



# The Western Section of The Wildlife Society and Wildlife Research Institute

Western Raptor Symposium  
February 8-9, 2011  
Riverside, California



Symposium  
Sponsors



**February 8 – 03:25-03:40 pm Session: Department of Interior Eagle Session**

## National Golden Eagle Monitoring Guidelines

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In 2010, guidelines were developed for minimum inventory and monitoring effort recommended for evaluating potential Golden Eagle use of habitat including nest sites, roosts, and territories. In 2011, these guidelines were augmented by including non-breeding season and migration monitoring. These field efforts are the mutual responsibility of agencies authorizing activities and their permittees, or project proponents, if a project is planned for private lands, and are essential components for avoiding and minimizing disturbance and other kinds of take, including lethal take. Surveys are also a necessary component of short and long-term site specific monitoring and management of local Golden Eagles and regional Golden Eagle populations. The data gathered will provide information on the baseline circumstances for evaluating permit applications and a foundation for permit conditions, as well as assist planners so they may conduct informed impact analyses and mitigation during the National Environmental Policy Act (NEPA) process.

The authors and institutions that have provided the following presentations are happy to share their information, data, and opinions. However, these are not, necessarily, peer-reviewed presentations and the potential to take something out of context also exists. In order to avoid that, you are requested to contact the respective lead author(s) before using specific information contained in any of the following papers. Once you have done that, the proper citation is: "[Author(s). Date. Title.] Presented at the Western Raptor Symposium. Jeffrey L. Lincer and David Bittner (Co-Chairs). Hosted by Wildlife Research Institute and The Wildlife Society, Western Section. Riverside Convention center, Riverside, California, USA. February 8-9, 2011

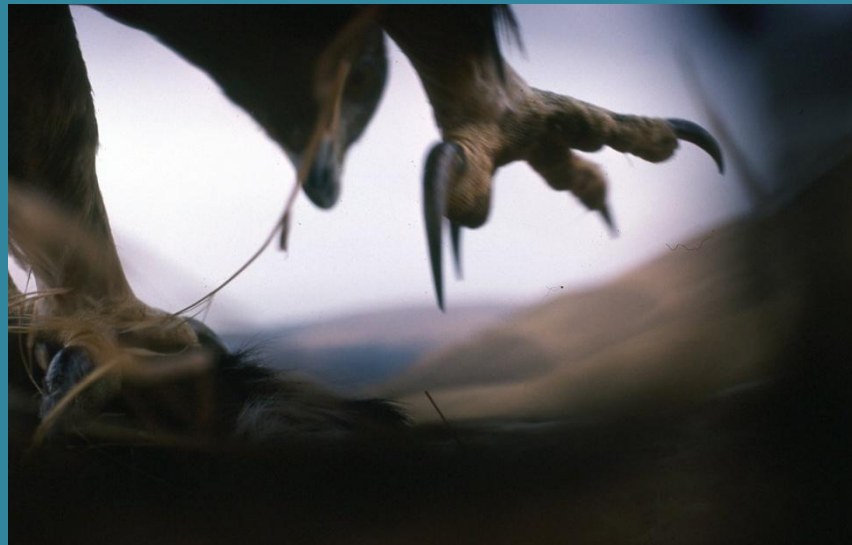
# **Interim Golden Eagle Inventory and Monitoring Protocols; and Other Recommendations: 2011**



**Joel E. Pagel, Ph.D.  
Diana M. Whittington**

**U.S. Fish and Wildlife Service  
February, 2011**

2011 version, when released, will replace Pagel *et al.* 2010. Interim *Golden Eagle* inventory and monitoring protocols; and other recommendations



# Why inventory and monitor Golden Eagles?

- Provide information on effects to Golden Eagles and baseline circumstances for evaluation of permit applications and permit conditions and preparation of an Eagle Conservation Plan.
- Avoid and minimize disturbance and other kinds of take.



# 'Disturb' (72 FR 31132)



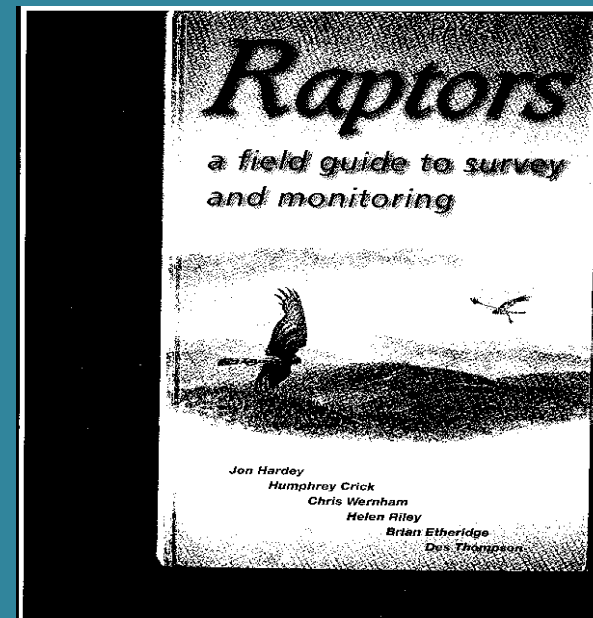
*Disturb means to agitate or bother a Bald or Golden Eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) **injury** to an eagle, 2) a **decrease in its productivity**, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) **nest abandonment**, by substantially interfering with normal breeding, feeding or sheltering behavior.*

# The applicant for an Eagle Act permit must;

- A) Collect and synthesize biological data,
- B) Identify activities that are likely to result in take,
- C) Provide avoidance and minimization measures,

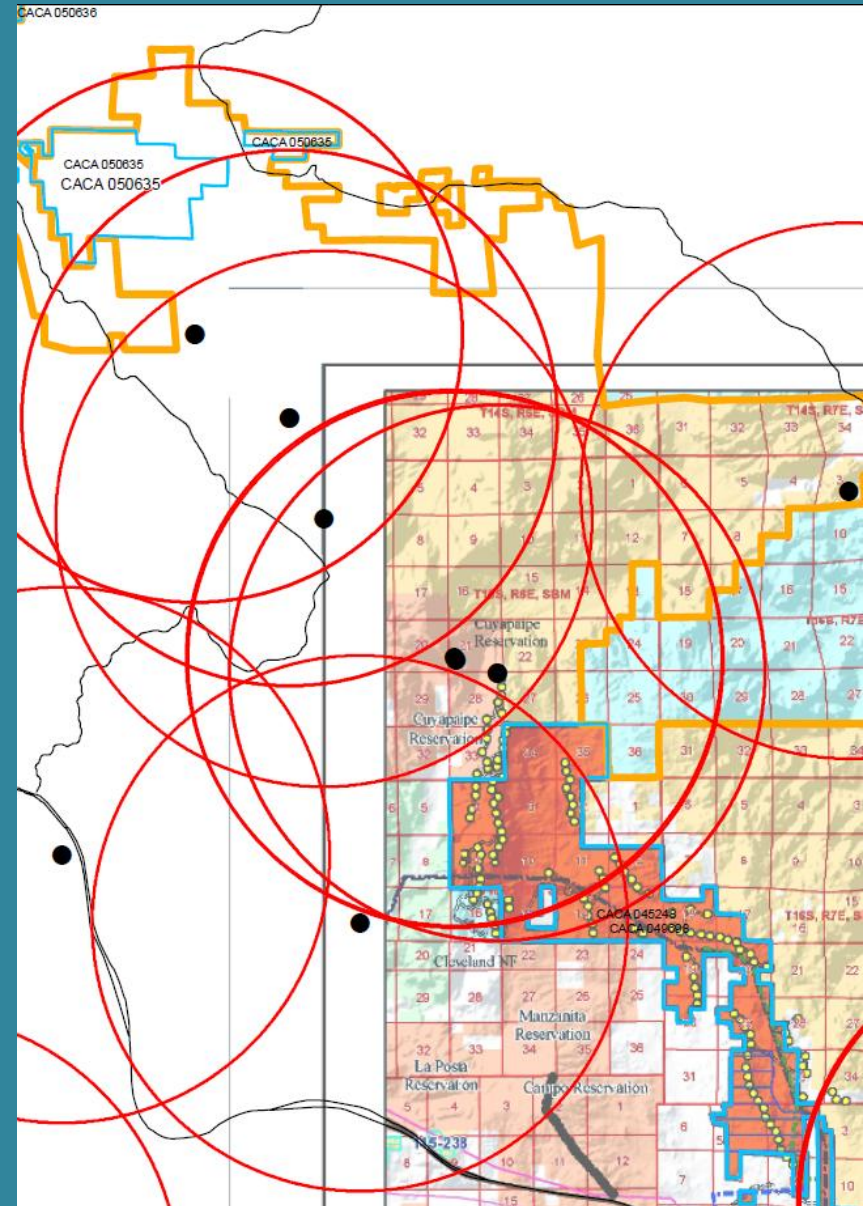
And,

- D) Quantify the anticipated take.



# D) Quantify the anticipated take.

- 1) # of eagles within activity area,
- 2) Use of that area by the eagles,
- 3) Potential to take eagles,
- 4) Scale of activity,
- 5) Cumulative effects
- 6) Measures to avoid and minimize take.



# Distances for inventory and monitoring:



- All 'suitable' habitat within +10 miles of project footprint (or action area)
- Linear projects: 2 - +4 miles each side of project boundary.



# Four minor changes to Pagel et al. 2010.

- Observers
- Forested  
Habitat/complex  
cliffs
- Bighorn Sheep
- Non-breeding  
season surveys



Dee Dee Gillette  
WWW.USWILDLIFEIMAGES.COM

# Review of 2010 GOEA inventory and monitoring effort



- Changes to guidelines due to USFWS concerns with 2010 survey efforts



Eagle survey guidelines  
were designed to cause  
essentially no  
disturbance  
(if followed)





# Qualified observers;

2011 recommendations

- All surveyors will have at least 2 seasons of GOEA and/or cliff dwelling raptor work
- Aerial surveys done by raptor specialists with at least 3 field seasons in helicopter surveys on cliff ecosystems; at least 50 hrs flight time as principle observer for GOEA surveys
- Experience confirmed by documentation  
(recommend that documentation of qualifications be sent to Action Agency and USFWS > 30 days prior to surveys).

(Prior flight experience with GOEA or cliff dwelling raptor surveys, i.e. PEFA, PRFA)

Key aerial observers also should have entered nests\* and monitored detailed nesting behavior of some these species (primarily GOEA and RTHA); be intimately familiar with con-specific raptor natural history, behavior, nest size/type and field signs.



\*(with proper permits)



**Sidenote;** we found that most experienced observers understood survey details, i.e. **at least** 2 aerial surveys (inventory/monitoring); no less than 30 days apart



At least two surveys  
(but most likely more)



- Inventory **and** monitoring
- May require more surveys to determine productivity
- Additional flight time should be budgeted for aerial inventory of forested or extensive cliff habitat:  
Complex cliff habitat and/or forested habitat may need +2 – 3x more time for coverage
- Divide labor during flight (Pilot should not be considered second observer)

Guidelines were designed to find eagles and prevent accidents



**EXUBERANT SCIENTIST**

**Michael W. Gratson**

**1952–2000**

On 28 December 2000, Michael Gratson was killed in a helicopter crash while developing a



# Changes re; Bighorn Sheep paragraph

- States were concerned about 'take' and effects of GOEA over flights.

*Any party seeking to conduct aerial surveys in bighorn sheep habitat should contact the most appropriate representative from the state wildlife agency (Appendix 1) at least 14 days PRIOR TO any Golden Eagle helicopter flights to:*

- a) Determine responsibilities necessary for compliance with state laws and regulation,*
- b) Learn of specific areas where flights are not allowed, and*
- c) Obtain written concurrence from the state wildlife agency dated 14 days prior to first flight. This record should be appended to any final report for the Golden Eagle survey, Eagle Conservation Plan, or other documentation relevant to Golden Eagle information presented to the Service.*

# Appendix 1: State Bighorn Sheep contacts

## Agency

- Alaska Department of Fish & Game
- Alberta Fish & Wildlife Division
- Arizona Game & Fish Department
- British Columbia Ministry of Environment
- California Department of Fish & Game
- Colorado Division of Wildlife
- Idaho Department of Fish & Game
- Montana Department of Fish, Wildlife, & Parks
- Nebraska Game & Parks Commission
- Nevada Department of Wildlife
- New Mexico Department of Game & Fish
- North Dakota Game & Fish Department
- Oregon Department of Fish & Wildlife
- South Dakota Department Game, Fish, & Parks
- Texas Parks & Wildlife Department
- Utah Division of Wildlife Resources
- Washington Department of Fish & Wildlife
- Wyoming Game & Fish Department
- Government of Yukon Dept. of Environment
- U.S. Forest Service, Denver, CO
- U.S. Forest Service, Missoula, MT
- Bureau of Land Management, Boise, ID



# No helicopter surveys in bighorn sheep lambing areas



# Ground surveys may be substituted for Aerial surveys



Large cliffs and cliff systems CAN be surveyed from the ground



Use GPS tracking of aerial survey;  
i.e. flight following

(submit with survey report)



# Breeding season emphasis in Pagel et al. 2010

altered in 2011 to include non-breeding surveys





# Non-breeding season surveys



- Floaters
- Subadults
- Migration routes
- Winter use
- Territorial adult use of habitat



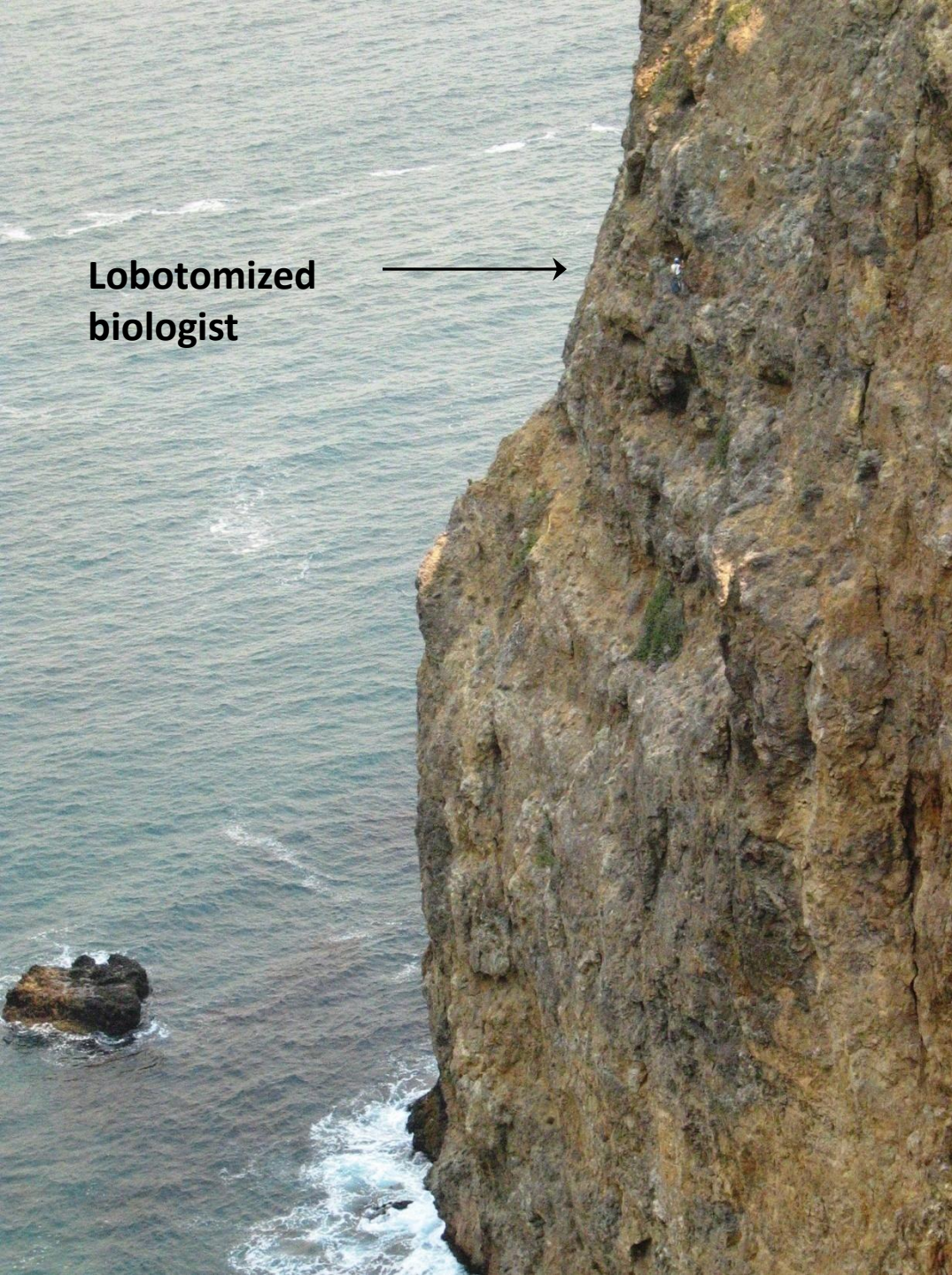
# Use of carrion stations with “trailmaster” type equipment



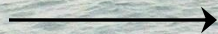
# Migration studies

- Hawk Migration Association of North America guidelines recommended
- [www.hmana.org](http://www.hmana.org)



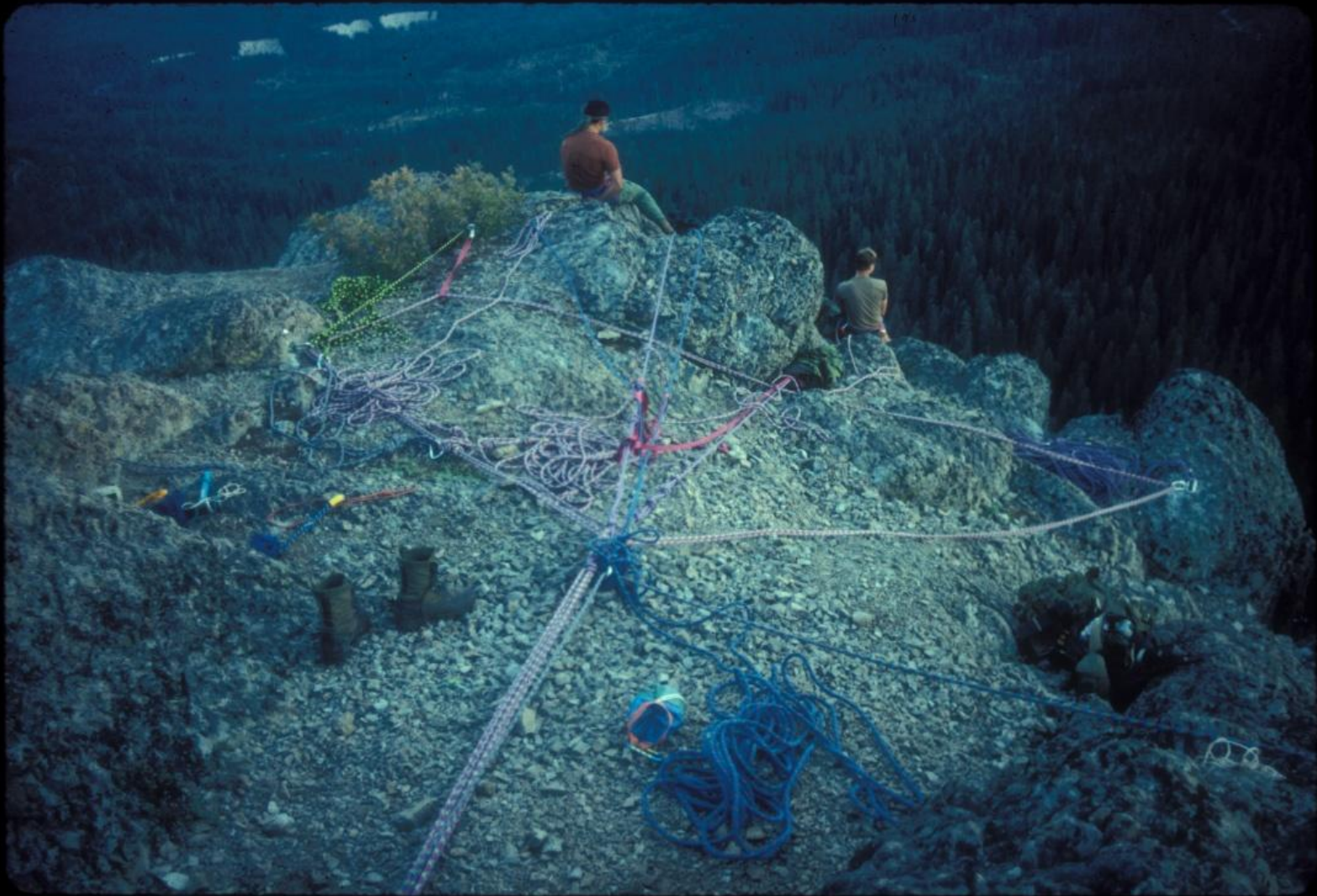


Lobotomized  
biologist



Inventory and  
monitoring is  
relatively easy  
contrasted to some  
of the other data  
we will need as we  
continue with  
Golden Eagle  
conservation

Not to oversimplify; it is complex,  
but not a Gordian Knot



Scientific Rigor

Best qualified  
observers

Honest reporting





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