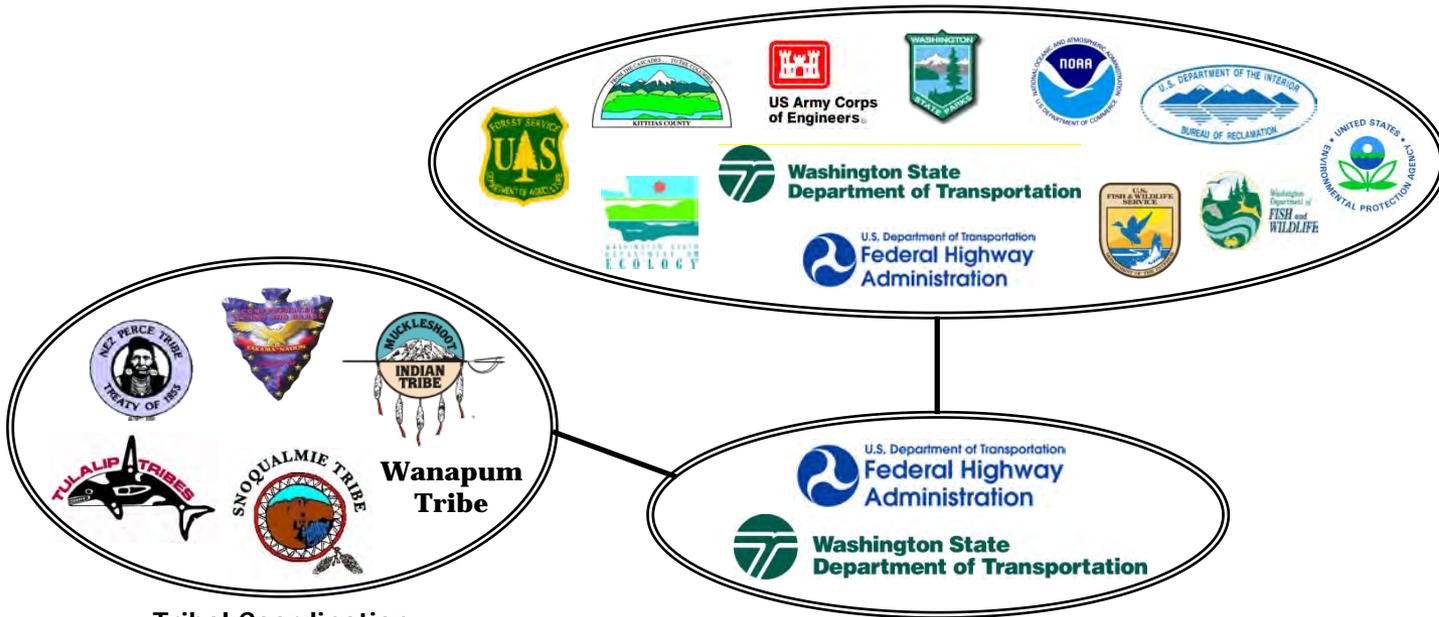


Low Mobility Species



NEPA EIS Inter-Disciplinary Team (IDT)

Inter-Disciplinary Team (IDT)



Tribal Coordination

Government-to-Government Relations

Mitigation Development Team (MDT) Agencies

Inter-Disciplinary Team (IDT)



Tribal Coordination

Government-to-Government Relations



Mitigation Development Team (MDT)

Technical Committees

Inter-Disciplinary Team (IDT)



Tribal Coordination
Government-to-Government Relations



Mitigation Development Team (MDT)



Stormwater Technical Committee

Technical Committees

Inter-Disciplinary Team (IDT)



Tribal Coordination
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Mitigation Development Team (MDT)



Stormwater Technical Committee



Wetland Mitigation Technical Committee

Inter-Disciplinary Team (IDT)



Tribal Coordination
Government-to-Government Relations



Mitigation Development Team (MDT)



Stormwater Technical Committee



Wetland Mitigation Technical Committee



Wildlife Monitoring Technical Committee

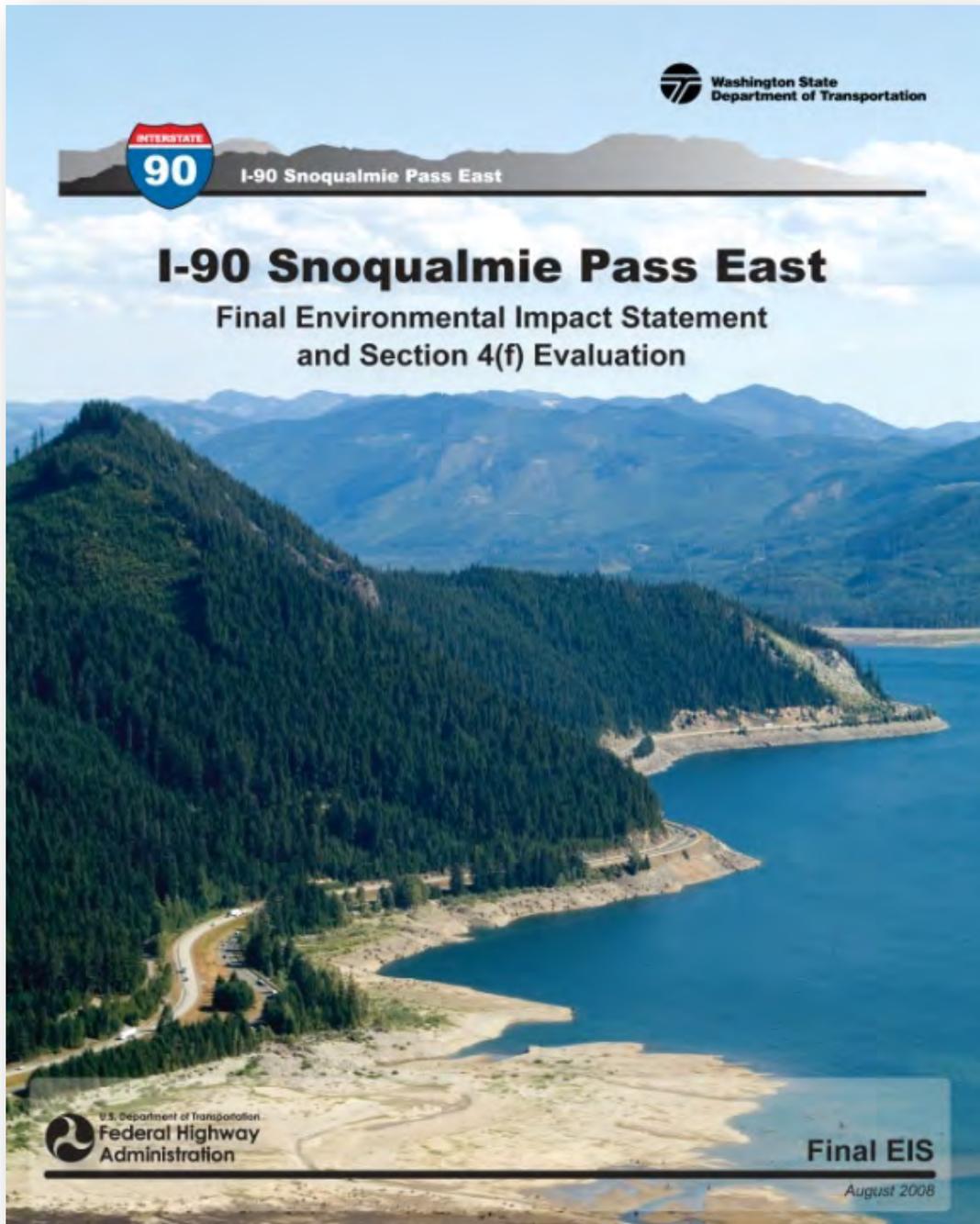
Multi-Agency team of Biologists and Hydrologists

Fundamental Question:

" Given what we know about wildlife movement, habitat fragmentation, and ecological connectivity needs,.....where are the locations within the project area that provide the highest benefit-to-cost ratio and long-term solutions to the issue of ecological connectivity?

Interstate 90 Snoqualmie Pass East Mitigation Development Team Recommendation Package

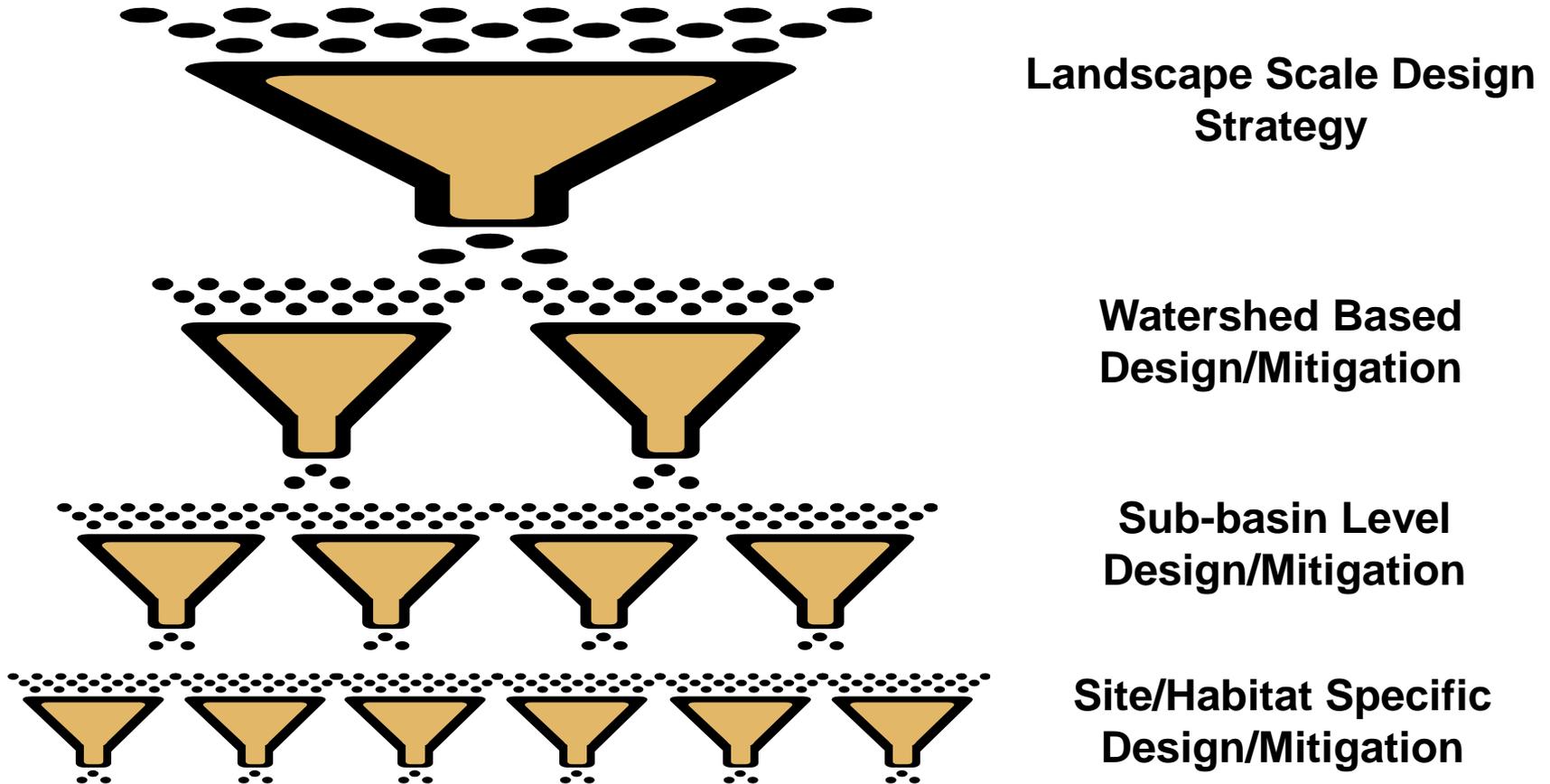




Project Purpose and Need:

“Federal land management plans have documented that I-90 forms a barrier to wildlife movement, and have identified the need to increase ecological connectivity across the highway. Improving ecological connectivity will advance federal land management goals by reducing fish and wildlife population isolation. It will also reduce the risks to wildlife and the public from collisions between vehicles and wildlife.”

Landscape Scale Watershed-Based Design and Mitigation Strategy





LEGEND

- ★ MDT Recommendation Ranking; three stars = highest
- Green box Option meets connectivity objectives
- Orange box Option does not meet connectivity objectives

Level of Emphasis

- Strong emphasis
- Moderate emphasis
- Low emphasis
- Little or no emphasis



HCZ = hydrologic connectivity zone

ASSUMPTIONS BEHIND HYDROLOGY RATINGS:
 Stream channel process, [Green box] is for CEAs with unconfined floodplains and dynamic migrating streams. [Blue box] for CEAs where focus is on fish and debris passage. [White box] where minor streams occur. Blank means no streams.
 Wetland flow paths, [Dark Blue box] indicates high value wetland resources and/or subsurface flow paths at the CEA. [Light Blue box] or [White box] indicates some wetlands, relatively less extensive. Blank indicates wetland and subsurface flow paths are relatively minor.

* At the Resort Creek CEA, different highway alternatives exist to different design options (three separate options)
 ** Resort Creek Alignments 3 and 4: multiple culverts with a minimum width of 100 feet. At least one culvert to provide 120-foot

	Mountain Hemlock/Subalpine Fir				Western Hemlock Pacific Silver Fir								Western Hemlock/Grand Fir		
	Coal Creek	Gold Creek	Rocky Run Cr	Wolfe Creek	Resort Creek*	Townsend Creek	Price/Noble Creeks	Bonnie Creek	Swamp Creek	Toll Creek	Cedar Creek	Telephone Creek	Hudson Creek	Easton Hill	Kachess River
EXISTING STRUCTURES	Box culverts	140' bridge	40' bridge 2-6' culverts	6' culvert	6' culvert	6' culvert	10' culvert 4' culvert	6' culvert	2-8' culverts	4' culvert 3' culvert	4' culvert	5' x 4' culvert	2' culvert	No Structure	99' bridge EB 150' bridge WB
Option A	☆☆☆ 120' bridge 1,100' EB/ 900' WB bridge	☆☆☆ 120' bridge	☆☆☆ 25' x 8' culvert WB 20' x 10' culvert EB	☆☆☆ Alternative 1 Twin bore tunnels 120' bridge 1 HCZ	☆☆☆ Alternative 2 Same as Alternative 1	☆☆☆ 25' x 12' culvert	☆☆☆ 120' bridge 2-800' bridges 1 HCZ	☆☆☆ 600' bridge 1 HCZ	☆☆☆ 240' bridge 120' bridge 4 HCZs	☆☆☆ 120' bridge 6'x5' culvert 1 HCZ	☆☆☆ ≥4' culvert 1 HCZ	☆☆☆ ≥4' culvert	☆☆☆ 240' bridges 2 HCZs	☆☆☆ 120' bridge (EB and WB) 1 HCZ	☆☆☆ 120' bridge Replace existing county bridges
Option B	☆☆ 1,200' EB/ 1,000' WB bridge 100' wildlife bench						☆☆☆ 120' bridge 800' bridge 2 HCZs	☆☆☆ 240' bridge 2 HCZs	☆☆☆ 3-120' bridges 5 HCZs	☆☆☆ Same as Option A			☆☆☆ 120' bridge 3 HCZs	☆☆☆ Wildlife Overcrossing EB and WB 1 HCZ	☆☆☆ Widen existing county bridges
Option C							☆☆☆ 3-120' bridges 2 HCZs	☆☆☆ 16' x 10' culvert 2 HCZs	☆☆☆ 120' bridge 6 HCZs	☆☆☆ 6'x5' culvert			☆☆☆ ≥4' culvert 3 HCZs	☆☆☆ Wildlife Overcrossing WB 120' bridge 1 HCZ	☆☆☆ Widen existing county bridges
Option D	☆☆☆ 120' bridge 700' bridge						☆☆☆ Wildlife Overcrossing 3-120' bridges 2 HCZs								☆☆☆ Wildlife Overcrossing (EB and WB) Widen existing county bridges

Connectivity Emphasis Areas



Science/Engineering/Social Responsibility Drive Project Design Recommendations



Existing



Designed



I-90 Snoqualmie Pass East

Wildlife Monitoring Plan



Rendering courtesy WSDOT

Current Monitoring Efforts





Comments / Questions?