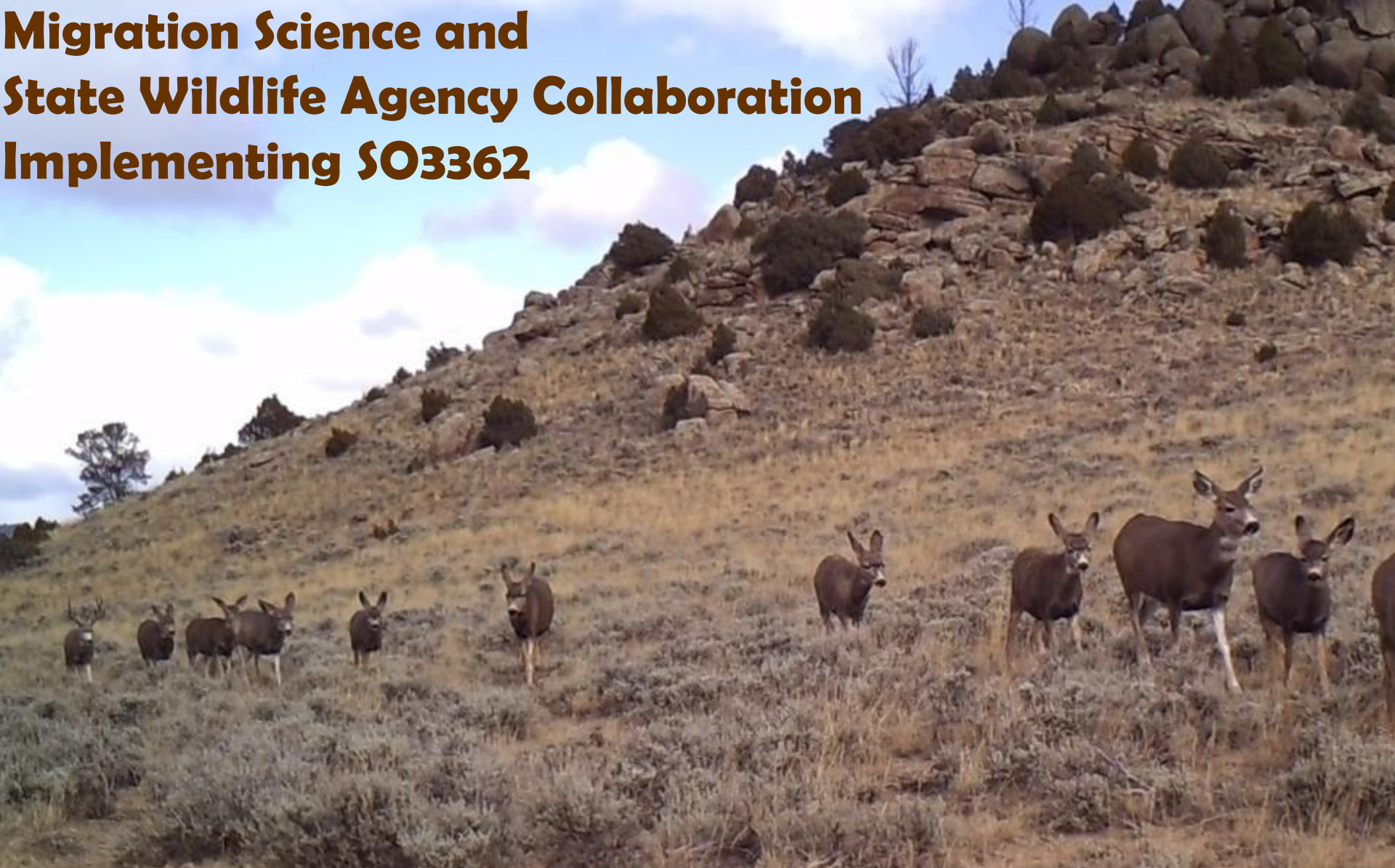


Migration Science and State Wildlife Agency Collaboration Implementing SO3362

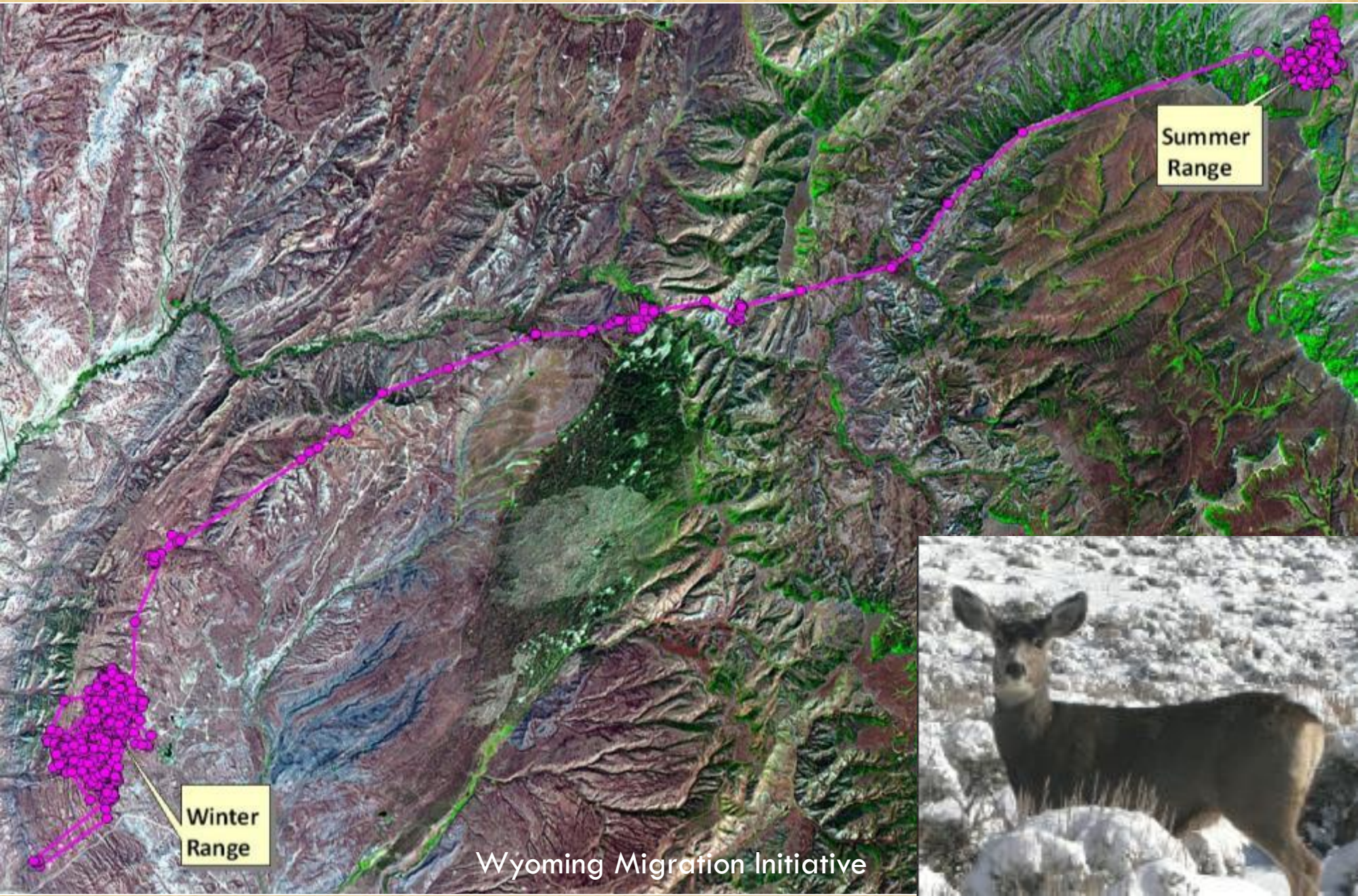


**Jim Heffelfinger, Arizona Game and Fish Department, Wildlife Science Coordinator
and Chair of the WAFWA Mule Deer Working Group**

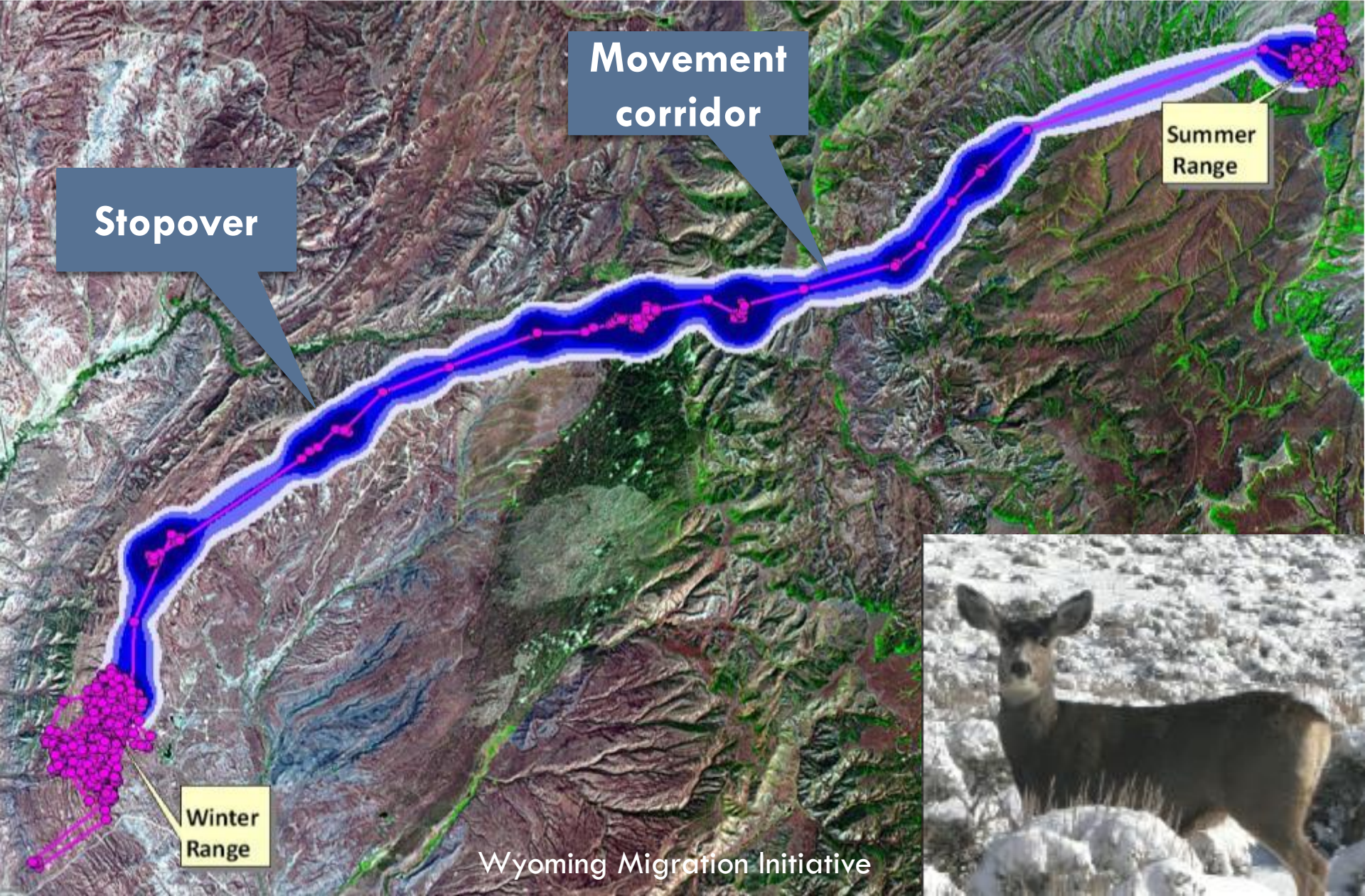


Wyoming Migration Initiative

GPS Technology reveals movements



Movements and Stopovers during migration



**Movement
corridor**

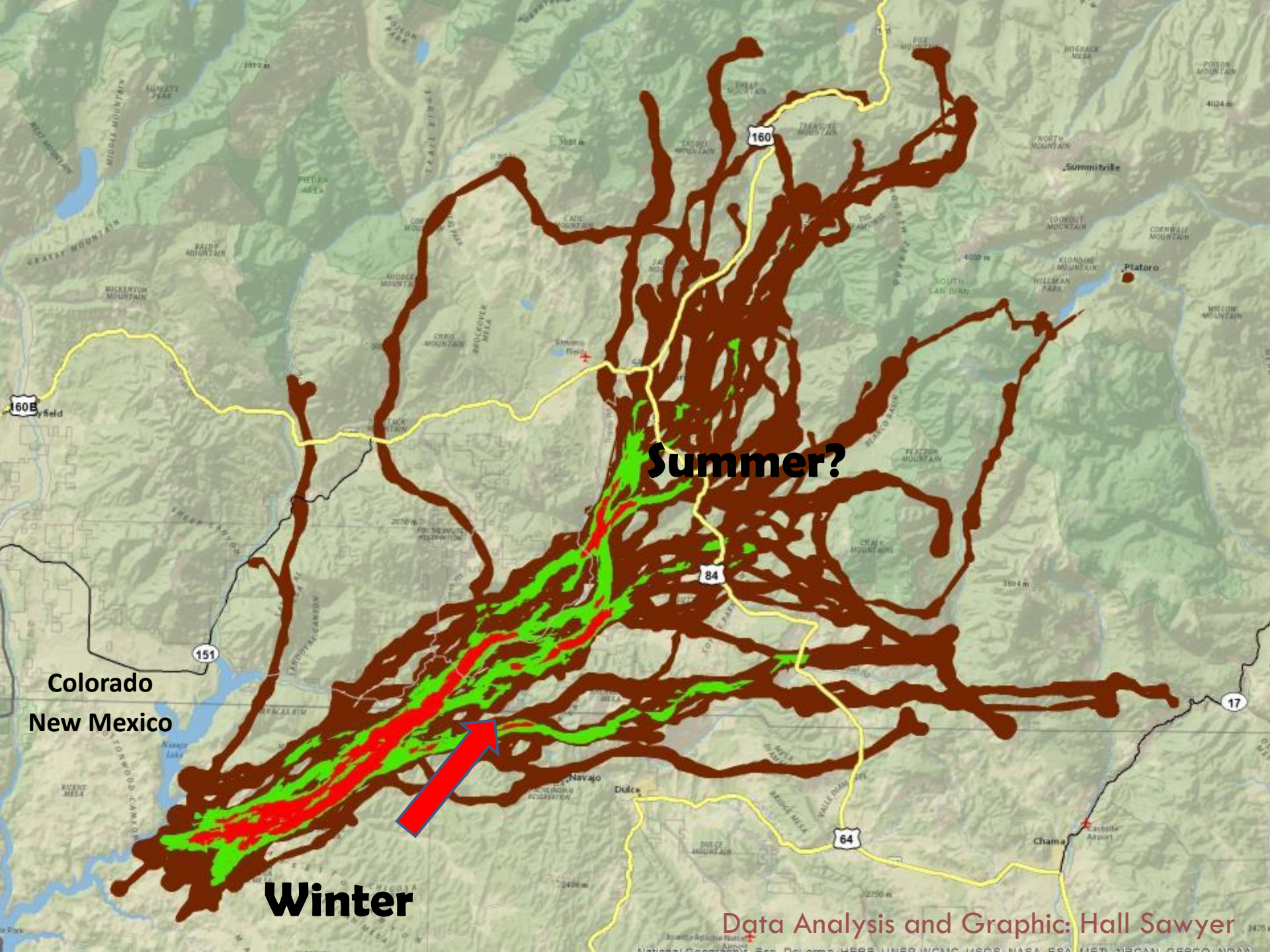
**Summer
Range**

Stopover

**Winter
Range**

Wyoming Migration Initiative





Summer?

Winter

Colorado
New Mexico

Data Analysis and Graphic: Hall Sawyer

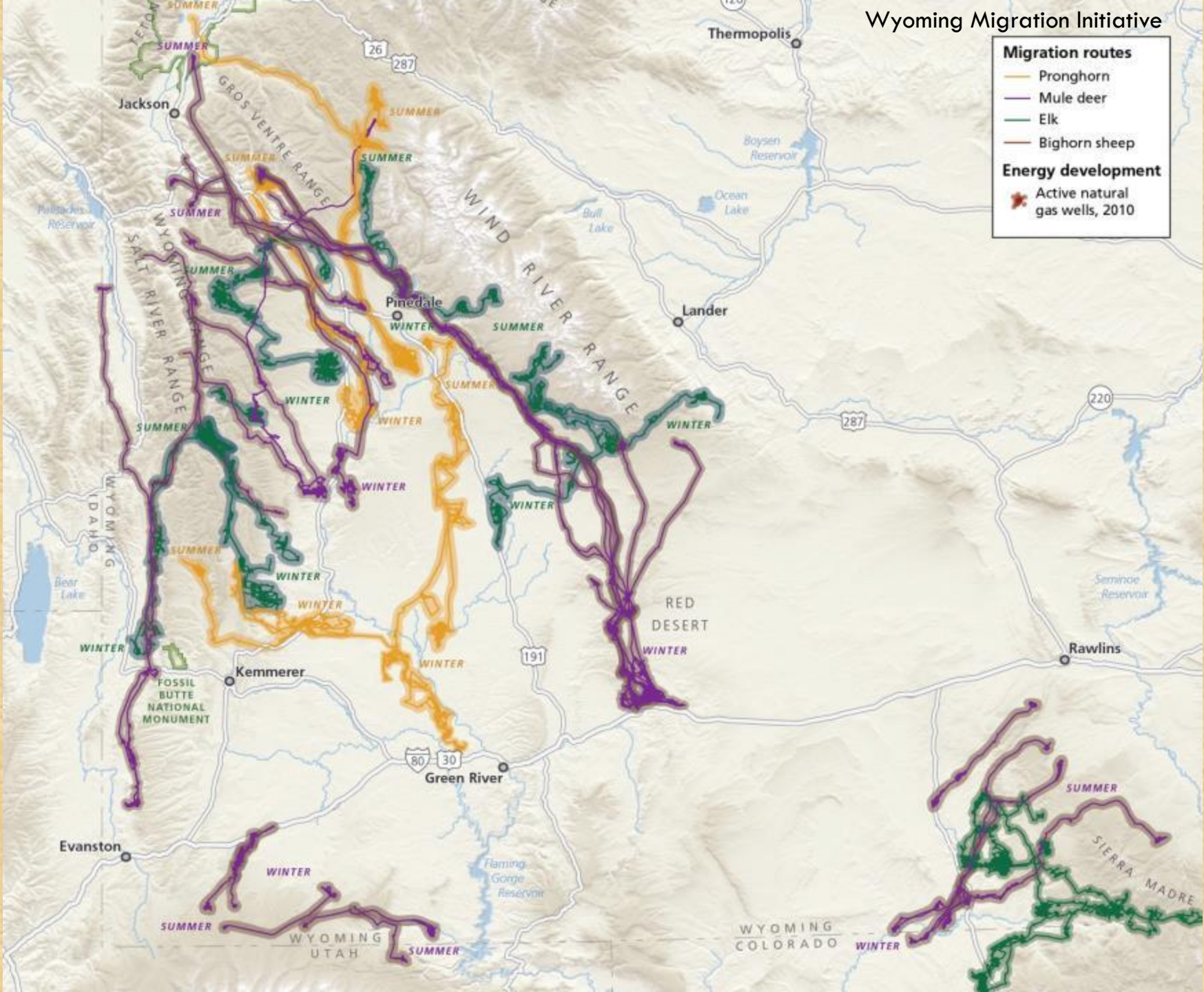
Wyoming Migration Initiative

Migration routes

- Pronghorn
- Mule deer
- Elk
- Bighorn sheep

Energy development

- ★ Active natural gas wells, 2010



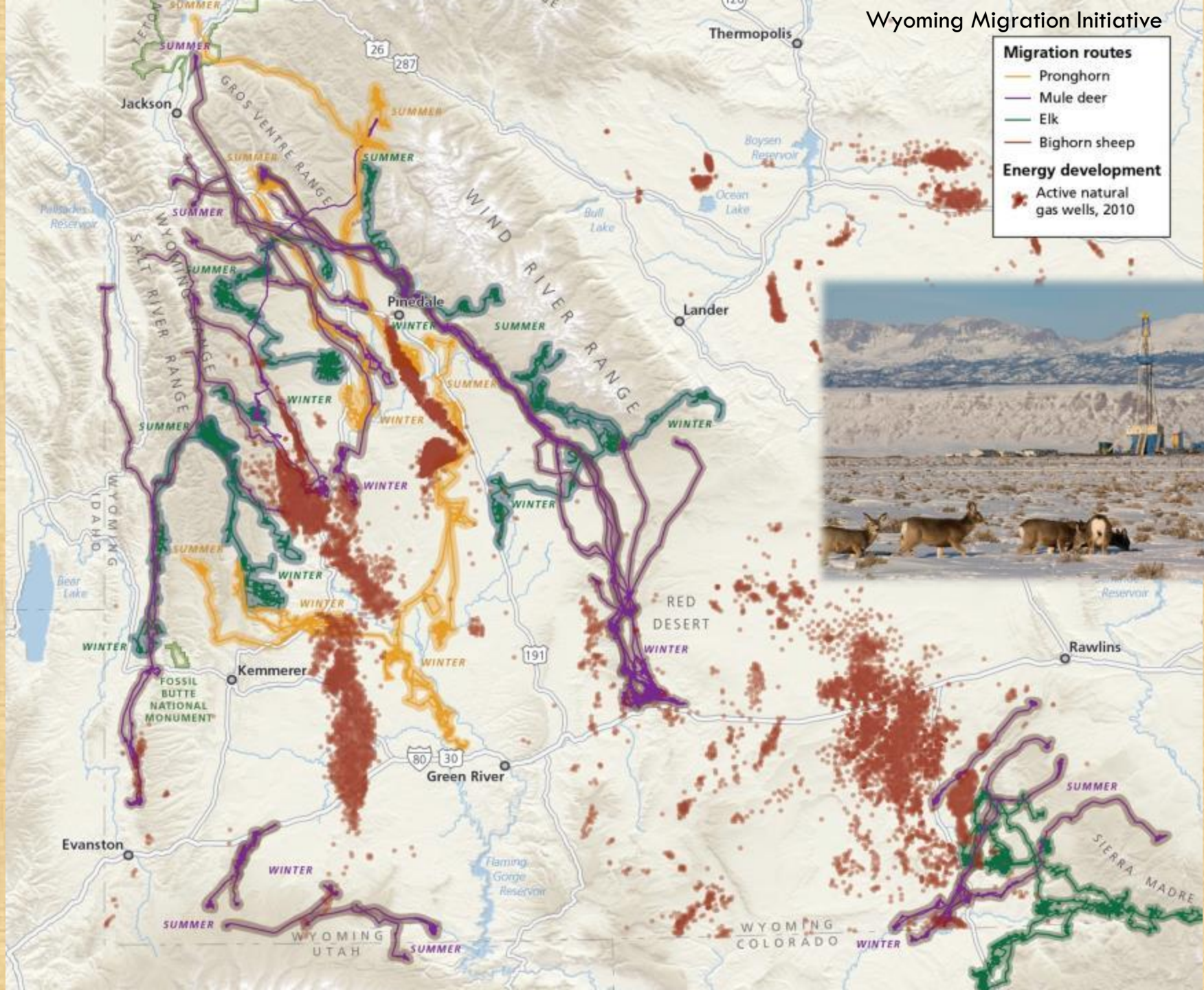
Wyoming Migration Initiative

Migration routes

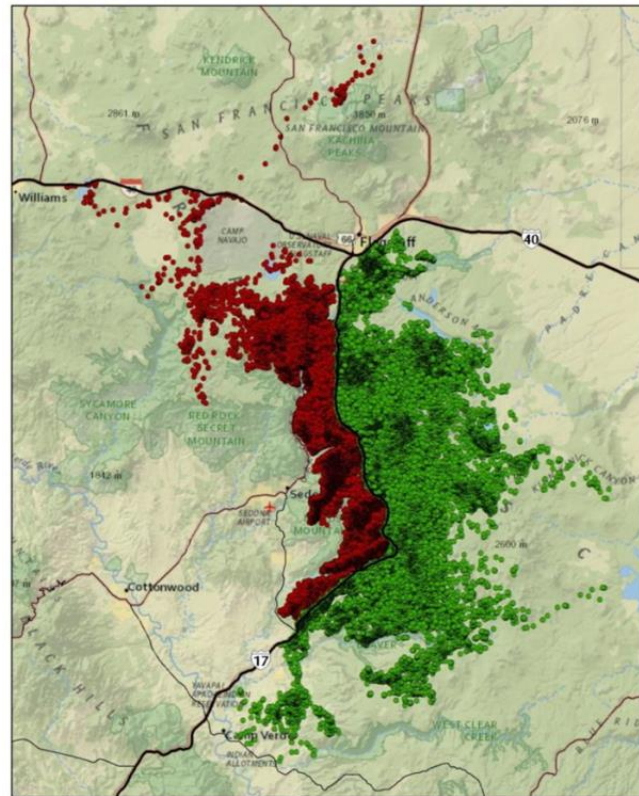
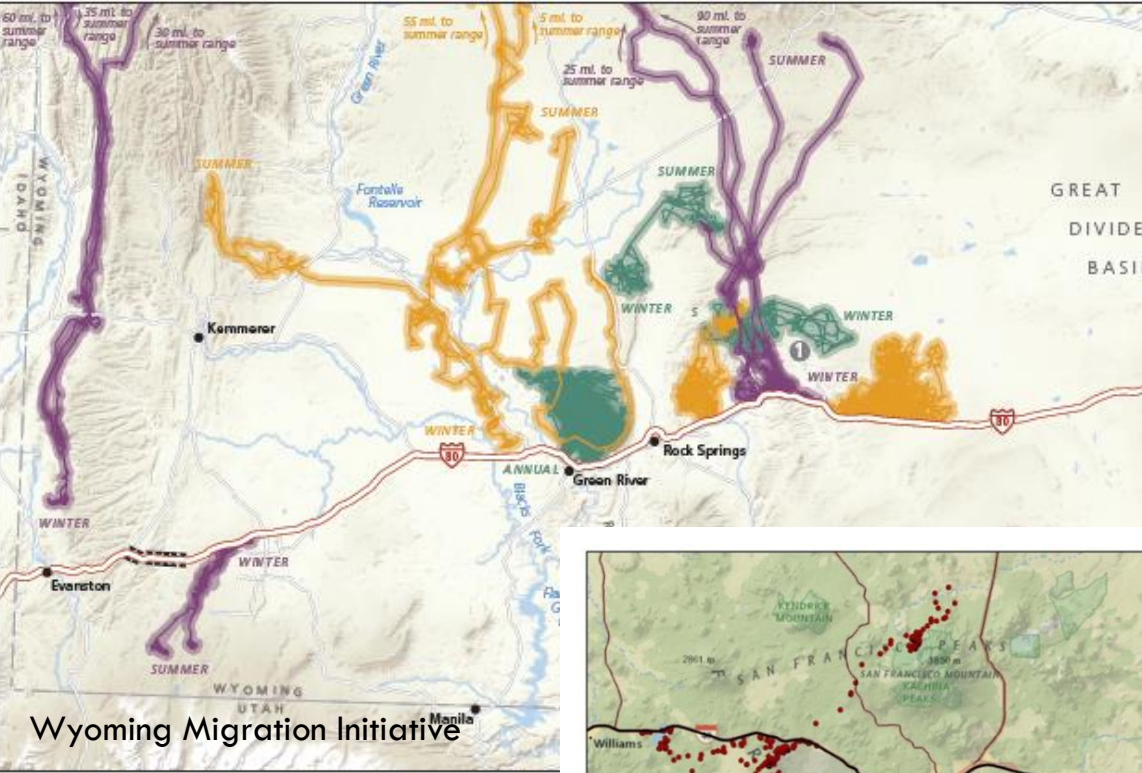
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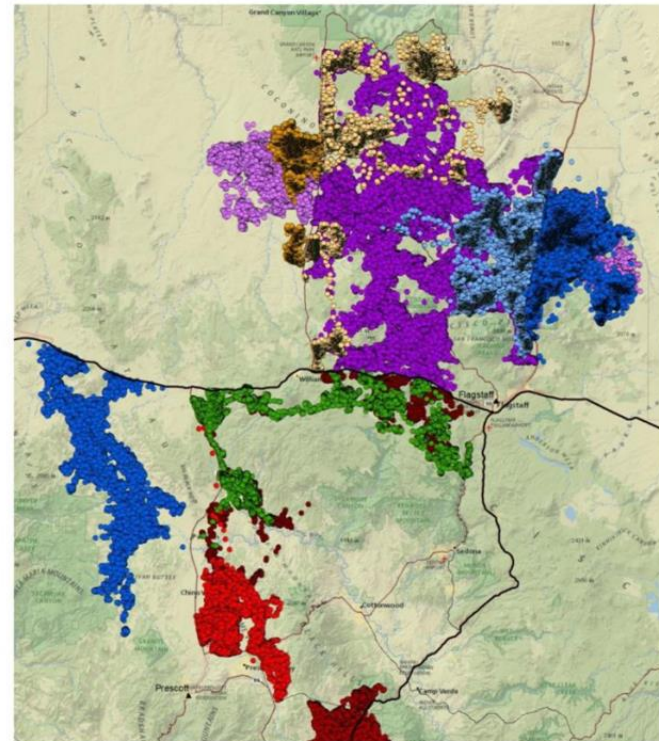
Loss of Migration



Legend
 • Elk Captured East of Interstate
 • Elk Captured West of Interstate

Elk Locations along I-17 in Arizona

Miles 0 5 10 N

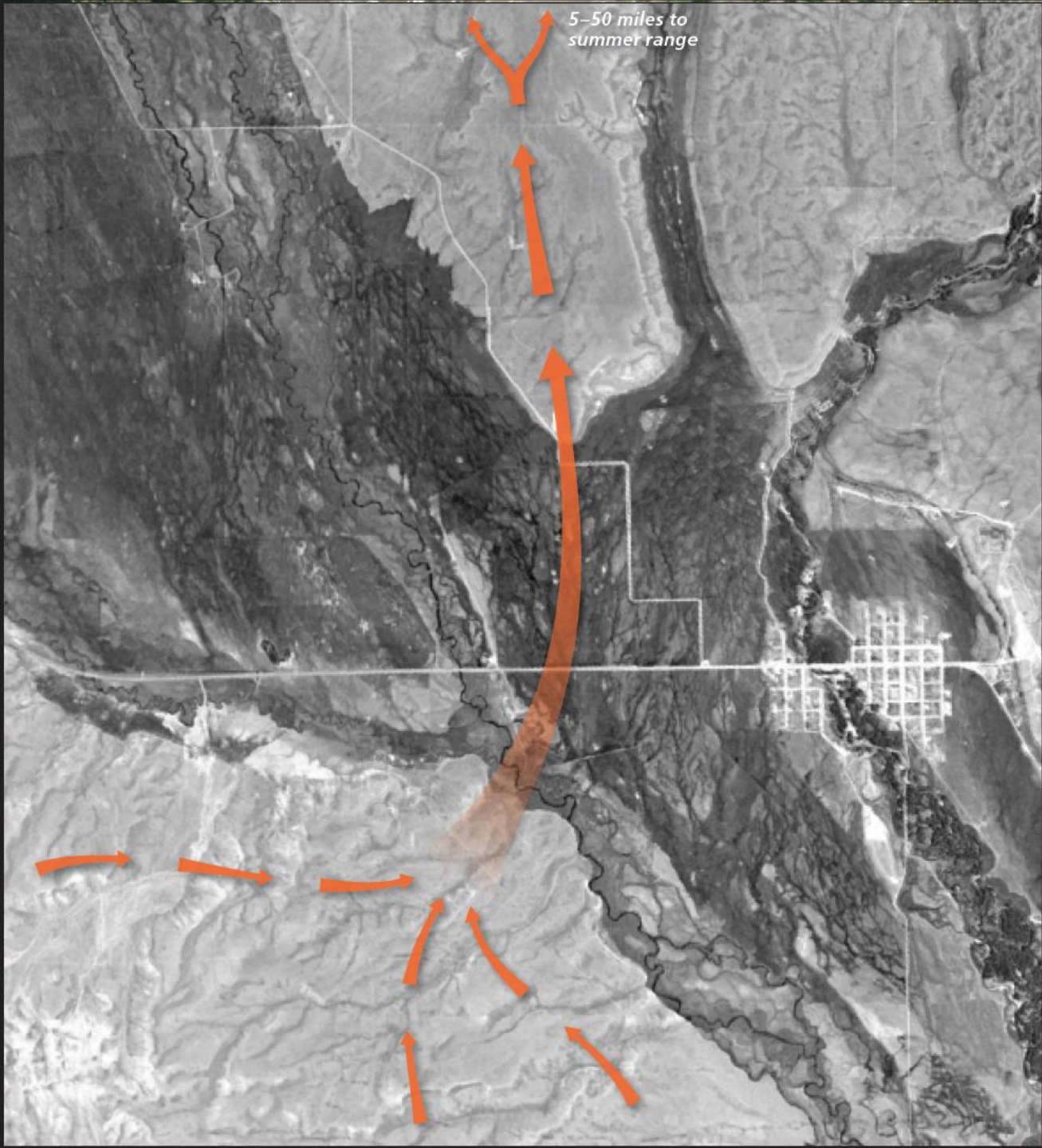


Arizona Game and Fish Department

Colors indicate various studies and side of highway captured on.

Miles 0 5 10 N

Pinedale Wyoming 2054





**WYOMING
MIGRATION
INITIATIVE**

Understanding & Conserving
Ungulate Migration

Mule Deer
Working Group

THE
PEW
CHARITABLE TRUSTS

**Salem, OR ~ October 24, 2017
(CA, OR, WA, UT)**



Agenda

Workshop #1 Salem, OR California/Oregon/Washington

Morning (all participants)

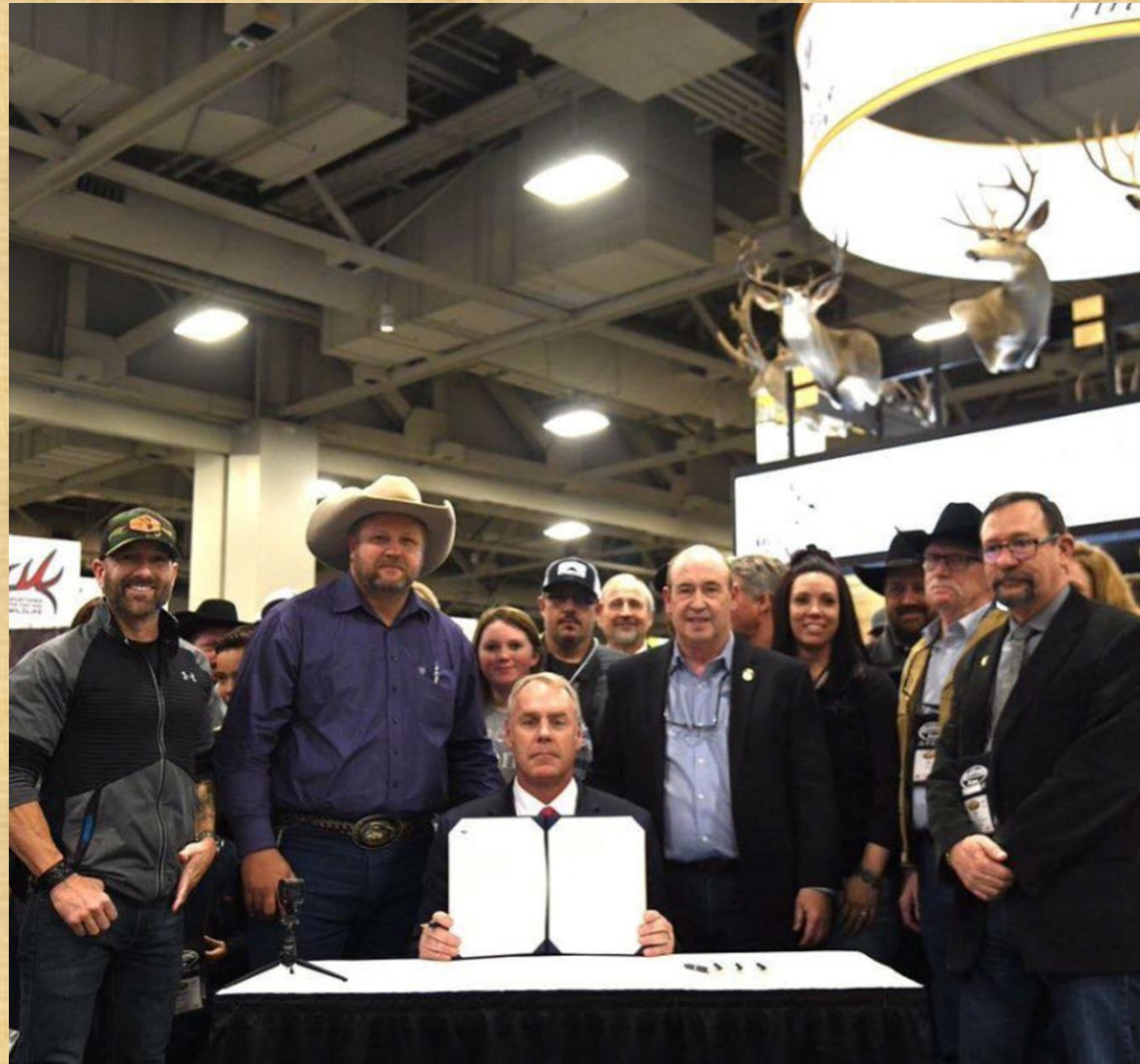
- Migration science and conservation
- Migration tools
- Federal policy for migration corridors
- WGFD (via skype) incorporating data into State policy

Afternoon (biologists with data)

- Analyze data with Migration Mapper consultation from WMI personnel



Secretarial Order 3362



**Mesquite, NV ~ June 5-6, 2018
(Nevada/Arizona/Utah)**

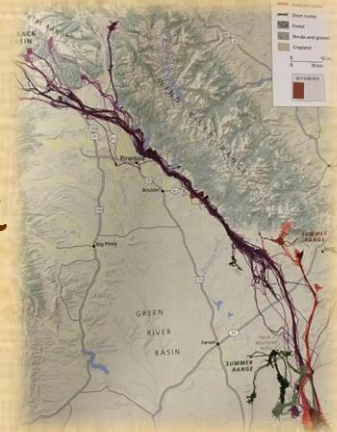
**Laramie, WY ~ August 28-29, 2018
(Wyoming/Colorado/New Mexico/Texas)**

**Bozeman, MT ~ September 19-20, 2018
(Montana/Idaho)**



Wildlife Movement and Migration Workshops

- 4 workshops
- 262 total attendees
- 13 states, including all 11 mentioned in SO3362
- Attendees
 - 80% state agency people
 - 15% Federal agency staff
 - 5% Transportation departments or academia
- 110 state agency staff trained in using migration analysis software
- Follow-up Webinar in December attended by 150 additional agency staff



SO3362 Implementation Steps

- June - Letter to state agency directors requesting identified corridors and winter range and also asking for proposals for research needs.
- Oct - Replies converted to State Action Plans
- Oct - Funds made available for identified research needs (\$3.2 million + \$300K for science support)
- March - More funds available for habitat work in corridors and winter range identified in State Action Plans (\$2.7 Million, \$1.5 Million [private land])



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U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT



WESTERN ASSOCIATION OF FISH AND WILDLIFE AGENCIES
Crucial Habitat Assessment Tool
Mapping Fish and Wildlife Across the West



WAFWA
WESTERN ASSOCIATION OF
FISH & WILDLIFE AGENCIES



U.S.
FISH & WILDLIFE
SERVICE

DEPARTMENT OF THE INTERIOR



USGS
science for a changing world



**MULE DEER
FOUNDATION**