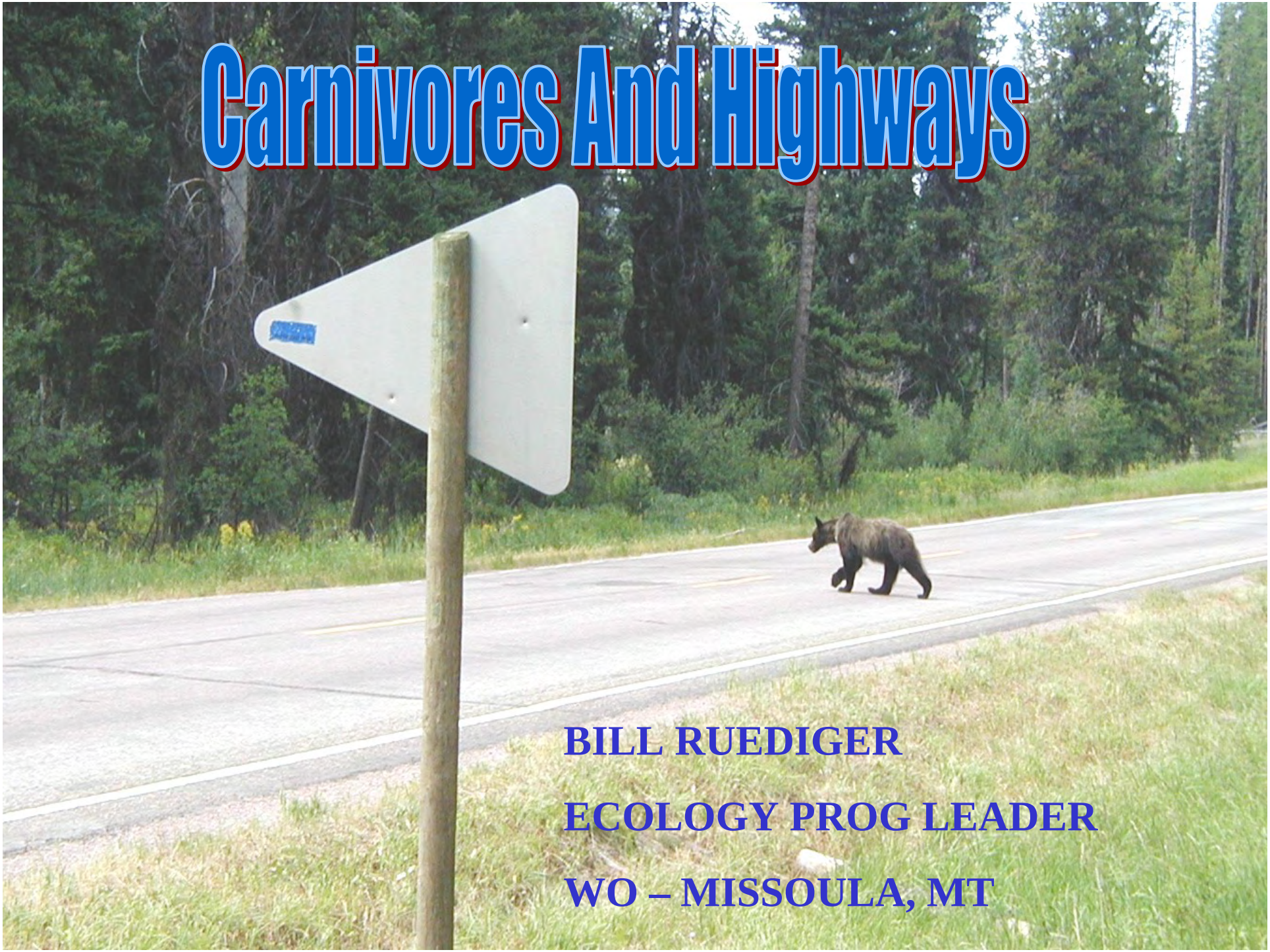
Carnivores And Highways



BILL RUEDIGER

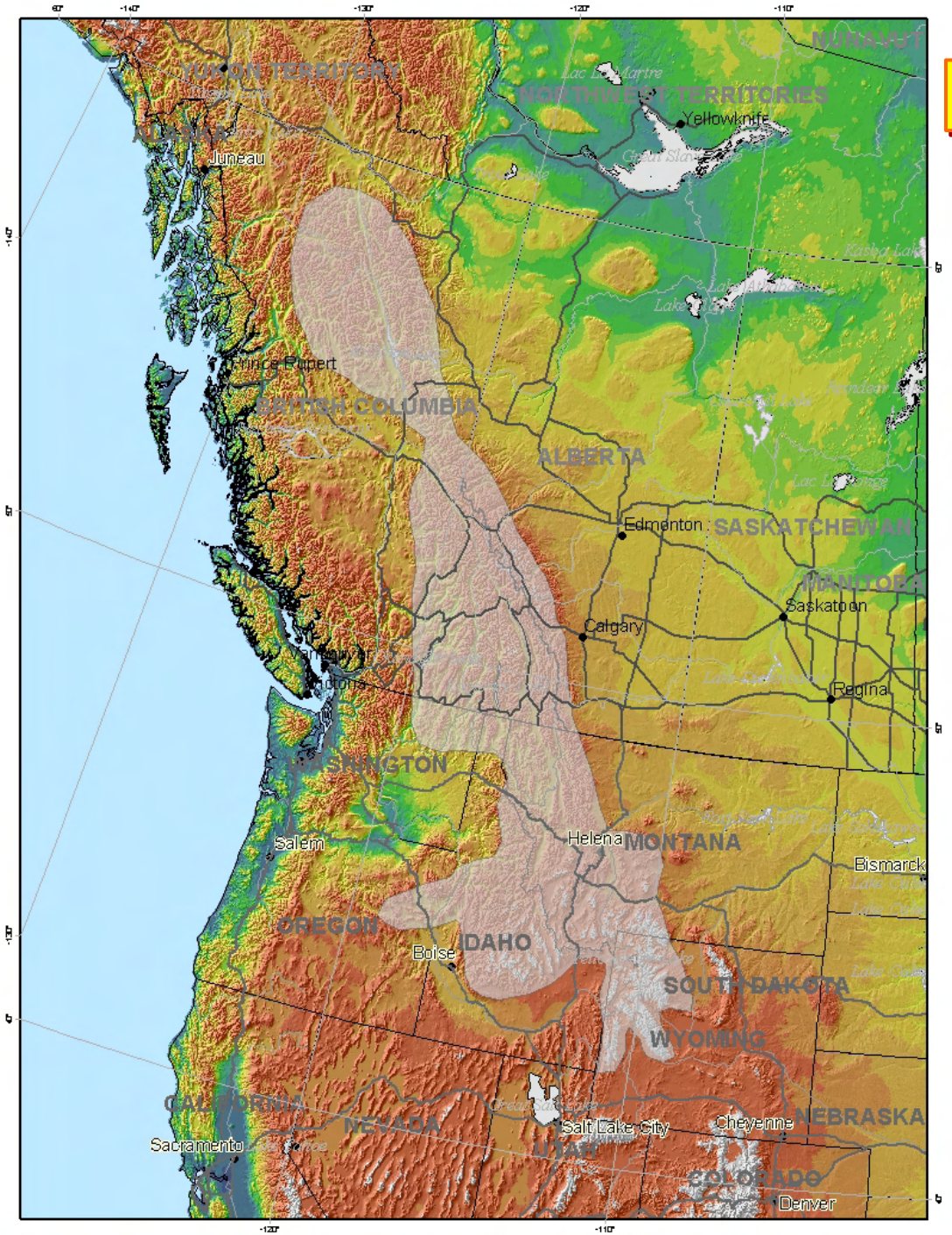
ECOLOGY PROG LEADER

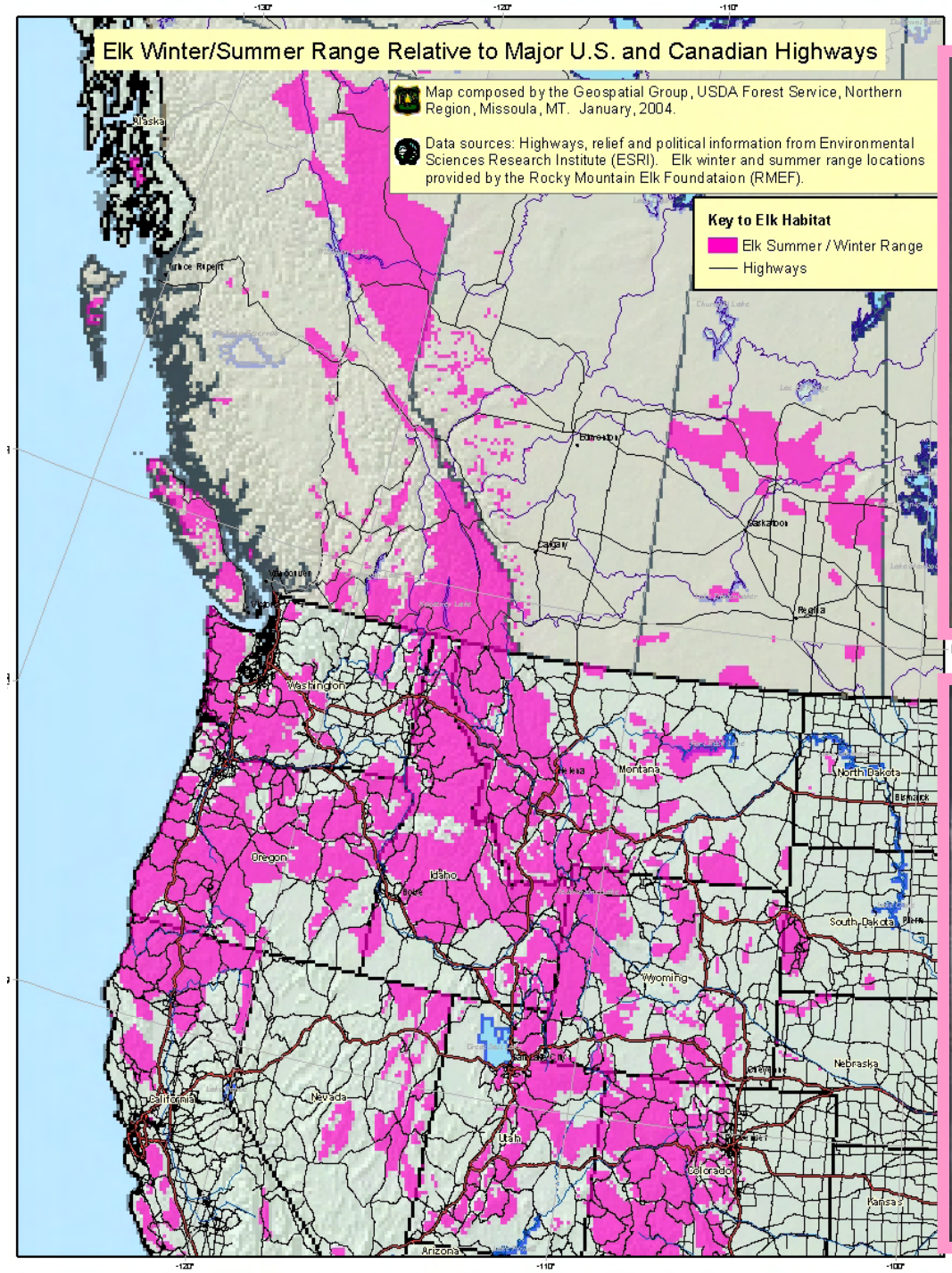
WO – MISSOULA, MT

Why Are Carnivores Vulnerable?

Carnivore Vulnerability to Highways
• LARGE HOMERANGES
• LOW FECUNDITY
• LOW POPULATION DENSITY

Functional Sized Area For Carnivore Conservation




Elk Winter/Summer Range Relative to Major U.S. and Canadian Highways
Map composed by the Geospatial Group, USDA Forest Service, Northern Region, Missoula, MT. January, 2004.
Data sources: Highways, relief and political information from Environmental Sciences Research Institute (ESRI). Elk winter and summer range locations provided by the Rocky Mountain Elk Foundataion (RMEF).
Key to Elk Habitat
Elk Summer / Winter Range
Highways
Alaska
Prince Rupert
Edmonton
Calgary
Saskatoon
Regina
Vancouver
Victoria
Washington
Montana
North Dakota
Bismarck
Oregon
Idaho
South Dakota
Wyoming
Nebraska
California
Nevada
Utah
Colorado
Kansas
Arizona

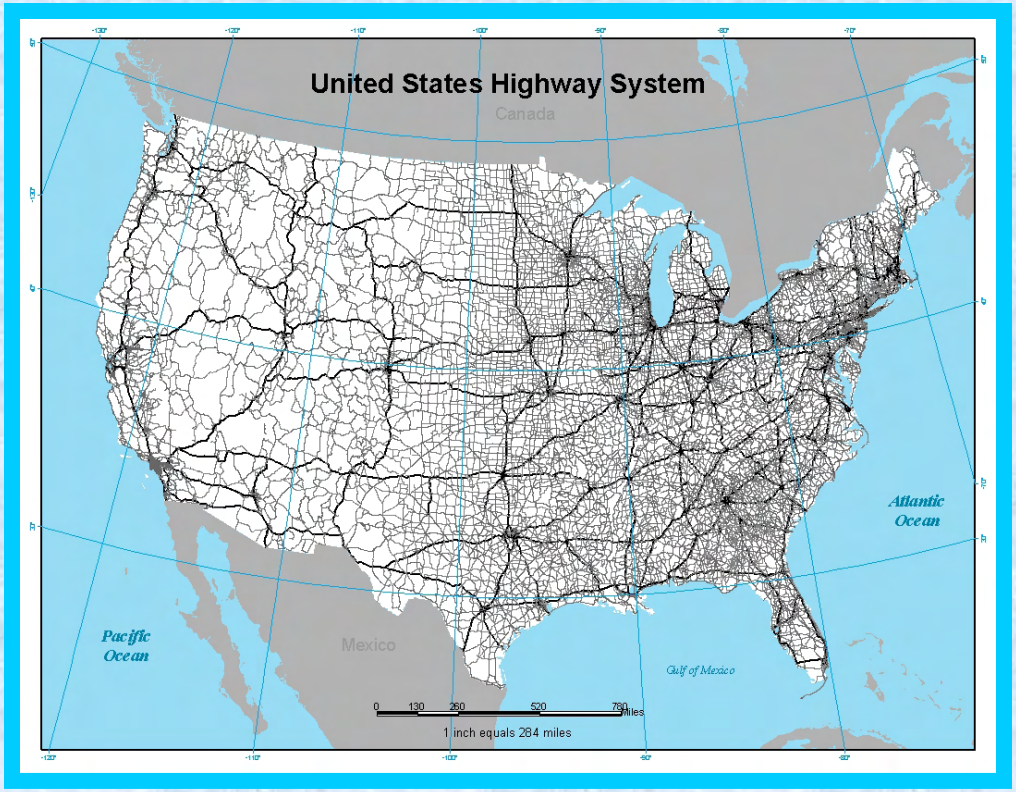
How Do Highways Affect Carnivores?

- Habitat Fragmentation
- Wildlife Mortality
- Loss of Habitat
- Displacement (Avoidance)
- Associated Human Activities

Habitat Fragmentation:

Most Serious Impact

Affects Every Species



Mortality:

Serious With:

Rare Species

High Mobility Spp.

Low Mobility Spp.

Loss of Habitat:

71 Million Acres Habitat

7 Million Acres of NF

Largely Unmitigated

Displacement or Avoidance:

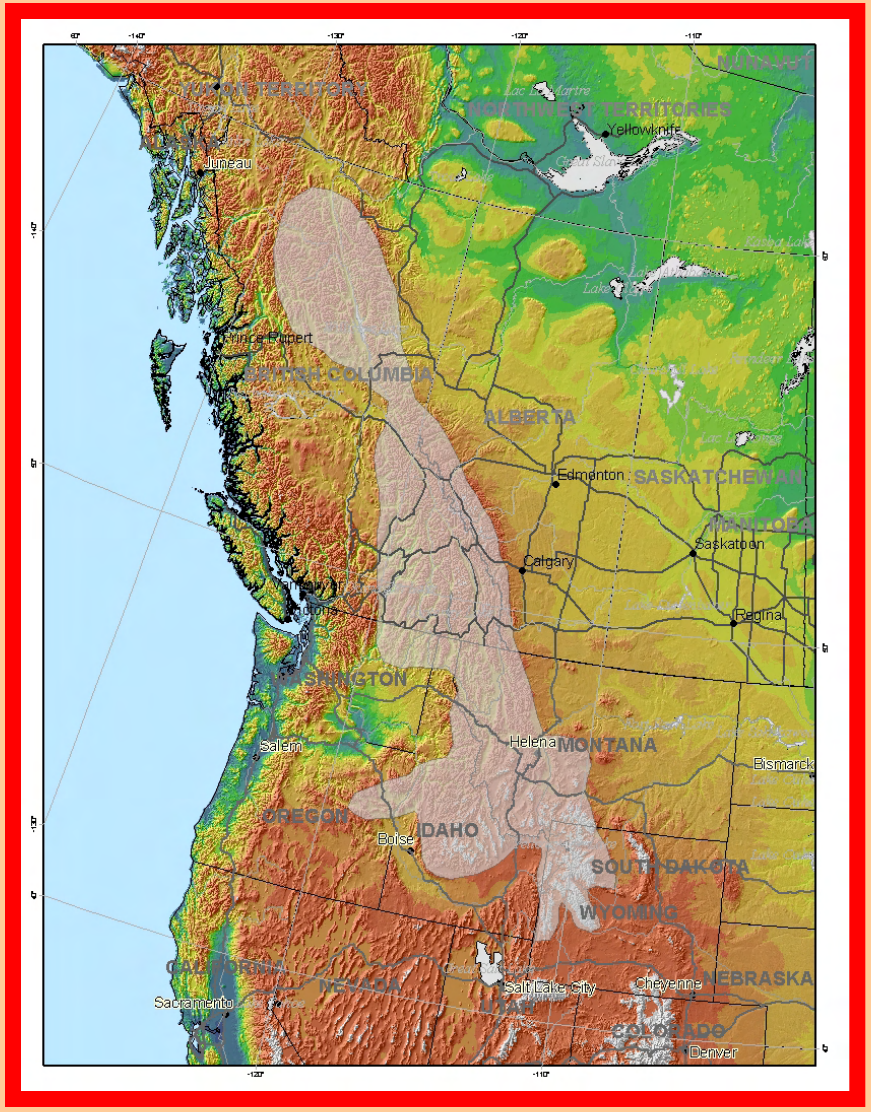
Not Understood

Affects Many Species

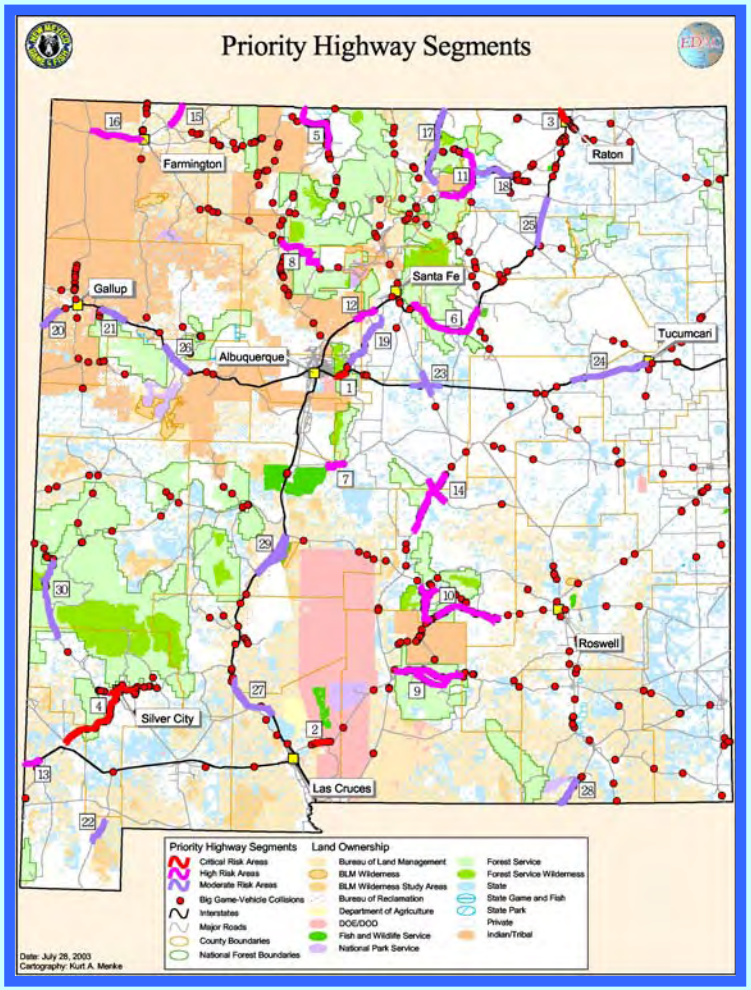
Noise, Human Activities

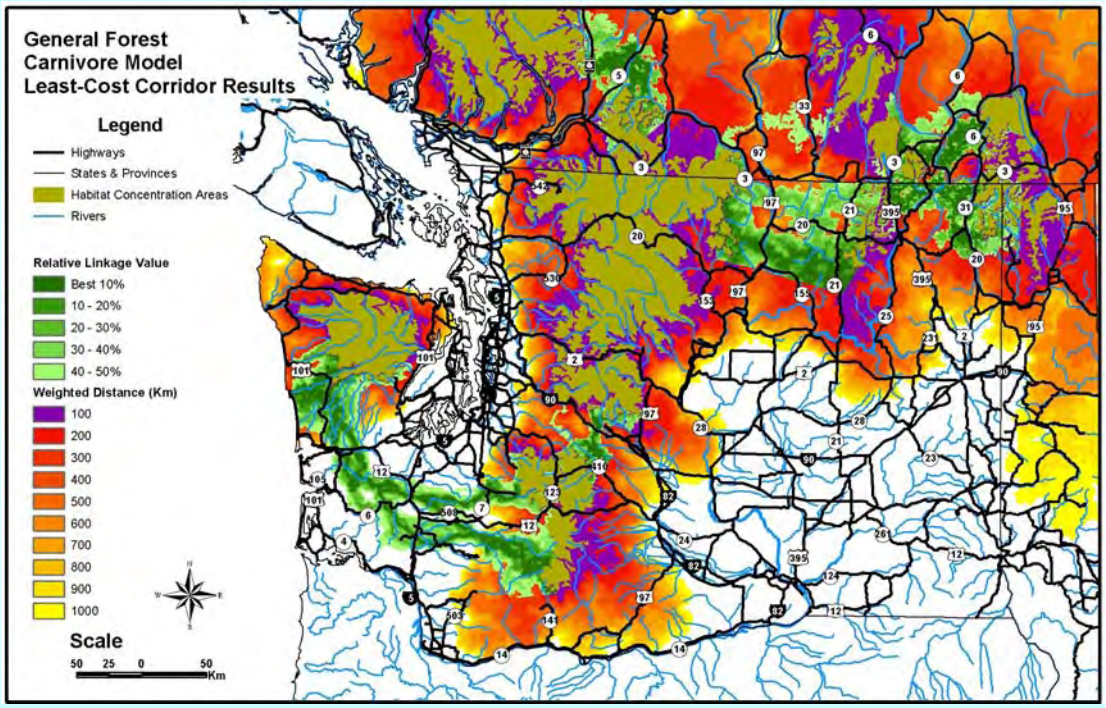
Associated Human Activities

What Needs to be Done?

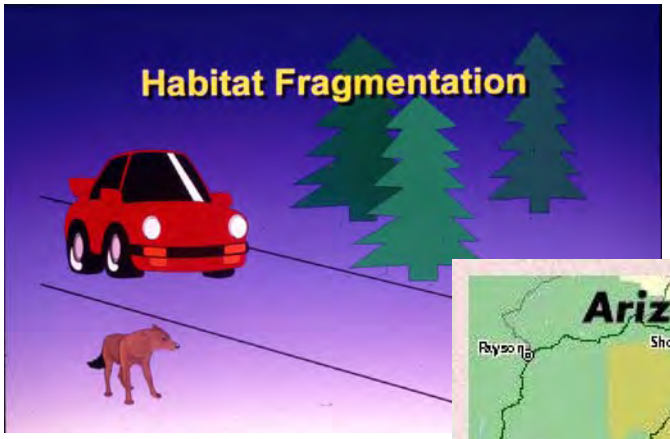


1. Systematic Wildlife and Fish Coordination and Linkage Analysis



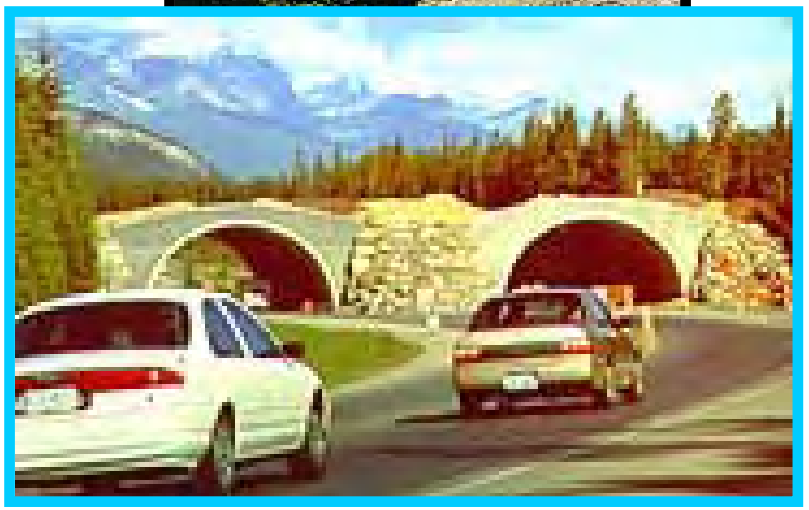


2. Highway Environmental Documents Need to Accurately Assess Impacts



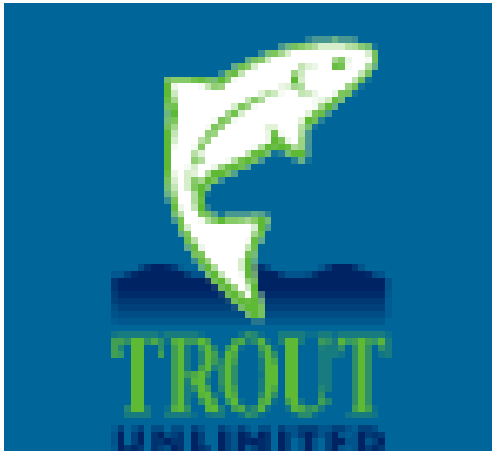
3. Need Both Terrestrial and Aquatic Habitat Replacement

4. Predictable wildlife and fish mitigation (wildlife crossings)



5. Wildlife & Fish Standards and Gudielines for Highway Projects

6. More Involvement By Conservation Groups



Coordination Dollars For Non-Highway Agency Biologists

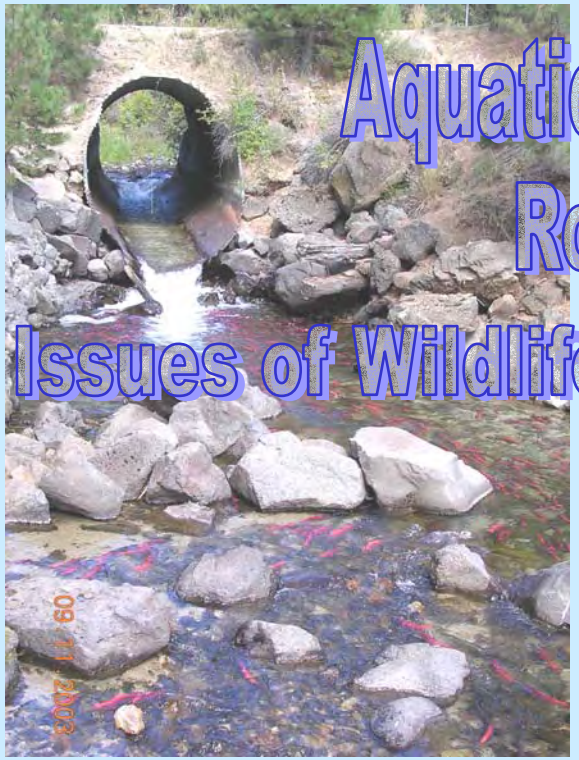
Different Types of Transportation Projects

Forest Service Roads

Gravel to Paved Road Issues

Proposed $200 MM/Yr FS Hwy Program

Thousands of Fish Blocks



Aquatic Organsim Passage Issues

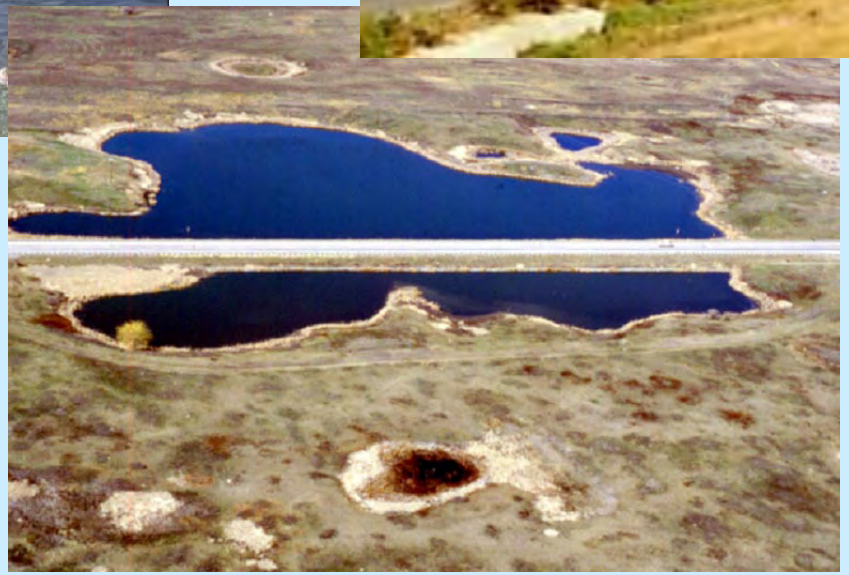
Road Obliteration Issues

Issues of Wildlife, Fish, Aquatic Organism Integration

Federal Lands Projects

Gravel Roads to Paved Roads
Need for Better Environmental Coordination
Huge Impacts on Future Use of Wildlands
Clear Criteria When Roads Will Be Paved

Federal AID Projects



Two Lanes to Four Lanes

Wildlife Linkage Analysis

Compensation for Biologist Input

Adequate Amount and Types of Mitigation

We're Facing A Huge Challenge

Are We Prepared For The Future?

The End