Wildlife movement and transportation in Montana

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Photo: Dean Waltee
Presentation Outline

1. Wildlife movement needs
2. Priority taxa and areas
3. Useful data for prioritization
4. Future collaboration
Wildlife movement needs

1. Within range movements
2. Migration
3. Dispersal
4. Gene flow
5. Range shifts

Kelly Proffitt
Garrott et al. 2017. The role of disease, habitat, individual condition, and herd attributes on **bighorn sheep** recruitment and population dynamics in Montana. Federal Aid in Wildlife Restoration Grant W-159-R Annual report, Helena, Montana.
Dispersal movements

Gene flow

Range shifts

Range shifts

Priority taxa and areas
Priority taxa and areas

Bob Wiesner

Nick DeCesare
Priority taxa and areas

At risk species:

- Federally listed
- SOC category 1 or 2
- SGCN

http://mtnhp.org/SpeciesOfConcern/?AorP=a
Priority taxa and areas

SWAP community types of greatest conservation need
Priority taxa and areas

SWAP focal areas
Data for Prioritization

1. Road-related data: collisions, traffic volume, etc.
2. Fine-scale wildlife movement data
3. Population status and impacts
4. Impact studies
Data for Prioritization

MDT-managed carcass database
Data for Prioritization

Data for Prioritization

Elk GPS Study Areas

1. Bangtails
2. Big Creek
3. Blackfoot/Clearwater
4. Blacktail
5. Deer Creek
6. E. Bitterroot
7. Elk horns
8. Gallatin
9. Greeley
10. Greycliff/Work Creeks
11. Madison 2005
12. Madison 2018
13. Mill Creek
14. Missouri River Breaks
15. N. Madison
16. N. Sapphire
17. N. Yellowstone 2007
18. N. Yellowstone 2016
19. N. Yellowstone 2017
20. Pioneer Mountains
21. Red Lodge
22. Sage Creek
23. Tendoy Mountains
24. Tobacco Root Mountains
25. W. Bitterroot

Elk GPS collar study areas
Data for Prioritization

Mule Deer
GPS collar
study areas

Mule Deer GPS Study Areas
1. Devil's Backbone
2. Boxelder Creek
3. Bitterroot, HD204
4. Bitterroot, HD270
5. CWD Study, HD401
6. CWD Study, HD600
7. Energy study, HD651
8. Energy study, HD703
9. Rocky Mountain Front, South
10. Region 1, HD109
11. Region 1, HD103
12. CWD Study, Philipsburg
48 Bighorn Sheep Populations

35 of 48 herds (72%)
1. Wildlife movement across highways: priority or problem?
2. Integrated conservation planning
Male Grizzly Bear Dispersal Corridors

Legend
- Highways
- Cities & towns
- County boundaries
- USFS lands
- Grizzly Connectivity
  - Low value
  - High value

Map showing corridors for male grizzly bear dispersal in Montana, with locations such as Boulder, Townsend, Whitehall, Three Forks, Manhattan, Belgrade, Four Corners, Bozeman, Livingston, and Big Timber.
Male Grizzly Bear Dispersal Corridors

Legend

- Homes built since 2000:
  - 1 - 2
  - 3 - 10
  - 11 - 465

- Highways
- Cities & towns
- County boundaries
- USFS lands

Grizzly Connectivity:
- Low value
- High value

Data courtesy of Headwaters Economics
Future collaboration

1. Wildlife movement across highways: priority or problem?
2. Integrated conservation planning
3. Relative importance of roads and other habitat threats
4. Focal areas & targets

Mike Madel
Thank You

Justin Gude
Gene flow