

Oregon's Statewide Golden Eagle Inventory and Monitoring Effort: A Model for Broad-Scale Monitoring of Nesting Eagles



GE tree
Horseshoe Cr
OP 44.81097 119.91936
Looking SSW
2012.04.27.1100
Status: 1 small downy

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OBJECTIVES

Determine the size, distribution, and productivity of golden eagles nesting in Oregon.



- Compile Historical Nest Locations
- Inventory Historical Nest Locations
- Survey Other Nesting Habitat
- Document “New” Nest Locations
- Monitor Occupied Breeding Areas



Golden eagles hunt over open country...



build stick nests on cliffs...



in trees...



and on artificial structures.

Historical Golden Eagle data in Oregon

Sources include:

Isaacs & Opp, 1991

Isaacs & Popp, 1994,

Thompson et al 1982

Anderson 1985

Countless agency reports,
project - specific surveys
and inventory, anecdotal
records, etc.

(Draft No. 2)

THE ECOLOGY AND BREEDING BIOLOGY OF THE GOLDEN EAGLE

IN

SOUTHWESTERN IDAHO

AND

SOUTHEASTERN OREGON

BY

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DIVISION OF WILDLIFE SERVICES

BUREAU OF SPORT FISHERIES AND WILDLIFE

UNITED STATES DEPARTMENT OF INTERIOR

1968

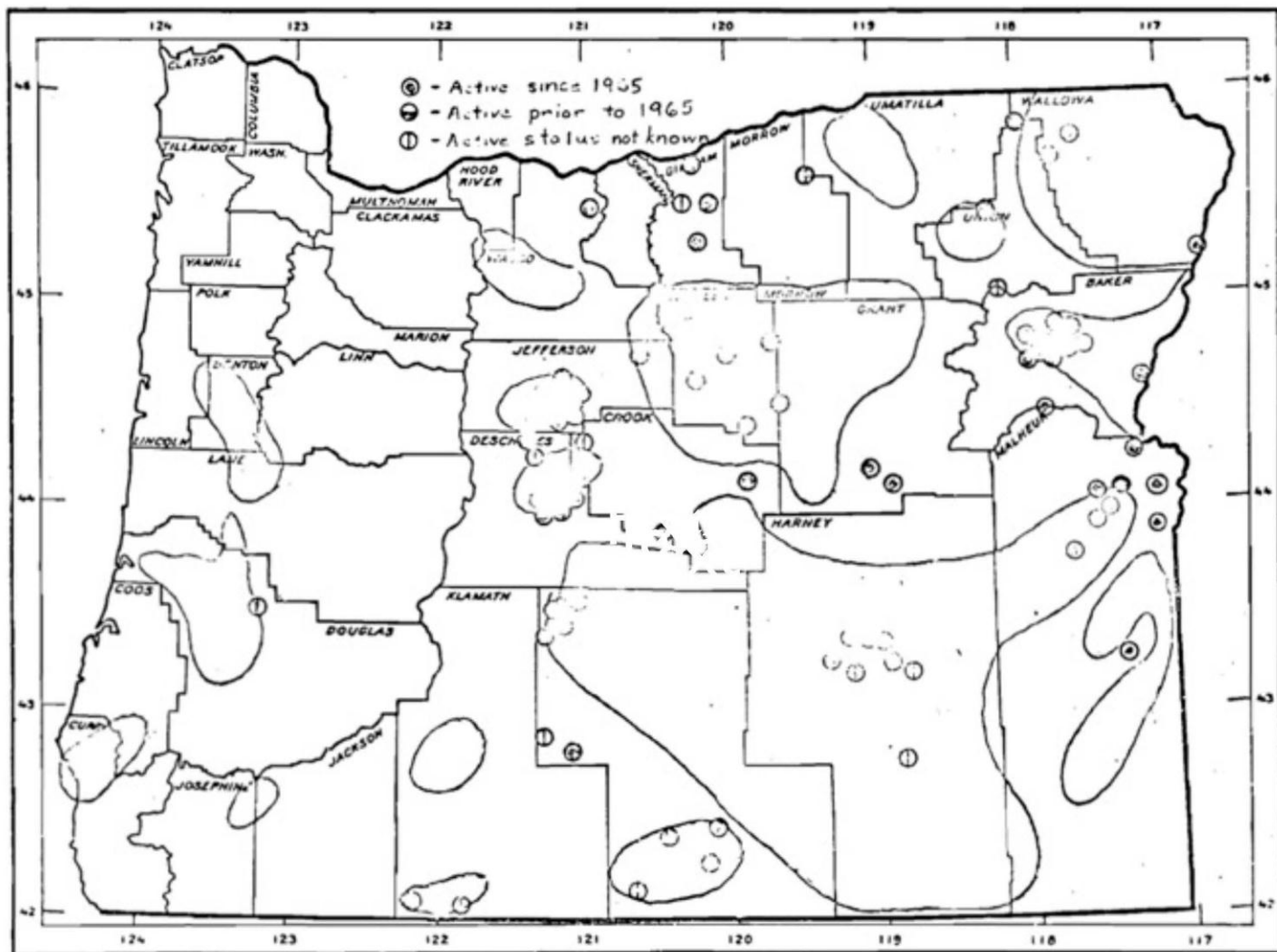


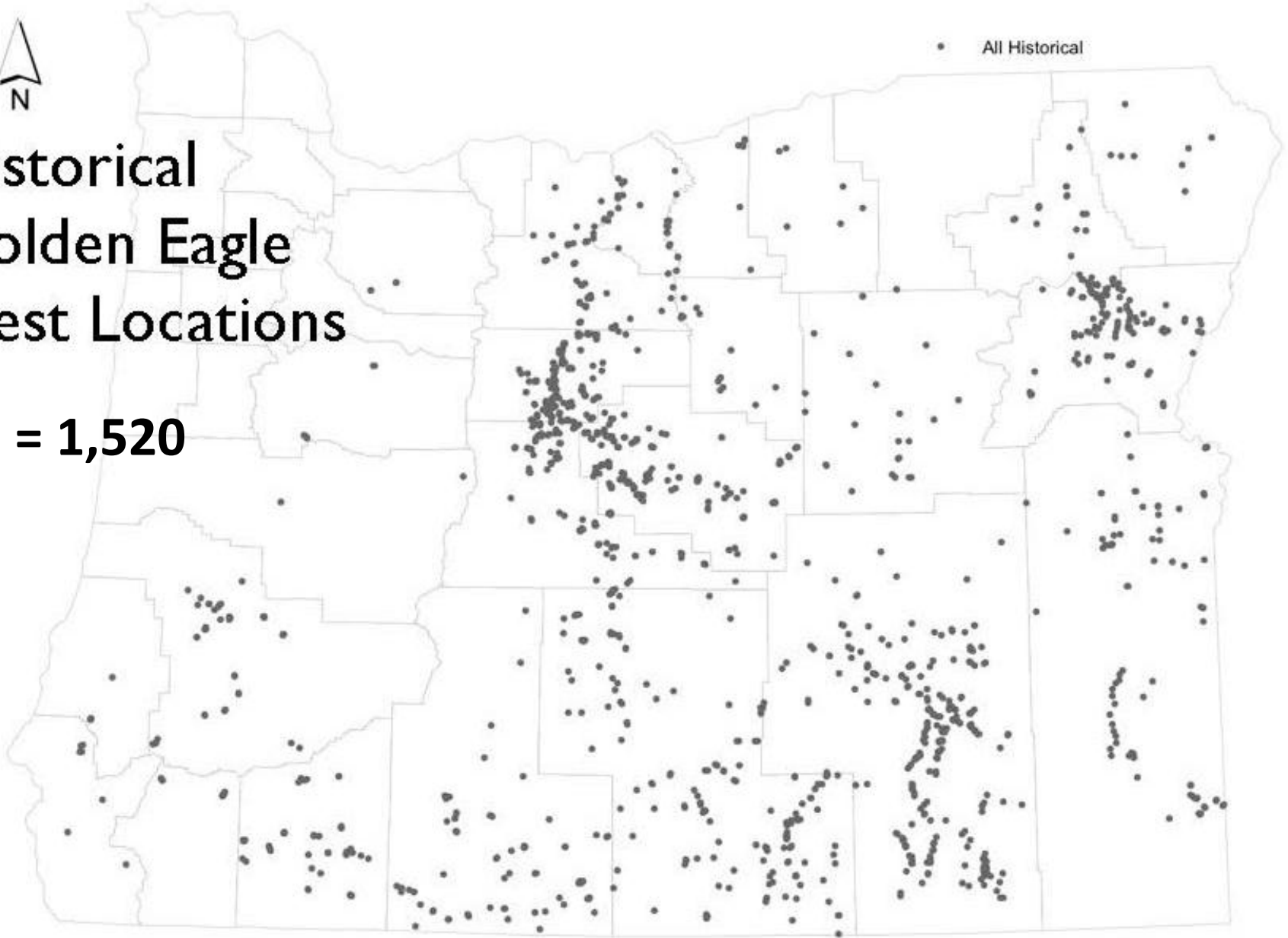
Figure 6. Golden eagle nesting sites and wintering areas in Oregon recorded from a mail survey of natural resource management agencies.



• All Historical

Historical Golden Eagle Nest Locations

N = 1,520



0 50 100 Miles

0 50 100 Kilometers



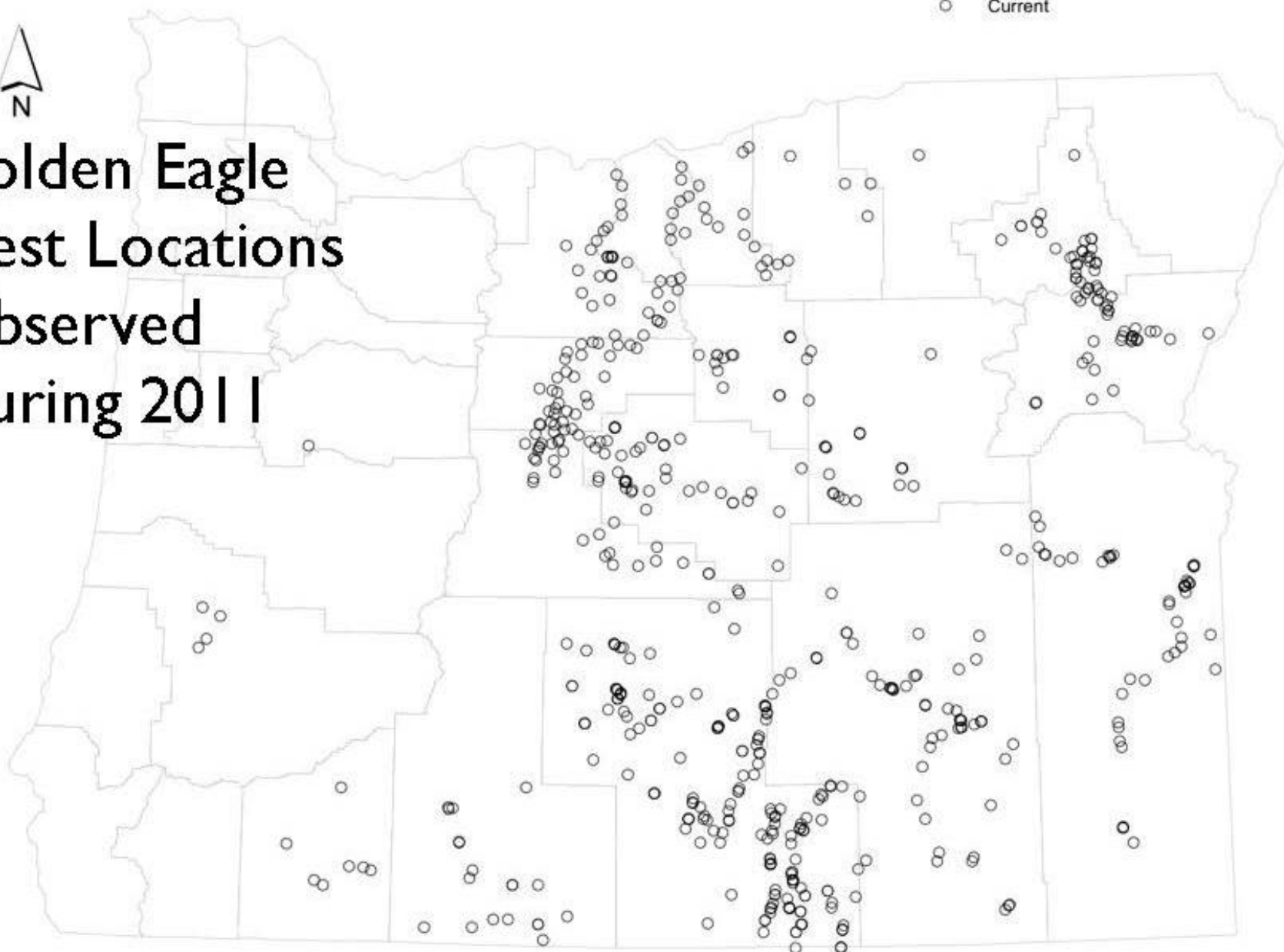
In use

GE cliff
Fivemile Point
OP 42.76170 120.55678
Looking E
2012.05.21.1405
Status: 2, 5 week eaglets



○ Current

Golden Eagle Nest Locations Observed During 2011



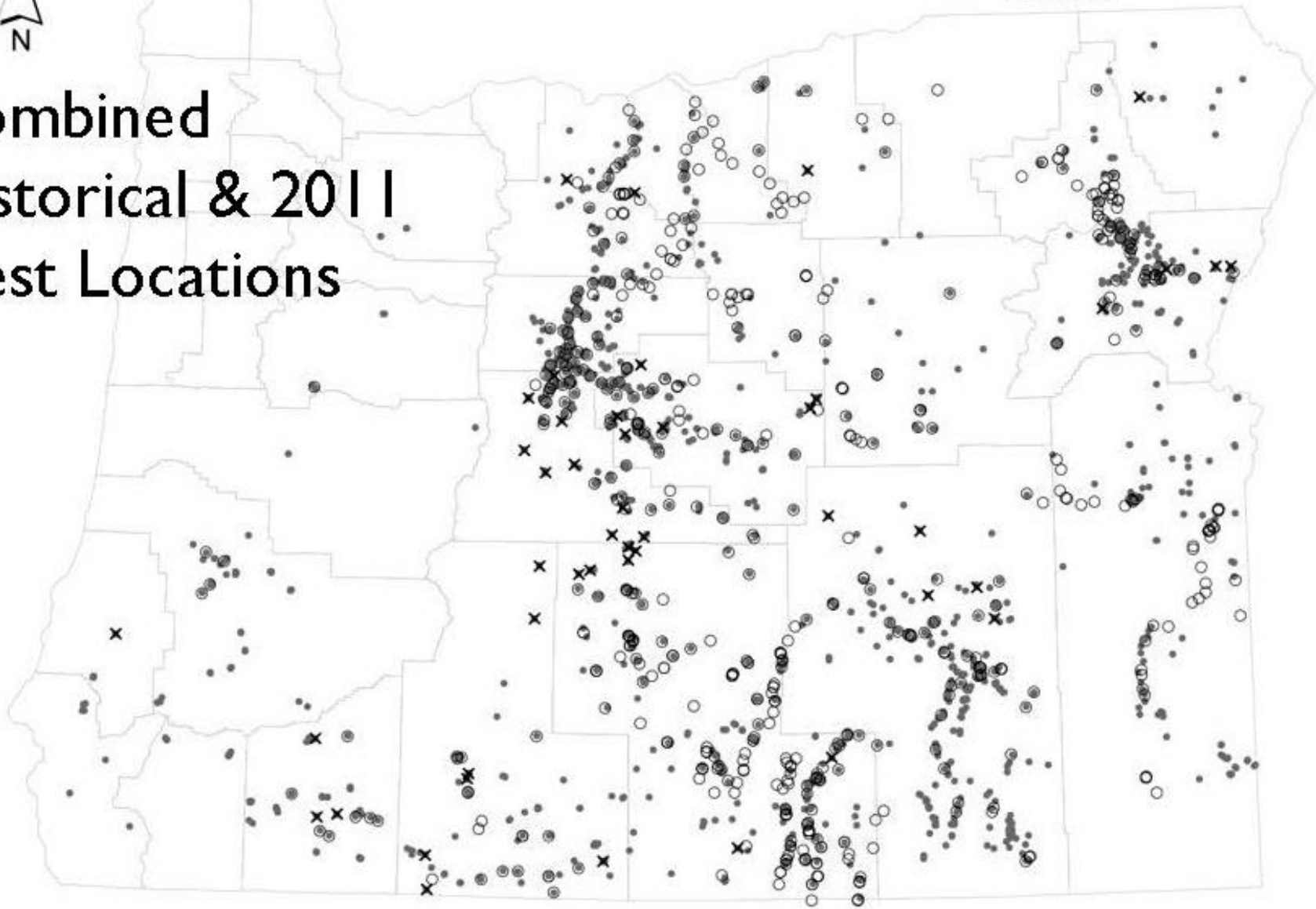
0 50 100 Miles

0 50 100 Kilometers



- Current
- × No Nest or Eagle - Historical
- All Historical

Combined Historical & 2011 Nest Locations



0 50 100 Miles

0 50 100 Kilometers

RESULTS 2011


- 2,096 nest locations reported (1,520 historical + 575 “new”)
- 788 potential breeding areas (653 historical + 135 “new”)
- 459 (58%) surveyed (all of the “new” & 50% of the historical)
- 280 (61%) were occupied by at least one golden eagle
- 177 (63%) were occupied with known nesting outcome
- 119 (67%) were successful



- 169 young were counted
- 0.95 young per occupied breeding area (productivity)
- 1.42 young per successful breeding area (brood size)

A photograph of a person standing on a rocky cliffside next to a large, cup-shaped bird's nest. The nest is built on a rocky ledge and is filled with a dense mass of dry sticks and twigs. The person is wearing a light-colored long-sleeved shirt, blue pants, and a wide-brimmed hat. The cliff face is dark and craggy, with some green moss or lichen visible. The scene is brightly lit, suggesting a sunny day.

Nest size can be difficult to judge, especially from a long distance.

A large, dark, fibrous bird's nest is built on a rocky cliffside. The nest is composed of many layers of dried twigs and sticks, creating a thick, textured structure. It is situated on a ledge of the cliff, surrounded by jagged, light-colored rock formations. The lighting is bright, casting shadows that emphasize the ruggedness of the environment.

Nests used year after year can grow to enormous size.

Golden Eagle on a nest in incubating position



Our goal was to find as many nests as possible...

Table __. Estimated value of volunteer, agency, and private contributions to golden eagle surveys in Oregon, 2011 and 2012 combined. The volunteer hourly rate was based on Hands On Network, The Value of Volunteer Time, 2011(1). The mileage rate was based on 2012 IRS Standard Mileage Rate(2). Agency and private hours and miles were not reported. Those values were estimated in proportion to the volunteer amounts based on the number of people in each category.

PRELIMINARY DATA AND RESULTS

Category	Number of People	Time	Unit Value (per h)	Value	Travel	Unit Value (per mi)	Value	Total Value
		Hours (h)			Miles (mi)			
Volunteer	112	3,693	\$21.79	\$80,470	16,598	\$0.56	\$9,212	\$89,682
Agency	103	3,396	\$21.79	\$74,004	15,264	\$0.56	\$8,472	\$82,476
Private	32	1,055	\$21.79	\$22,992	4,742	\$0.56	\$2,632	\$25,624
Other	–	–	–	–	–	–	–	\$7,800
TOTAL	–	–	–	–	–	–	–	\$205,582

¹ <http://www.handsonnetwork.org/tools/volunteercalculator>

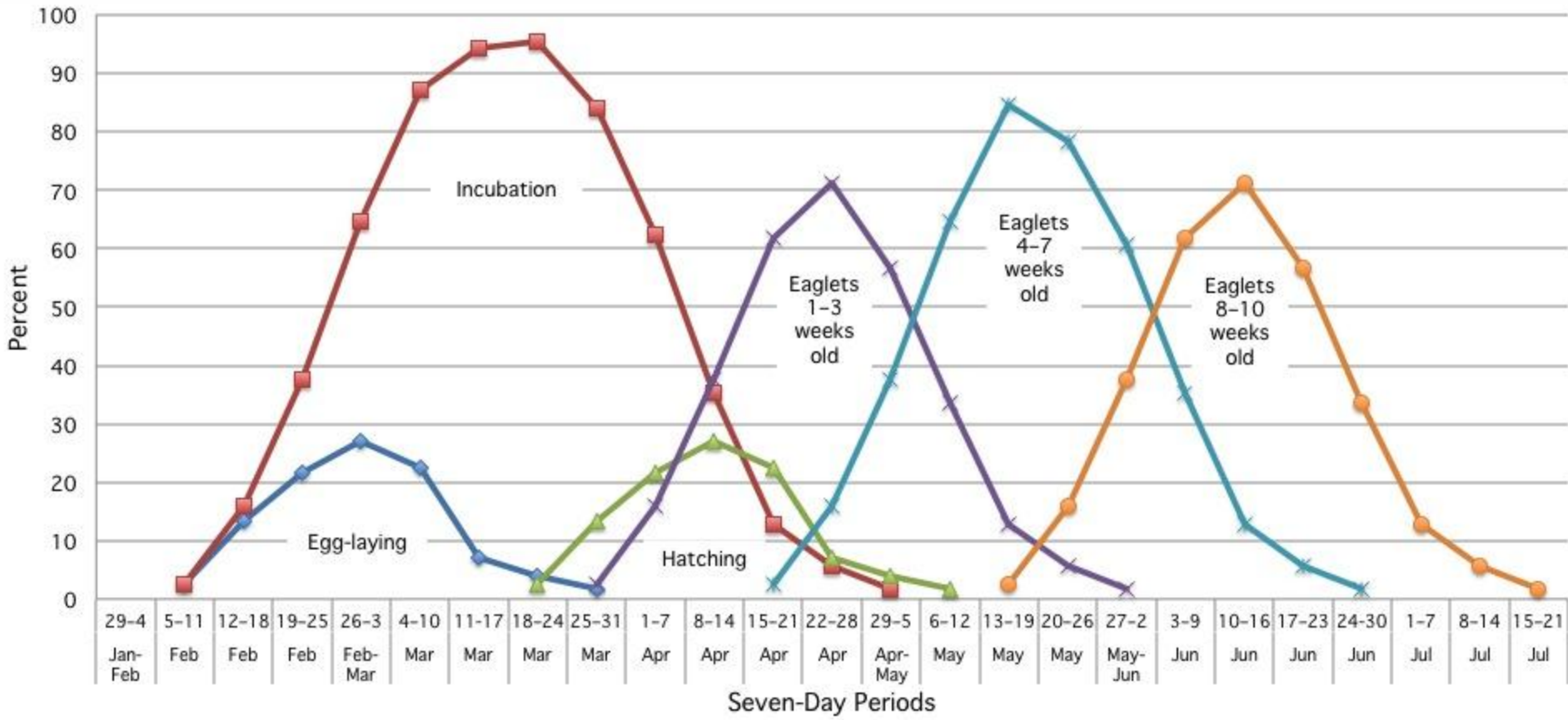
² <http://www.irs.gov/uac/IRS-Announces-2012-Standard-Mileage-Rates,-Most-Rates-Are-the-Same-as-in-July>

Table ____. Results of golden eagle nest monitoring in Oregon during 2011 and 2012. Under project protocol, two properly-timed, four-hour observation periods were not required, breeding areas with nestlings <51 days old were considered successful nesting attempts, and nestlings <51 days old were counted.

PRELIMINARY DATA AND RESULTS

Category Parameter	<u>Project Protocol</u>		<u>USFWS Protocol</u>	
	<u>Year</u> 2011	2012	<u>Year</u> 2011	2012
<u>Observations</u>				
Total (1/site/day)	916	1386	-	-
Per Potential Breeding Area Surveyed	2.0	2.5	-	-
<u>Potential Breeding Areas</u>				
Listed	901	901	901	901
Surveyed	459	550	0	0
% Surveyed	50.9	61.0	-	-
<u>Breeding Areas</u>				
Occupied	251	330	202	289
% Occupied	54.7	60.0	-	-
Occupied Known Outcome	174	284	137	221
% Occupied Known Outcome	69.3	86.1	67.8	76.5
Evidence of Eggs Known Outcome	142	228	115	192
% Evidence of Eggs Known Outcome	81.6	80.3	83.9	86.9
Successful	123	192	96	156
% Successful	70.7	67.6	70.1	70.6
<u>Productivity</u>				
Young	179	266	139	219
Young/Occupied Known Outcome	1.03	0.94	1.01	0.99
Young/Evidence of Eggs Known Outcome	1.26	1.17	1.21	1.14
Young/Successful	1.46	1.39	1.45	1.40
<u>Statewide Estimates</u>				
Number of Occupied Breeding Areas	493	541	-	-
Number of Eaglets	507	506	-	-





FUNDING

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U.S. Fish & Wildlife Service
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Portland General Electric

Iberdrola Renewables
RES America Developments
American Wind Energy Association
E.ON Climate & Renewables NA
Firstwind
3 Private Individuals

ASSISTANCE

Renewables Northwest Project
Wind Industry Cooperators & Wildlife Consultants
Agency Cooperators
Volunteers
Jim & Sue Anderson, Natural Selection
Gary Clowers, Raven Research West

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