



Photo C. R. Preston

Golden Eagle Reproduction in Relation to Energy Development and Landscape Composition in Wyoming's Bighorn Basin

Charles R. Preston, Draper Natural History Museum, Cody, WY

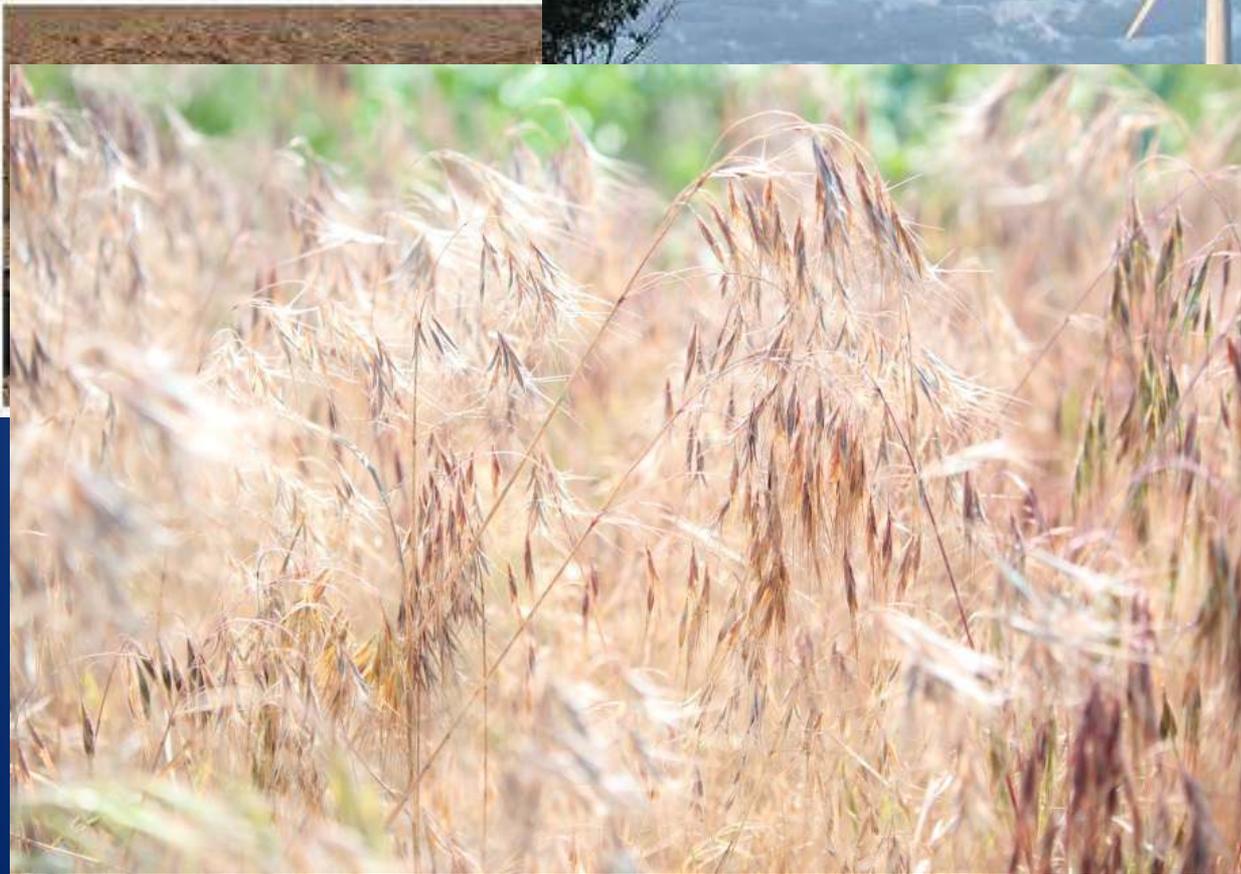
John Campbell, Northwest College, Powell, WY

Richard Jones, Ranger Consulting, Cody, WY

Nathan S. Horton, Draper Natural History Museum, Cody, WY



CB049979 [RF] © www.visualphotos.com



mattb.net



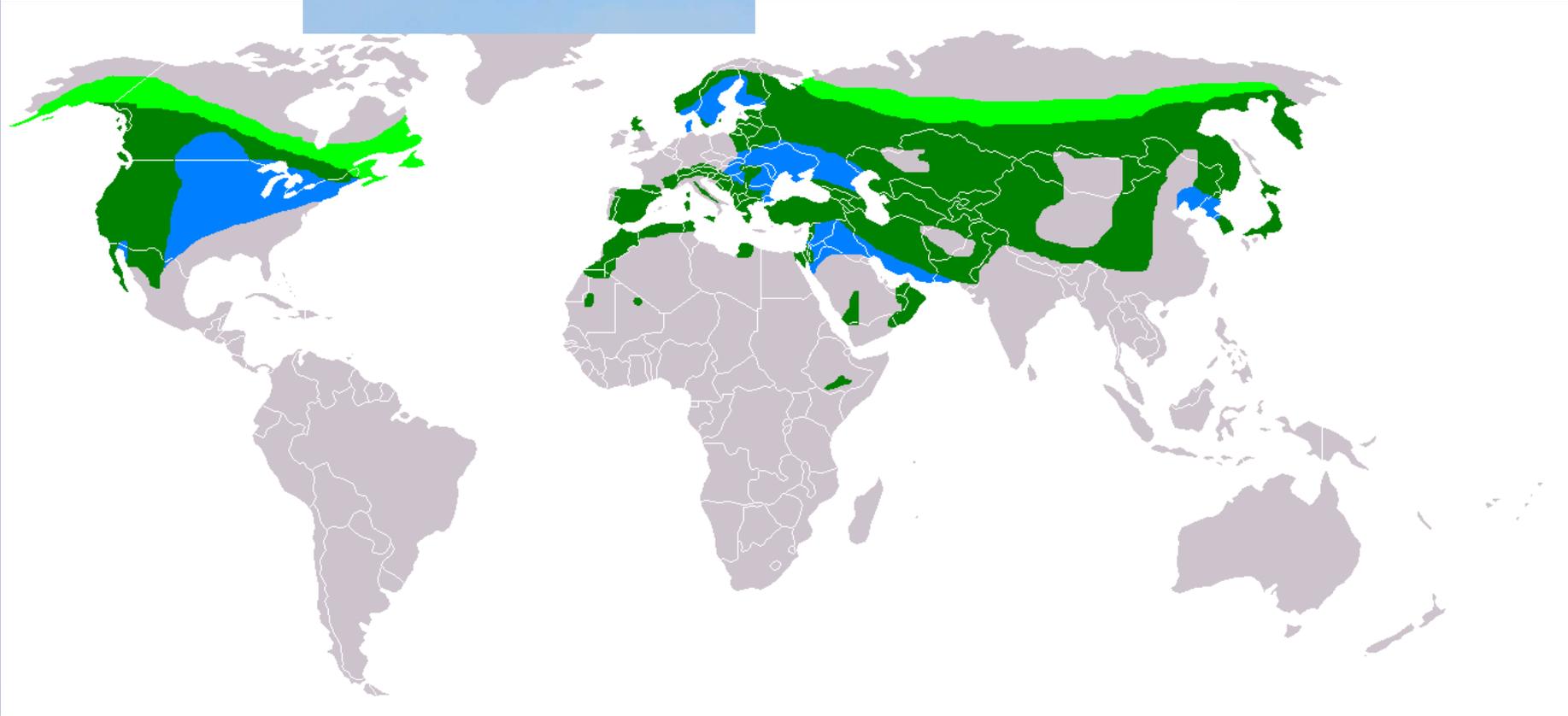
Photo Keith Cauley



Photo Chris Gimmeson



Photo Keith Cauley





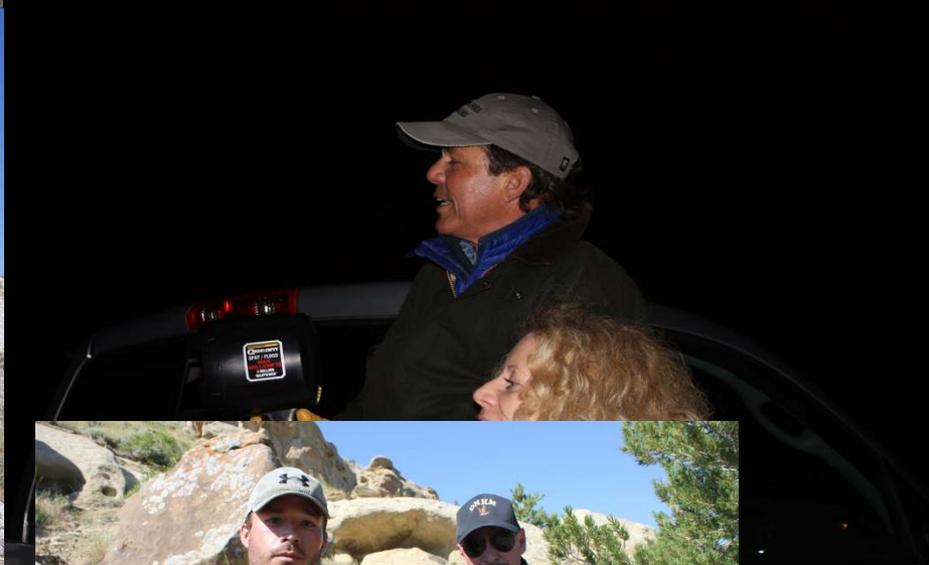
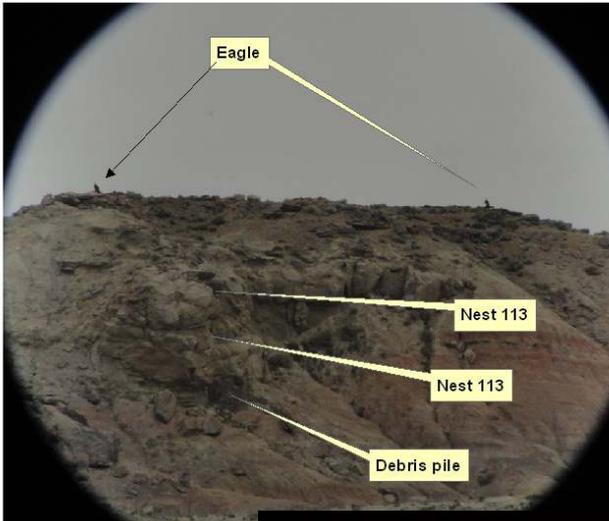
Photos C. R. Preston

Genesis: Abundance of GOEA, Little Information, Increasing Energy Development and Recreation



Objectives:

- Create inventory and reproductive history of nesting territories
- Determine food habits
- Determine relationship between annual fluctuations in primary prey abundance and GOEA reproduction
- Identify landscape characteristics that best discriminate between territories with high- and low- reproduction

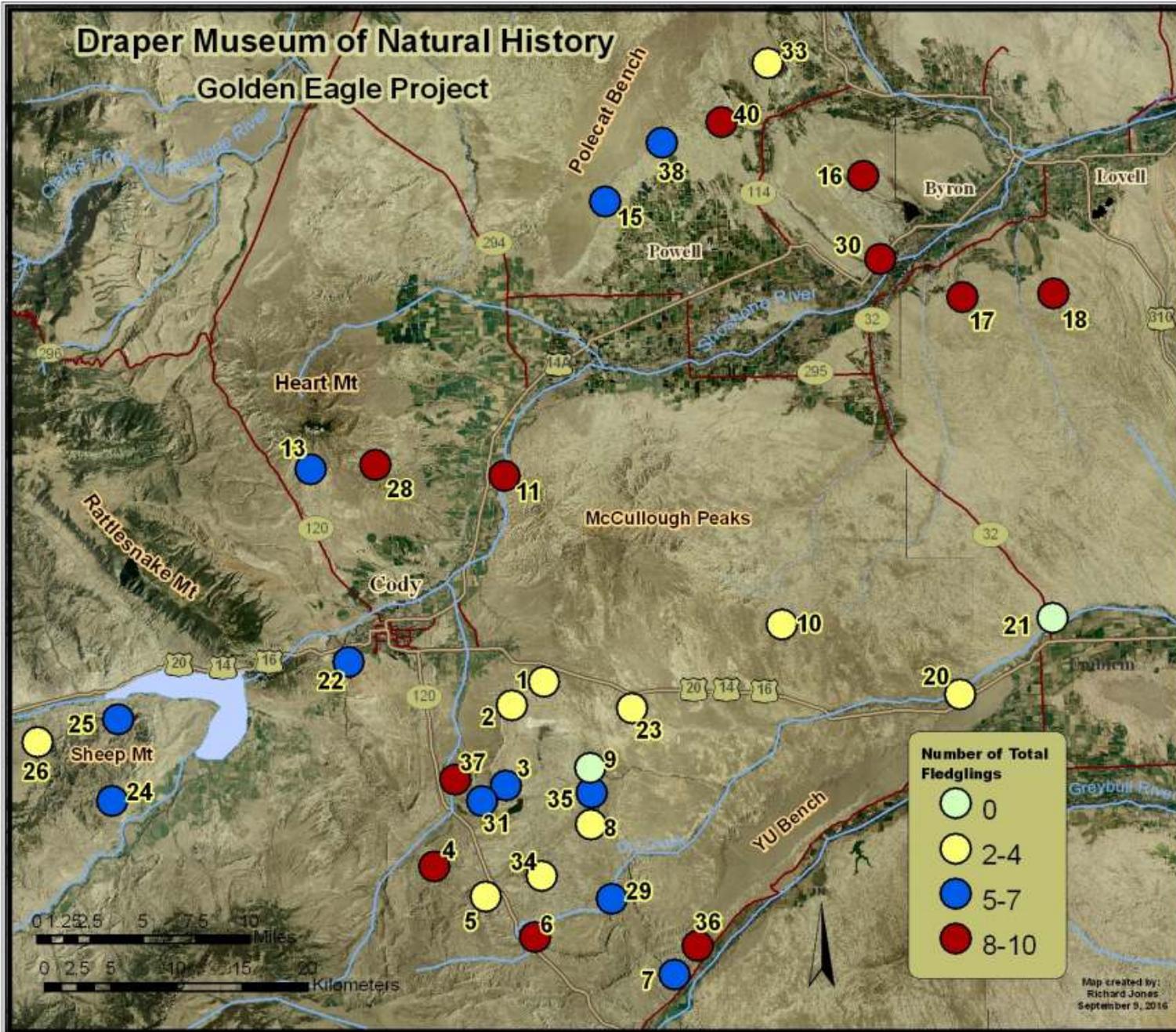




MOOSEJAW
BRAVO
PHOTOGRAPHY

Draper Museum of Natural History

Golden Eagle Project



Landscape Variables

(within 1.5 km circle surrounding each nest area)

- Percent Cultivated
- Percent Shrub
- Percent Grass
- Percent Bare
- Percent Trees
- Distance to Nearest Pad
- Length of 2-Track/ATV
- Length of Gravel/Dirt Roads
- Length of Paved Roads



Wilks' Lamda: 0.305; Approx. F = 3.3780; P = 0.0012

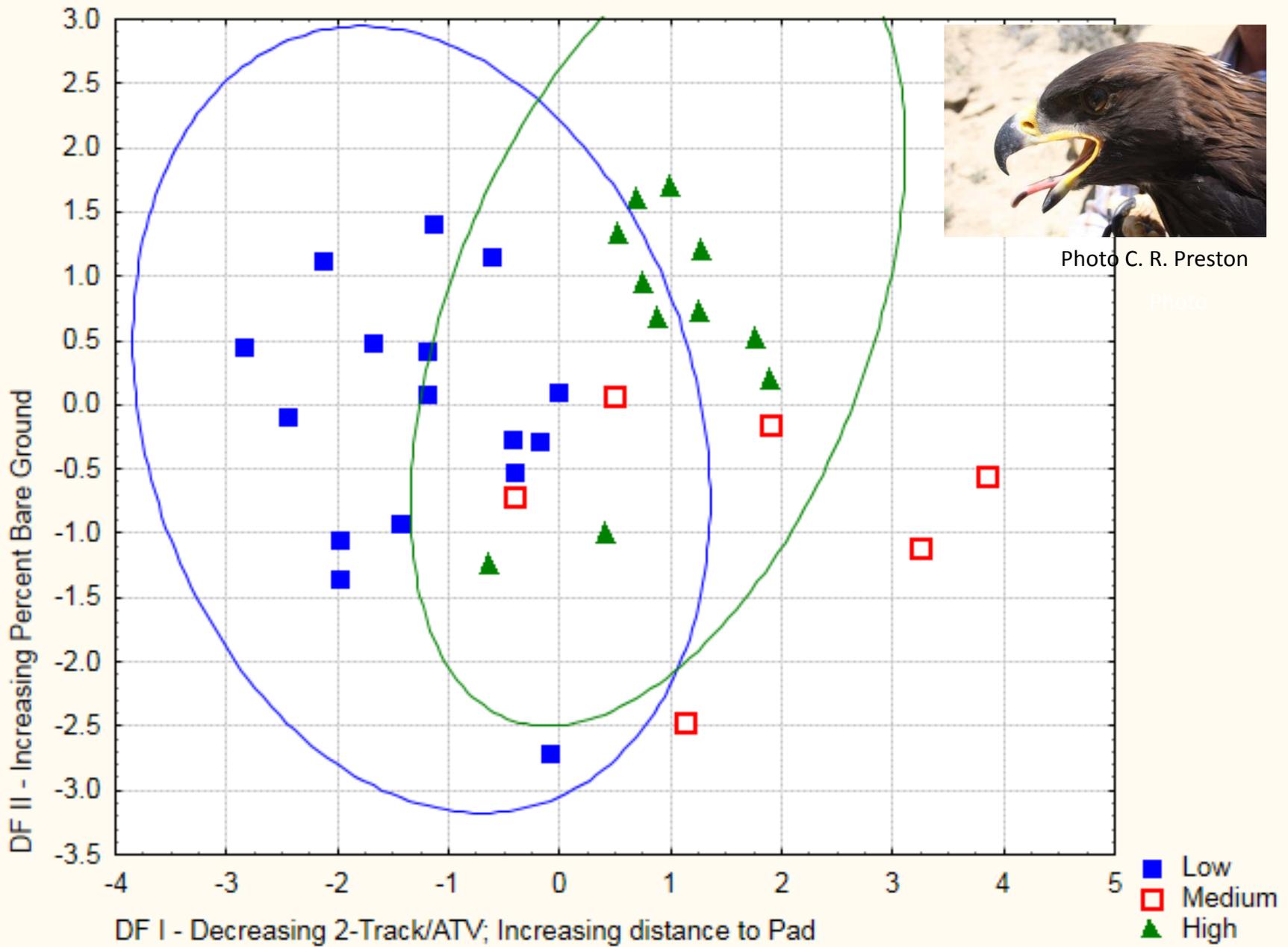


Photo Anne Hay

Group	Percent Correct	Low	Medium	High
Low	93.7	15	0	1
Medium	50.0	1	3	2
High	81.9	1	1	9
Total	81.9	17	4	12

Standardized Coefficients for Discriminant Functions

Variable	DF I	DF II
Cultivated	0.419485	-0.170619
Shrub	0.422141	-0.345211
Grass	0.410031	-0.431982
Bare	-0.137816	0.680270
Trees	-0.098966	0.149834
Nearest Pad	0.655728	-0.301229
2-Track/ATV	-0.963362	-0.089710
Dirt/Gravel	-0.496426	0.197312
Paved	0.087643	0.167321
Cumulative Prop.	0.85	1.00

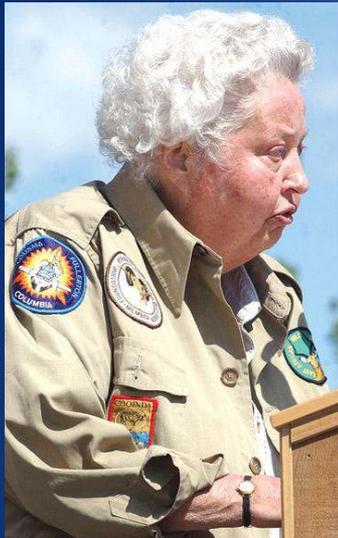


Conclusions

- GOEA reproduction is depressed in territories closer to oil/gas pads and with more 2-track/ATV trails, especially in years when primary prey abundance is low – **mechanism remains unclear.**
- Mitigation would be most effective in years with poor primary prey abundance.



Financial and/or Logistical Support



Nancy- Carroll Draper Foundation

