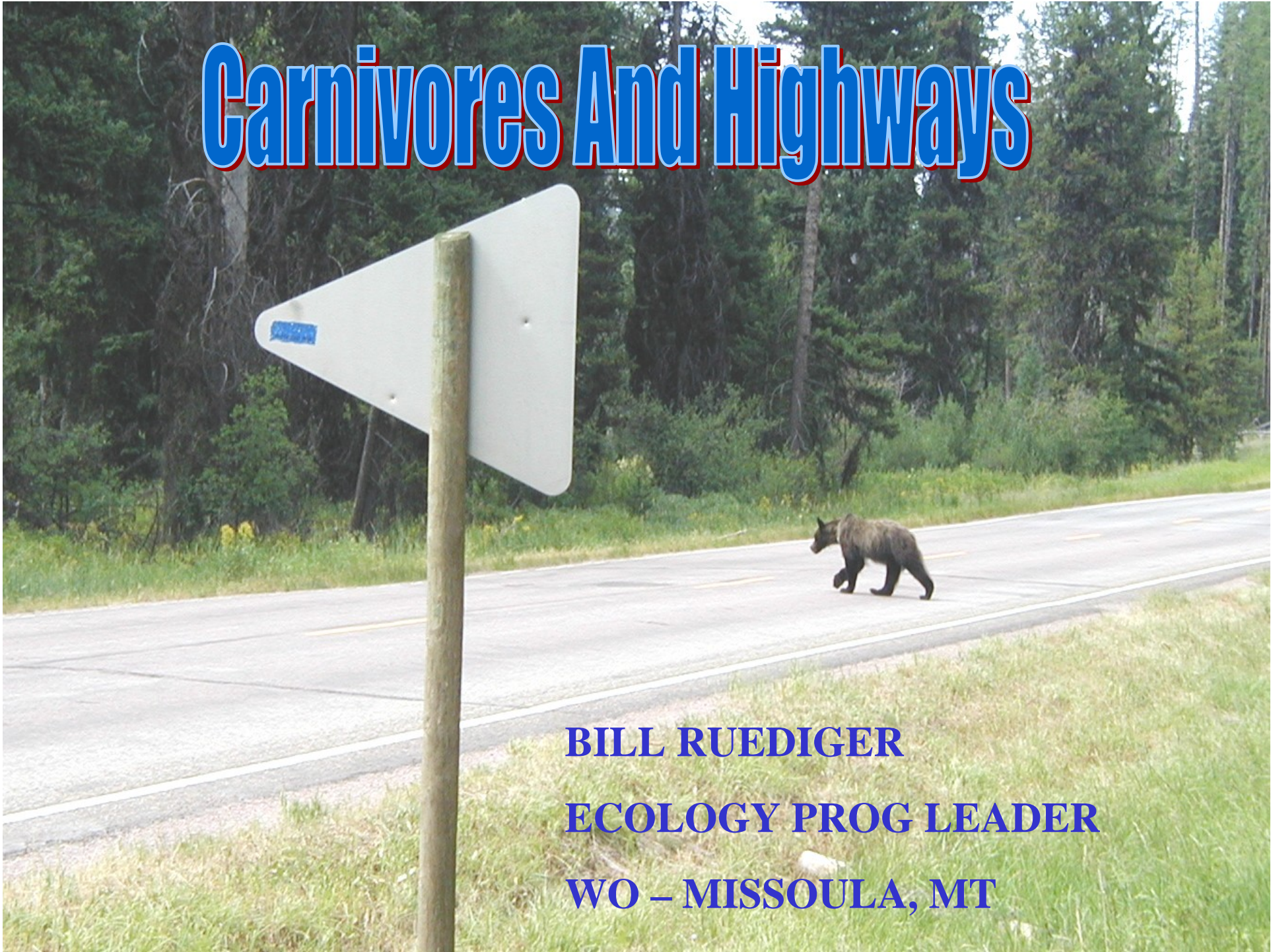


# Carnivores And Highways

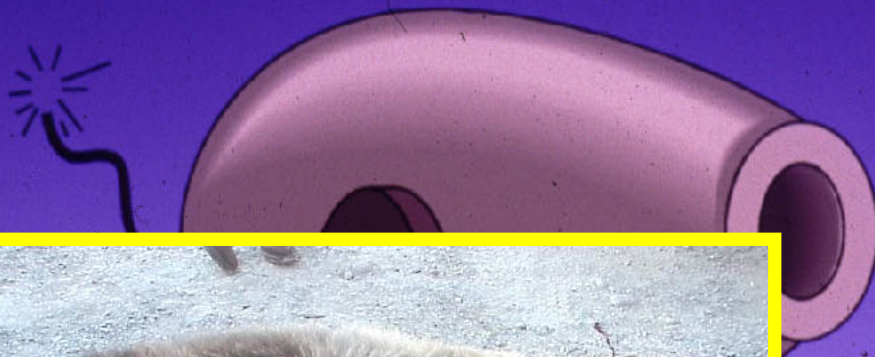
**BILL RUEDIGER**

**ECOLOGY PROG LEADER**

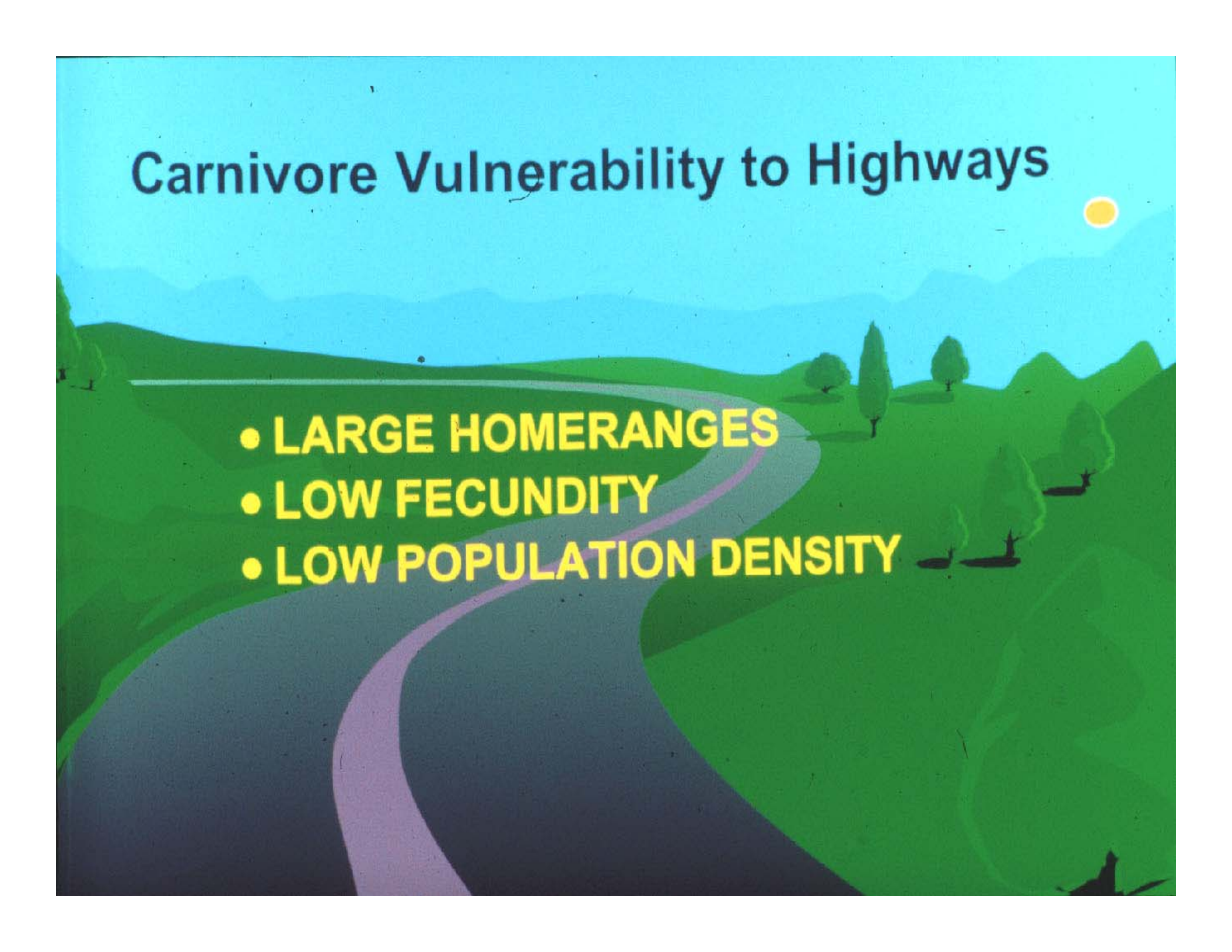
**WO – MISSOULA, MT**



# Why Are Carnivores Vulnerable?

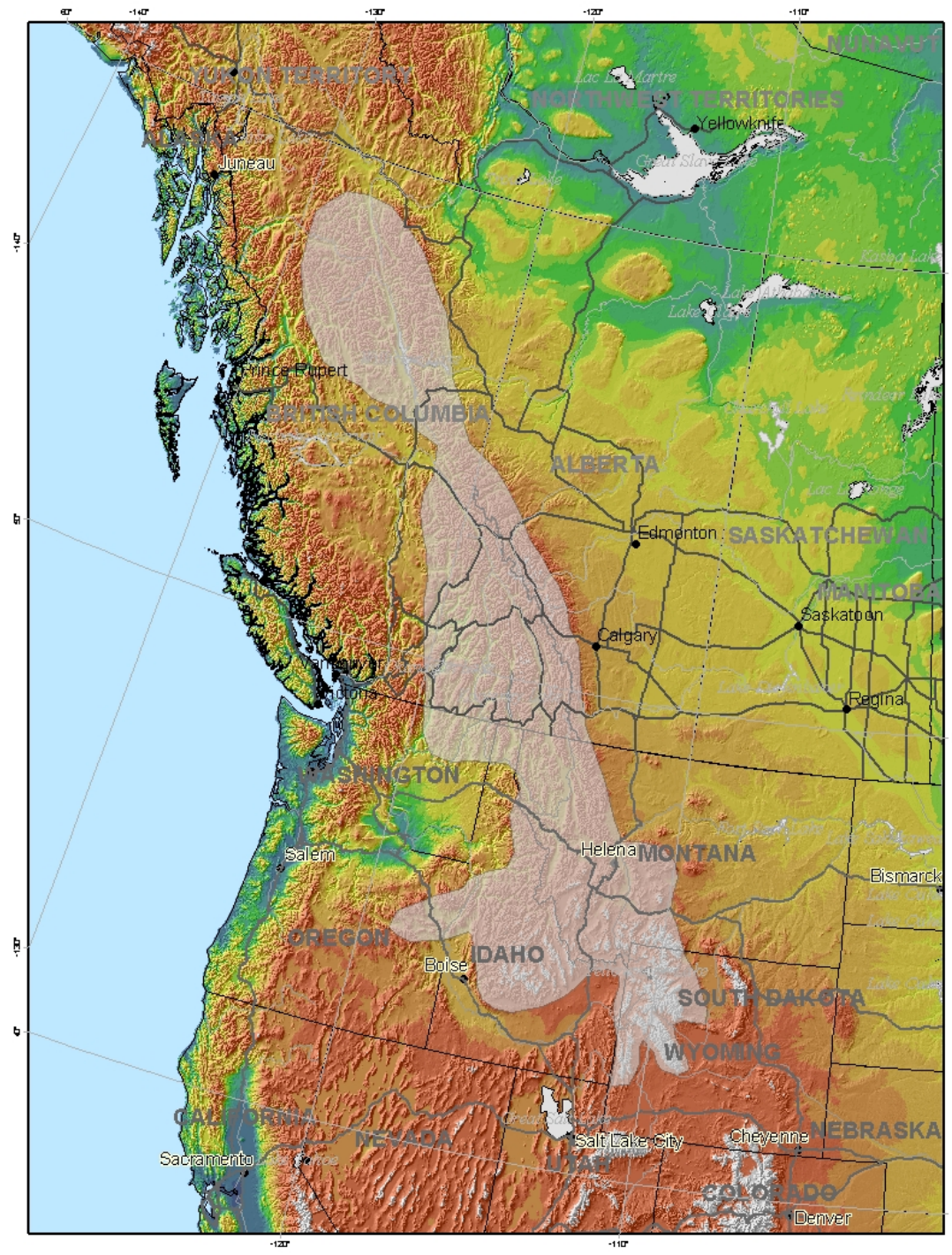


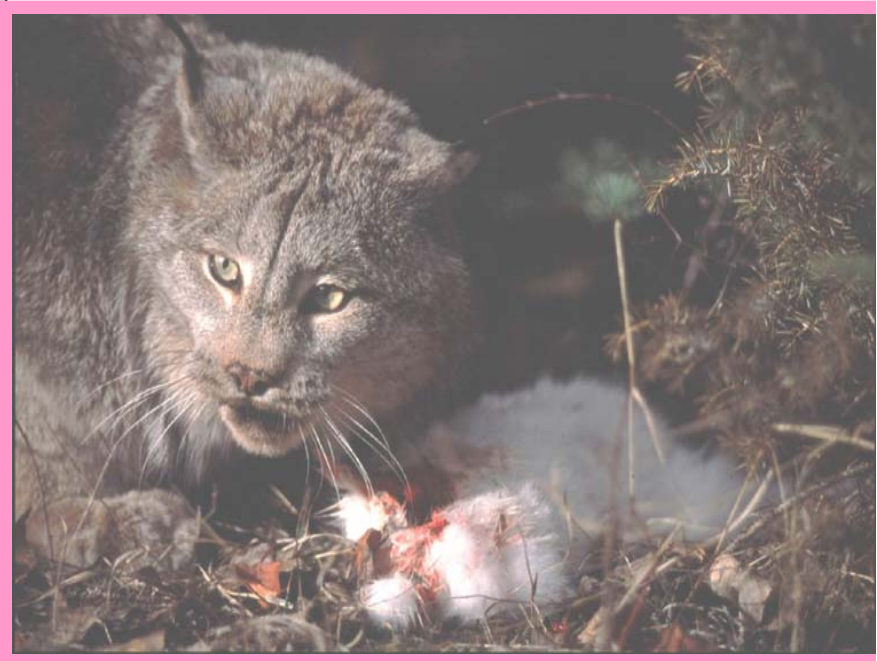
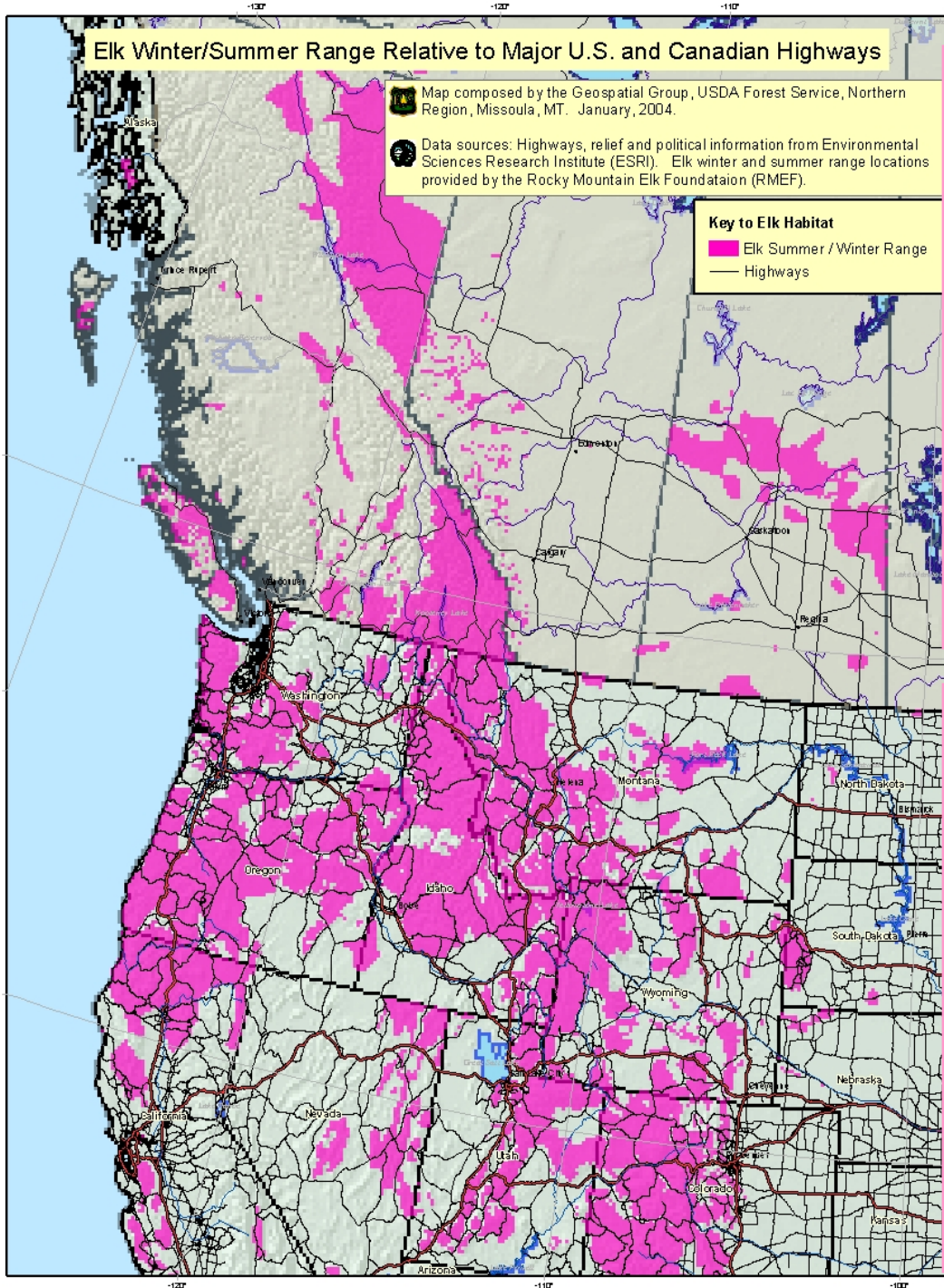
# Carnivore Vulnerability to Highways

A stylized landscape illustration featuring a winding road that curves through green hills. The road is depicted with a light purple center and darker purple edges. Several green trees of varying shapes are scattered across the hills. In the background, there are blue mountains under a clear blue sky with a single yellow sun in the upper right corner.

- **LARGE HOMERANGES**
- **LOW FECUNDITY**
- **LOW POPULATION DENSITY**

# Functional Sized Area For Carnivore Conservation





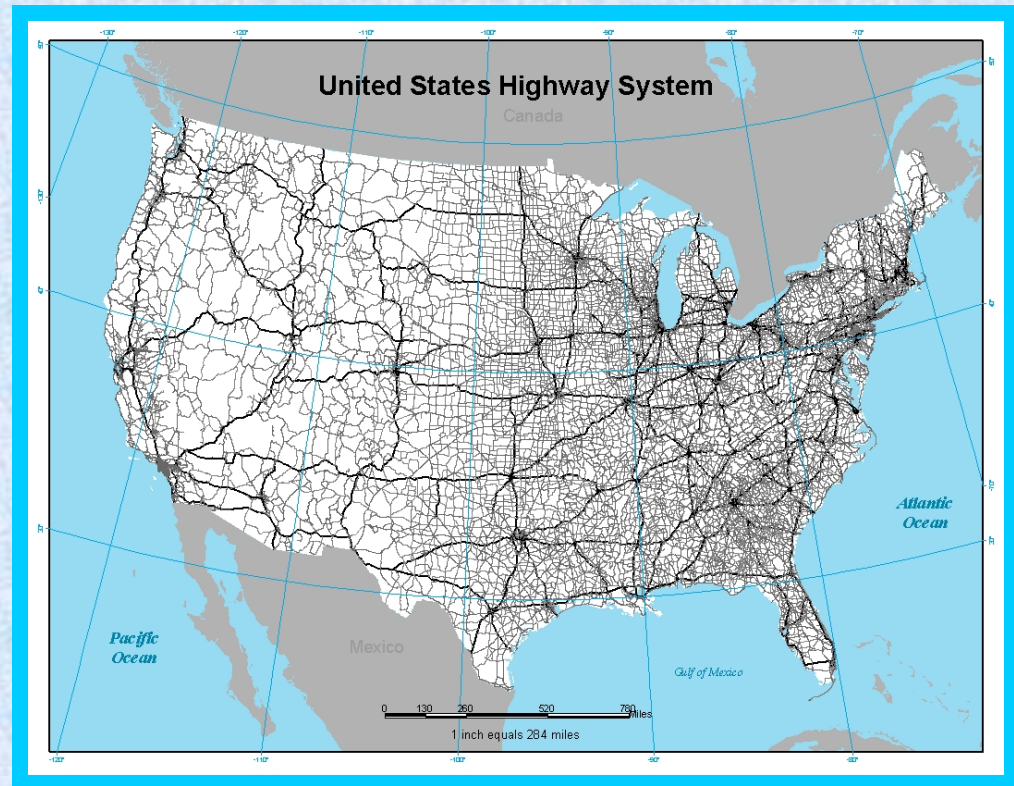


# How Do Highways Affect Carnivores?

- ◆ 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:

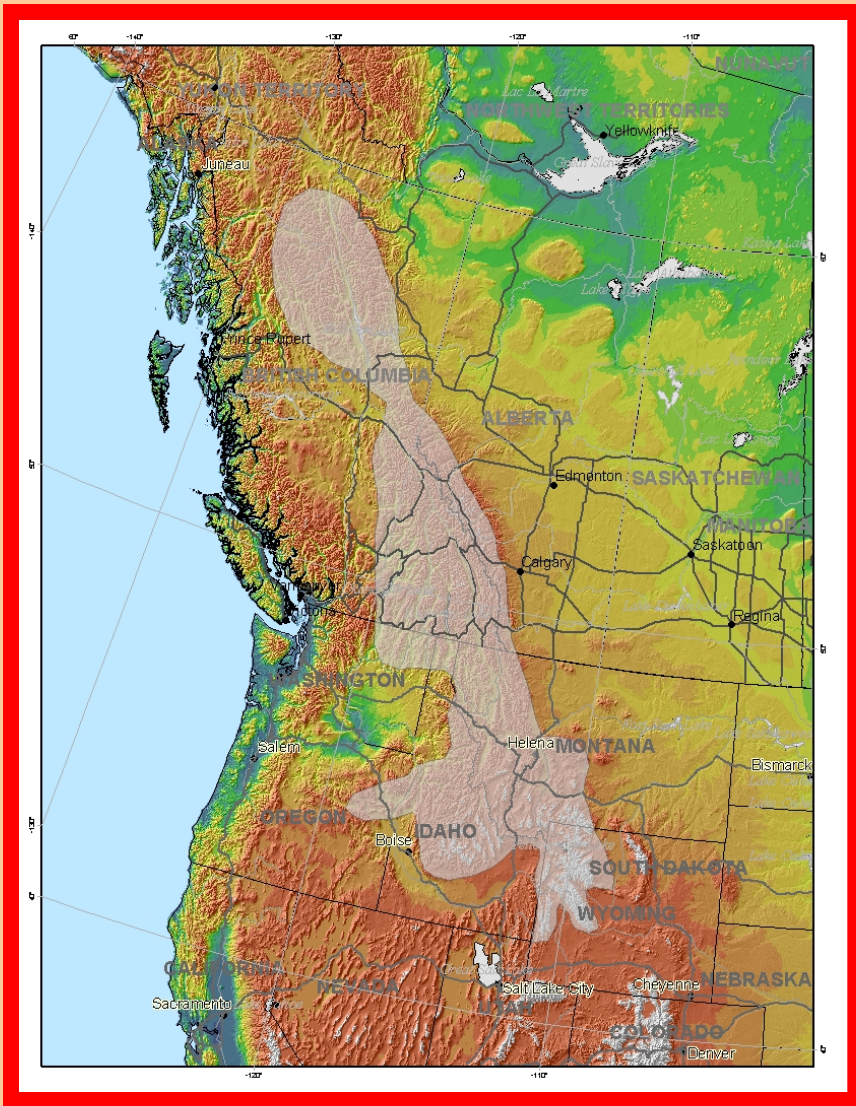
Not Understood  
Affects Many Species  
Noise, Human Activities



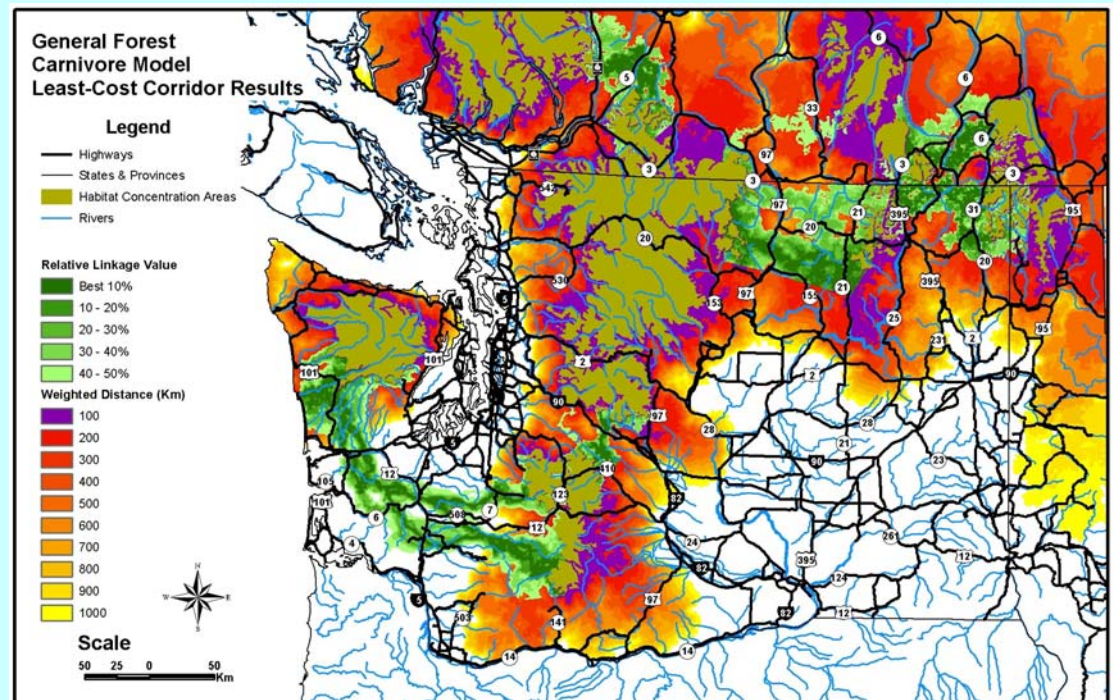
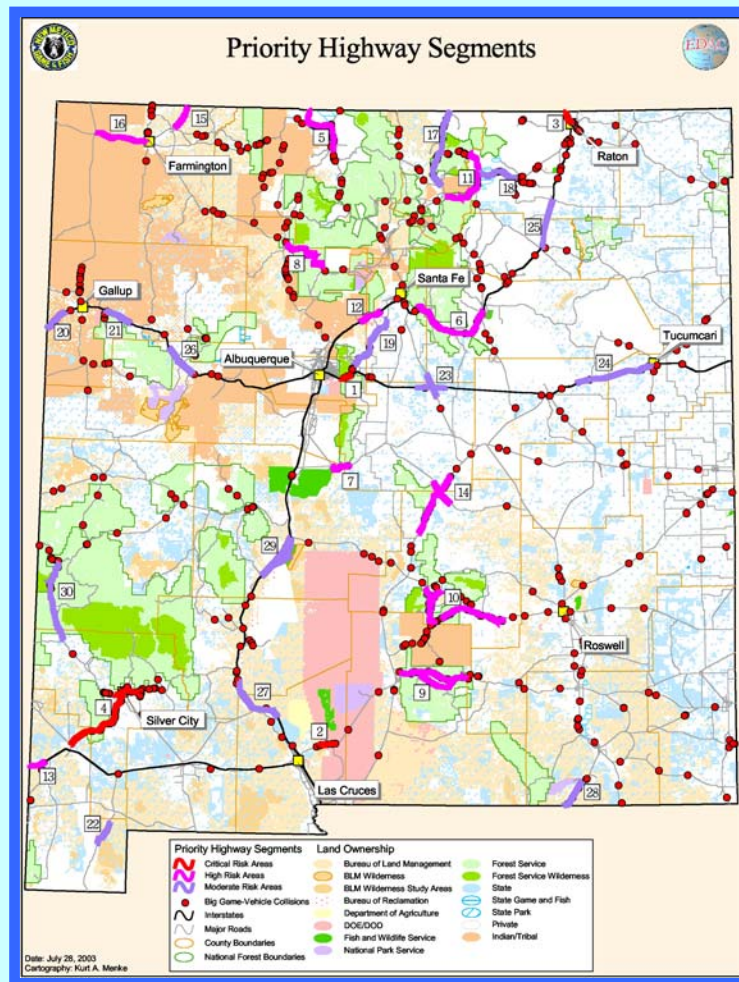
# Associated Human Activities



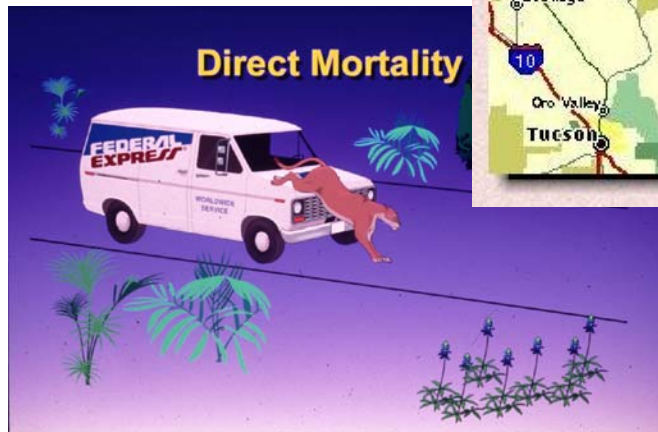
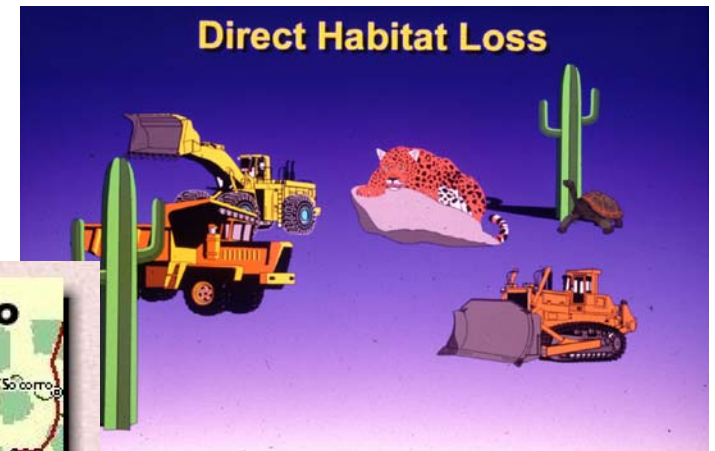
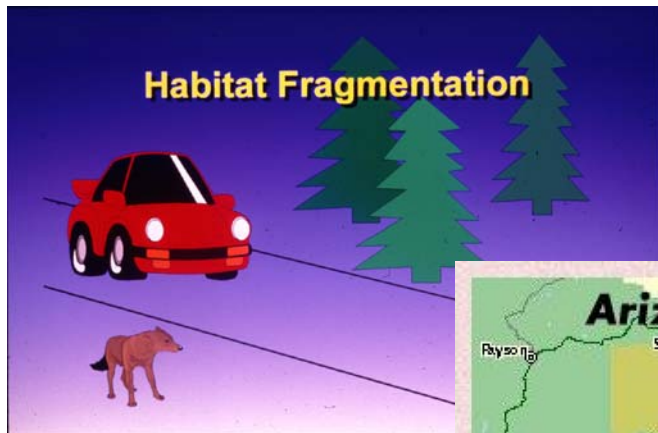
# What Needs to be Done?



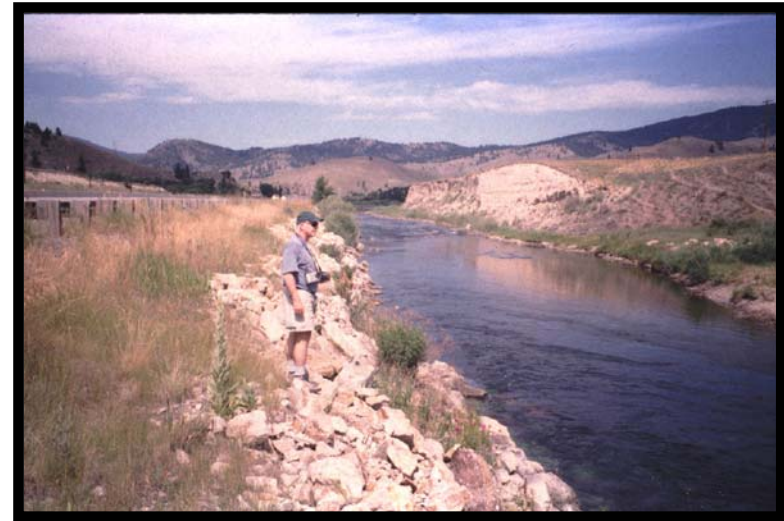
# 1. Systematic Wildlife and Fish Coordination and Linkage Analysis



## 2. Highway Environmental Documents Need to Accurately Assess Impacts

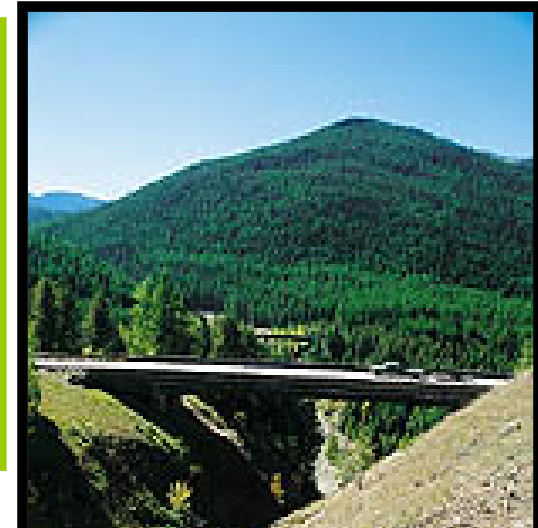


### 3. Need Both Terrestrial and Aquatic Habitat Replacement





## 4. Predictable wildlife and fish mitigation (wildlife crossings)



## 5. Wildlife & Fish Standards and Guidelines for Highway Projects



# 6. More Involvement By Conservation Groups



**Mule Deer Foundation**  
Ensuring the conservation of mule deer and blacktail deer and their habitats

Home Help Site Map Search

About MDF Join/Renew Projects Publications News Room Catalog Events Contact Us



# Coordination Dollars For Non-Highway Agency Biologists



# Different Types of Transportation Projects



# Forest Service Roads



# Gravel to Paved Road Issues

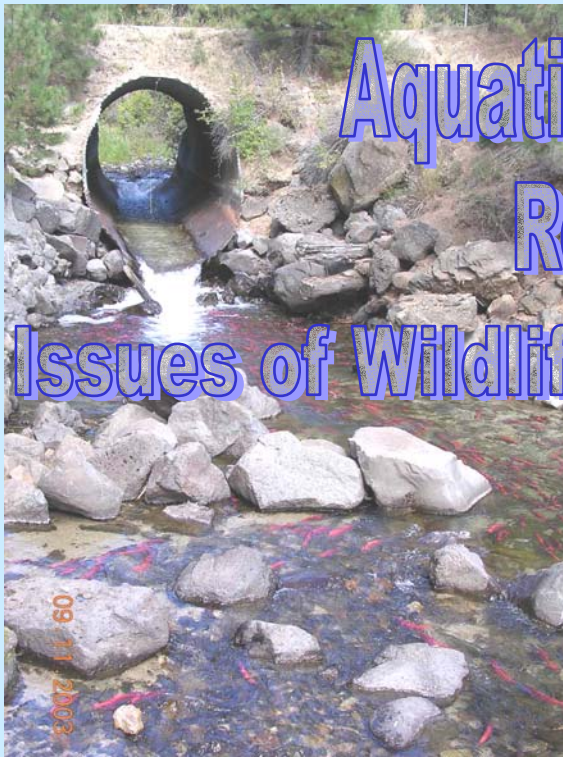
Proposed \$200 MM/Yr FS Hwy Program

Thousands of Fish Blocks

Aquatic Organism Passage Issues

Road Obliteration Issues

Issues of Wildlife, Fish, Aquatic Organism Integration



# Federal Lands Projects

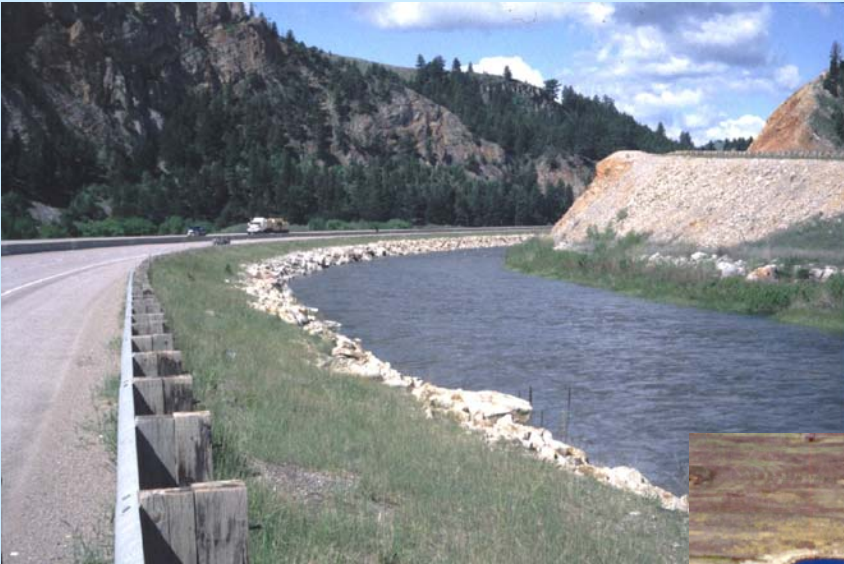




Gravel Roads to Paved Roads  
Need for Better Environmental Coordination  
Huge Impacts on Future Use of Wildlands  
Clear Criteria When Roads Will Be Paved



# 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**