

# The 1973 Wyoming Bald and Golden Eagle Survey

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## *Total eagles down, Bald Eagles up in latest winter survey*

### ABSTRACT

Approximately 78,000 square miles of eagle winter habitat was sampled by aerial surveys during the month of January to determine numbers and relative density of Bald and Golden Eagles wintering in this state.

Results of the survey indicated an estimated 4,549 adult and 1,834 immature Golden Eagles. It was further calculated that there were 2,694 Golden Eagles of questionable age. The survey gave an estimate of 608 adult and 79 immature Bald Eagles within the confines of the state. An estimated 897 eagles of unknown species were also adjudged to be within the survey area. The total estimated eagle population for Wyoming, excluding Yellowstone National Park and several high mountain areas, is 10,661.

### OBJECTIVES

Establish population level, distribution, and relative density for Bald and Golden Eagles during the winter period.

### INTRODUCTION

At the request of Governor Stanley K. Hathaway, a project was initiated by the Wyoming Game and Fish Commission in 1972 to determine the number of Bald and Golden Eagles within the state of Wyoming. The Commission delegated the responsibility of such a survey to

the Game Division of the Department. It was then decided to initiate such a survey in January at which times eagles are generally more concentrated on their wintering areas in various portions of the state. This report details the results of the second statewide survey.

I would like to acknowledge the helpful assistance of Dr. David Bowden, Statistician at Colorado State University, for help on the design of the survey and statistical procedures in analyzing the data. Grateful appreciation is extended to Game and Fish Department Pilots Fike, Ledford, Low, and Clark for their patience and dedication in accomplishing the survey. To Game and Fish Department Biologists James June, Warren Higby, James Straley, Terry Killough, Leonard Serdiuk, Richard Saul, Tim Britt, and Bob Williams is extended thanks for their special contribution in making the survey. Special thanks and recognition are extended to Messrs. Gene Knoder, Richard Paul, and Ron Klataske, National Audubon Society representatives who participated in surveying the important eagle wintering area adjacent to Rock Springs, Wyoming.

### FINDINGS

Weather conditions which severely hampered the 1972 Wyoming eagle survey were not as prevalent in 1973. This year the survey was initiated by holding a coordination meeting of all pilots

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assigned to the survey in Lander, Wyoming on January 15. The following morning the first transects were flown, and the last transects were completed on January 30.

Following the survey of 1972 it was calculated that the confidence limits of the estimated population could be reduced if an additional number of transects were flown. This was done in 1973, and 126 transects of 50-mile lengths were covered.

Major streams were completely covered and eagles seen along the streams were added to projected total figures for the state.

The techniques for estimating total birds and the standard error were similar to those employed in 1972 and reported by Wrakestraw (1972).

Table I presents the results of the survey along the major rivers of the state and also includes counts made from the ground on three eagle con-

**Table 1**  
**Eagles Counted on Major Rivers**  
**Wyoming, January 1973**

River or Area	Golden			Bald		Unidentified Eagles
	Adults	Imm.	Unknown	Adults	Imm.	
Salt River				7	1	
Snake River		1		22	2	
Green River	7	3		8		6
Wind River	1			4		
Big Horn & Shoshone Rivers	3			5		1
Platte River	12	1		15	2	
Springer Reservoir, Table Mountain, Hawk Springs Reser- voir (Goshen County)	3			3		
<b>TOTALS</b>	<b>26</b>	<b>5</b>		<b>64</b>	<b>5</b>	<b>7</b>

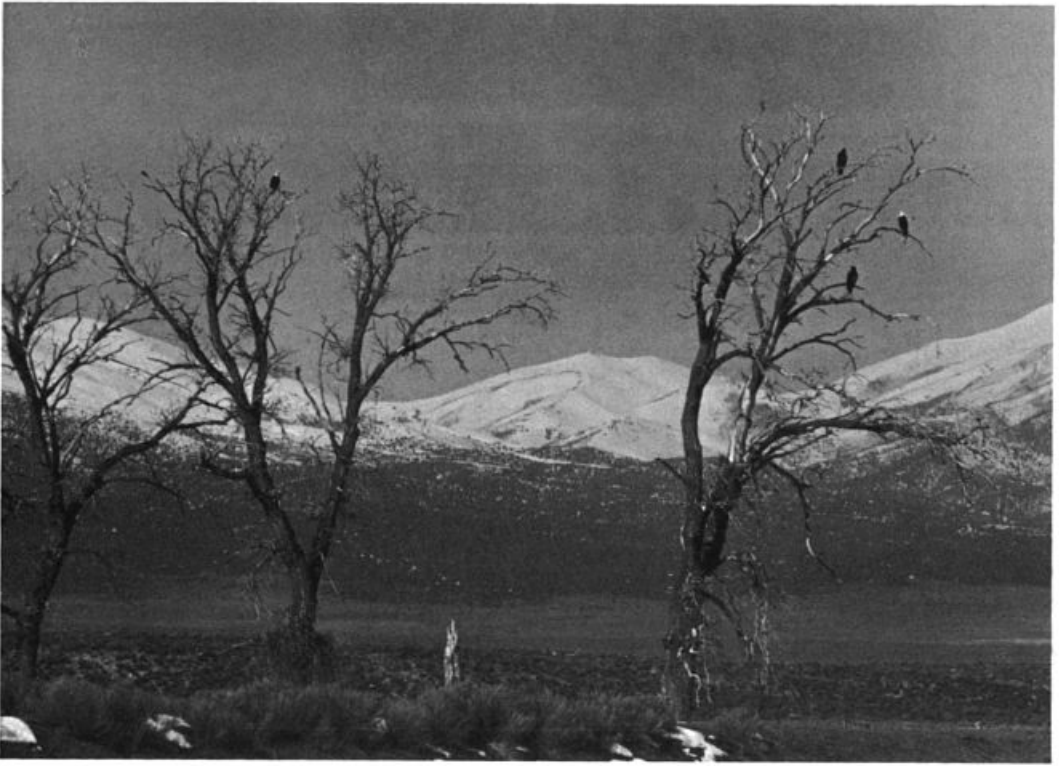
**Table 2**  
**Eagles Counted Along 126 Transects**  
**Wyoming, January 1973**

Transects	Golden Eagles			Bald Eagles		Unidentified Eagles
	Adults	Imm.	Unknown	Adults	Imm.	
126	184	74	109	22	3	36

**Table 3**  
**Estimated Number of Golden, Bald, And**  
**Unidentified Eagles by Age**  
**Wyoming, January 1973**

Estimated Number in	Golden Eagles			Bald Eagles		Unidentified Eagles
	Adults	Imm.	Unknown	Adults	Imm.	
State	4,523	1,829	2,694	544	74	890
Totals	9,046 ± 1,448			618 ± 340		890 ± 325
<b>TOTAL EAGLES</b>				<b>10,554 ± 1,482</b>		

Confidence limits are at the 95% level.



*Bald Eagles, Vernon, Utah, Feb. 22, 1973. Photo/ William Stone*

centration points in Goshen County. Table II summarizes the actual data obtained along 126 transects, and Table III presents the estimated Bald and Golden Eagle populations within the state.

Wrakestraw (1972) described the survey areas covered and the techniques used. Little change occurred in either of these areas this year except that more transects (17) were flown and different professional wildlife personnel were used to make observations.

## CONCLUSIONS

The statewide eagle census made in January 1973 indicated approximately 1,300 fewer eagles than one year ago. When tested for significance we found that this decrease was not significant at the 20 per cent confidence level.

The decrease in eagles was found to be with Golden in both adult and immature categories.

A relatively high ratio of immatures to adult Golden Eagles is still found in Wyoming during January.

It is possible that more Golden Eagles stayed north of Wyoming this winter because of unusually mild winter conditions in Montana and Canada.

Bald Eagles were seen in greater abundance this January than last year. No definite reasons can be given at this time why this might be so, except that it could reflect better coverage of the wintering areas by the survey crews, or truly reflect a dynamic intermountain Bald Eagle population.

## LITERATURE CITED

- Wrakestraw, G. F. 1972. 1972 Wyoming Bald and Golden Eagle Survey. Wyoming Game & Fish Commission, 4 pp.