

**Alaska Department of Fish and Game  
Division of Wildlife Conservation  
May 1996**

# **Kenai Peninsula Ruffed Grouse Transplant**

**Nicholas C. Steen**

If using information from this report, please credit author(s) and the Alaska Department of Fish and Game.

**STATE OF ALASKA  
Tony Knowles, Governor**

**DEPARTMENT OF FISH AND GAME  
Frank Rue, Commissioner**

**DIVISION OF WILDLIFE CONSERVATION  
Wayne L. Regelin, Director**

**Persons intending to cite this material should receive permission from the author(s) and/or the Alaska Department of Fish and Game. Because most reports deal with preliminary results of continuing studies, conclusions are tentative and should be identified as such. Please give authors credit.**

**Free copies of this report and other Division of Wildlife Conservation publications are available to the public. Please direct requests to our publications specialist.**

**Mary Hicks  
Publications Specialist  
ADF&G, Wildlife Conservation  
P.O. Box 25526  
Juneau, AK 99802  
(907) 465-4190**

**The Alaska Department of Fish and Game administers all programs and activities free from discrimination on the basis of race, religion, color, national origin, age, sex, marital status, pregnancy, parenthood, or disability. For information on alternative formats for this and other department publications, please contact the department ADA Coordinator at (voice) 907-465-4120, (TDD) 1-800-478-3648, or FAX 907-586-6595. Any person who believes she/he has been discriminated against should write to ADF&G, PO Box 25526, Juneau, AK 99802-5526 or O.E.O., U.S. Department of the Interior, Washington DC 20240.**

## TABLE OF CONTENTS

	<u>Page</u>
Background .....	1
Management Direction .....	1
Methods .....	2
Results and Discussion .....	3
Conclusion and Recommendations .....	5
Acknowledgments .....	5
Literature Cited .....	5
Appendix A .....	7

## **LOCATION**

**GAME MANAGEMENT UNIT:** 7 and 15 (8,397 mi<sup>2</sup>)

**GEOGRAPHICAL DESCRIPTION:** Kenai Peninsula

## **BACKGROUND**

In 1988 the Alaska Department of Fish and Game initiated a 3-year project to transplant ruffed grouse from Interior Alaska to the Matanuska/Susitna valleys. As a result, ruffed grouse are now using suitable habitat throughout Unit 14A and 14B, a major portion of 14C and portions of 16A. It is also suspected that birds can be found in portions of Unit 16B.

In response to the success of the transplant, sportsmen on the Kenai Peninsula and in Anchorage encouraged the Department to transplant birds to the Kenai Peninsula. Consideration of this transplant was delayed pending review and rewrite of the Department policy on transplanting wildlife.

In October 1994 the Division of Wildlife Conservation adopted a new transplant policy. This policy established a series of steps which must be taken before receiving authorization to transplant wildlife within Alaska. Upon adoption of that policy, a scoping report, the first step in the process, was submitted for the introduction of ruffed grouse from north of the Alaska Range to the Kenai Peninsula. This report was approved in October 1994.

In February 1995 a feasibility report (step 2) was prepared exploring all aspects of the proposed transplant. The Director of Wildlife Conservation appointed a feasibility review committee (step 3). Following several public meetings, review of written comments, and a detailed analysis of the report, the committee approved the report and forwarded its recommendation to the Director. The Director approved the report (step 4) on June 14, 1995. The report and Director's recommendation were forwarded to the Commissioner; the Commissioner's approval (step 5) for the transplant was received on July 14, 1995.

## **MANAGEMENT DIRECTION**

### **MANAGEMENT GOAL**

To establish a huntable population of ruffed grouse on the Kenai Peninsula (GMUs 7 and 15).

### **MANAGEMENT OBJECTIVES**

- To evaluate potential release sites and to determine those most suitable for the introduction of ruffed grouse.

- To capture and release a minimum of 100 ruffed grouse over a 3-year period.
- To minimize stress and mortality to relocated birds by using efficient capture and handling techniques developed during the Matanuska Valley transplant (Steen 1995).
- To monitor translocated grouse and to determine survival, dispersal and reproductive success.

## METHODS

In July, 1995 Dan Dessecker, Habitat biologist, The Ruffed Grouse Society, accompanied representatives from the Division of Wildlife Conservation to the Kenai Peninsula to assist in evaluating release sites. They identified 2 sites supporting dense deciduous growth, distant from population centers, away from major highways and on nonfederal lands. The first site is in the northeastern corner of the Sterling Corridor in Unit 15A and is considered the primary release site. The second is in Unit 7 in the vicinity of the community of Sunrise.

Clover leaf traps, as described by Backs et al. (1985) with modifications, were employed in the capture effort. The trap site consists of a 3 ft diameter trap constructed of 2 x 4 inch welded wire with a lid of similar material. A one-way funnel of 1 inch poultry netting allowed access to the trap but did not permit birds to escape. Birds were directed to the trap by a 50 foot fence of 1 inch poultry fencing, 18 inches high. A trap was placed on each end of this fence. Two sets of traps and fencing were installed back-to-back to form a barrier of approximately 115 feet.

Two trapping locations were used for this capture effort: Gold Creek, 35 mi northwest of Fairbanks, and Clear Air Force Site, approximately 80 miles south of Fairbanks.

Trapping was in mid-September, the time of dispersal for ruffed grouse broods (Steen, 1995). At this time they are most susceptible to trapping. The random wanderings of young birds in their search for vacant habitat brings them into contact with the traps. Traps need to be checked twice daily, midmorning and just after dark. Frequent checking reduces exposure to predators and to injuries from attempted escapes.

## HANDLING

Upon removal from the trap, birds were sexed and aged using rump spots and the shape of outer primary wing feather (Brewer, 1980). Females were fitted with a red, sequentially numbered band on the left leg, and males with a blue band on the right leg. Radio transmitters were attached to 13 adults.

After processing, birds were placed in cardboard shipping containers (Trico Porta Pet) consisting of 9 x 18 inch carpet-floored boxes fitted with a divider allowing each bird a 9 x 9 inch area. While in the shipping container, the birds received unlimited quantities of

muskmelon or honeydew melon for nourishment and liquid. Birds were moved from the capture location to the release site every third day.

## RESULTS AND DISCUSSION

Trapping began in the Fairbanks area on September 11, 1995 and at Clear Air Force Site on September 12, 1995. The first birds were captured on September 12th at Clear and September 13th at Fairbanks. Seventy birds were captured in 230 trap days: 3.3 trap days per bird. This capture rate is much faster than the 9.2 trap days reported for the 1988-90 Matanuska Valley transplant (Steen, 1995). Of the 70 birds trapped, 63 were successfully transported and released on the Kenai Peninsula. Of the 7 birds not moved, 2 were found dead in the trap and 2 died shortly after processing. One bird, an immature male, was severely injured by an adult male caught in the same trap. Because of his injuries he was not considered a candidate for the transplant and was released. One bird escaped from the trap while a second bird was being removed, and 1 bird escaped while being processed.

We weighed 58 birds before attachment of leg bands and radios (Appendix A). The average weight for adults was 672gm and 589gm for males and females respectively. These weights compare to 635gm, 553gm, 598gm, and 522gm for adult males, adult females, immature males and immature females, respectively, among birds harvested in the first week of October during the National Ruffed Grouse Hunt in Minnesota (D. Dessecker, The Ruffed Grouse Society, Rice Lake, Wisconsin, pers. commun.). The weights of the Alaskan birds are heavier than the Minnesota birds, but similar to those of birds from the southern Appalachian Mountains (D. Dessecker, pers. commun.). This counters a belief that the birds are smaller in the northern parts of their range (D. Dessecker, pers. commun.). No weights were taken of birds at the time of release. Additional samples are needed to verify Alaskan weights before conclusions can be drawn.

### MORTALITY DUE TO CAPTURE AND RELEASE

Record high temperatures were set in interior Alaska in September 1995. Two birds were found dead in a trap in Fairbanks, and 2 birds died shortly after being removed from the trap at Clear Air Force Site. In both situations, I believe the warm temperatures, combined with capture stress, caused the mortality. No birds were lost during shipment and release.

### POPULATION STATUS AND TREND

*Population Size:* Sixty-three ruffed grouse were released on the Kenai Peninsula in September, 1995. This constitutes the entire ruffed grouse population in that region.

*Population Composition:* The composition of the release was 10 adult males, 7 adult females, 20 immature males, and 26 immature females.

***Distribution and Movements:*** Thirteen birds were radiocollared in an effort to gain movement, mortality and reproduction data. These data will not be available until the summer of 1996.

## **MORTALITY**

***Harvest:*** No data are available at this time. It is anticipated approximately 50% of the birds will die prior to the spring breeding season.

***Season and Bag Limit.*** No modification to the grouse season and bag limit was implemented because of this introduction. The existing grouse season of August 10 through March 31 remains in effect for Game Management Unit 15, the Kenai Peninsula. The daily bag limit is 15 grouse per day with a possession limit of 30 grouse.

## **HABITAT**

***Assessment:*** The Kenai Peninsula encompasses approximately 5.3 million acres, of which about 1.9 million acres are forested: 558,000 acres with coniferous growth, and 163,000 acres with deciduous growth that is potential ruffed grouse habitat. The remaining 1.2 million acres are nonstocked or unclassified (Van Hess and Larson, 1991). Nonstocked forests contain few or small trees with no commercial value. Unclassified forests are those areas not ground-truthed to determine vegetative cover; however, some are covered by shrubs such as alder or willow (W. Van Hess, pers. commun.). Deciduous forests on the Kenai Peninsula consist of 94.5% birch, 3.7% aspen, and 1.8% cottonwood, all species readily used by ruffed grouse. The nonstocked and unclassified forests supporting shrub cover may also provide ruffed grouse habitat. Some utilization of the coniferous forest type, although considered marginal habitat, has been observed in the introduced population in the Matanuska Valley. It is expected this same situation will occur on the Kenai Peninsula.

***Enhancement:*** Plans to continue habitat enhancement for moose on the Kenai Peninsula through the use of fire undoubtedly will lead to an expansion of hardwood forest communities at the expense of the coniferous component. The Kenai Peninsula is also experiencing an extensive outbreak of spruce bark beetles (*Dendroctonus rufipennis*) which is destroying vast expanses of spruce forest habitat. Extensive logging is scheduled to stem the spread of these beetles, further reducing the coniferous habitat. This loss of spruce forest habitat will likely result in reduced spruce grouse habitat and numbers in the future. If the logged areas are subsequently managed for deciduous moose browse, ruffed grouse habitat could result. No plans have been made to enhance any habitat for ruffed grouse production.

## CONCLUSION AND RECOMMENDATIONS

In September 1995, 63 grouse were relocated from Interior Alaska to the Kenai Peninsula. This is the first year of a 3-year program to establish a self-sustaining population of ruffed grouse on the Kenai Peninsula. The program called for releasing 100 birds over 3 years. If adequate numbers of birds exist in Interior Alaska in 1996, the capture and release of at least 100 additional birds is recommended. This acceleration of the introduction will provide greater densities at the release locations thereby promoting better breeding rates. Completing the project in 2 years instead of 3 will also reduce overall costs of the transplant.

No changes to the grouse seasons and bag limits have been implemented. Hunters are being encouraged to learn grouse identification and avoid harvesting ruffed grouse. At the earliest possible time, the Board of Game should be requested to reduce the bag limit to 2 ruffed grouse per day, 4 in possession, identical to the bag limit presently in effect in adjacent GMUs 13, 14 and 16.

The death of 4 birds during capture operations is much higher than expected and is not acceptable. If warm temperatures are again encountered, trapping efforts will need to be suspended until cooler temperatures prevail. Additionally, birds did not receive melon wedges until they were at base camp. During warm weather, melon wedges will be placed in the shipping boxes before the birds are removed from the traps. This early availability of food and moisture should help reduce stress mortality.

## ACKNOWLEDGMENTS

I thank members of The Ruffed Grouse Society, Safari Club International, Anchorage and Kenai chapters, and The Alaska Waterfowl Association for their support for this project. I also appreciate technical support from Sig Wold Storage and Transfer, Anchorage and Fairbanks; Era Aviation, Anchorage; Cellulink, Fairbanks; and Alaska Airlines, Anchorage.

## LITERATURE CITED

- Backs, S; P. D. Major, C. H. Eisfelder and J. S. Thompson. 1985. Techniques for trapping and restocking ruffed grouse in Indiana. Misc. Publ. Indiana Dep. Nat. Res. Indianapolis. 13pp.
- Brewer, L. W. 1980. The ruffed grouse in western Washington. Wash. Dep. Game, Biol. Bull. No. 16 Olympia. 102pp.
- Steen, N. C. 1995. Matanuska Valley ruffed grouse transplant, 1988 - 1990. Final Report. Alaska Dep. Fish and Game. Juneau. 9pp.
- Van Hess, W. W. S. and F. R. Larson. 1991. Timberland resources of the Kenai Peninsula, Alaska. 1987. USDA For. Serv. Res. Bull. PNW-RB-180. 56pp.



Prepared by:

Nicholas C. Steen  
Wildlife Biologist

Submitted by:

David A. Anderson  
Wildlife Biologist

## APPENDIX A

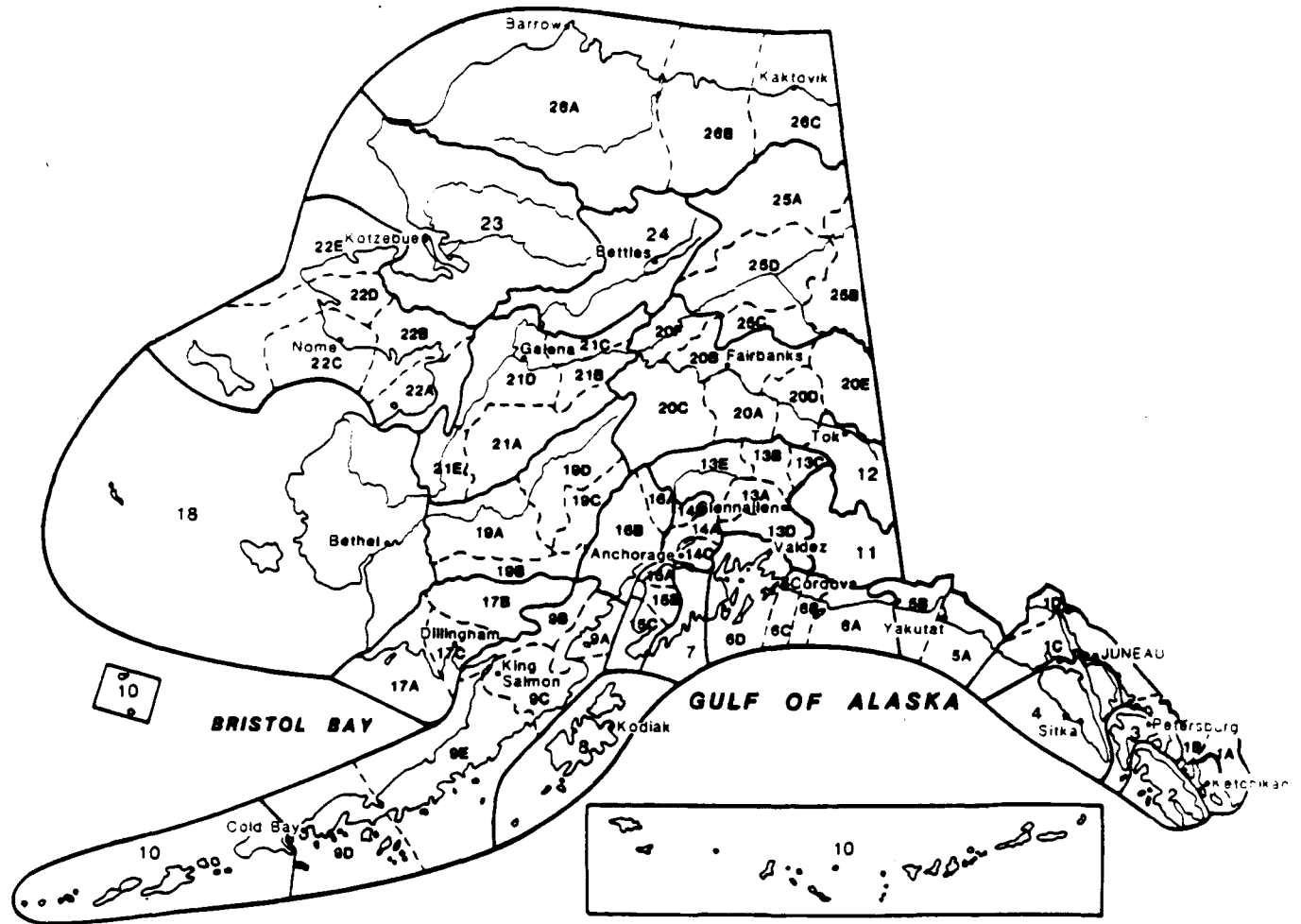
### Ruffed Grouse Capture Data, 1995

Band #	Sex	Age	Wt gm	Cap Date	Radio Freq 150	Cap Loc	Trap #95-
241	M	Juv	625	9-12		Clear	3
112	F	Juv	425	9-13		Clear	3
114	F	Ad	545	9-13	.209	Clear	3
115	F	Juv	485	9-13		Clear	9
242	M	Ad	675	9-14	.150	Clear	2
116	F	Juv	560	9-14		Clear	2
117	F	Juv	570	9-14		Clear	2
244	M	Ad	680	9-15	.190	Clear	3
243	M	Juv	730	9-15		Clear	4
118	F	Juv	555	9-15		Clear	10
245	M	Juv	535	9-16		Clear	10
120	F	Juv	535	9-16		Clear	14
246	M	Juv	550	9-16		Clear	14
119	F	Juv	530	9-16		Clear	14
247	M	Ad	700	9-16		Clear	6
122	F	Juv	530	9-16		Clear	13
248	M	Ad	600	9-16		Clear	8
123	M	Juv	620	9-16		Clear	3
124	F	Juv	530	9-16		Clear	3
249	M	Ad	655	9-16		Clear	16
127	F	Ad	620	9-16	.199	Clear	12
113	F	Ad	645	9-17	.139	Clear	11
250	M	Ad	735	9-18		Clear	17
125	F	Ad	620	9-19	.117	Clear	17
126	F	Juv	585	9-19		Clear	19
128	F	Juv	535	9-19		Clear	19
129	F	Juv	585	9-19		Clear	19
251	M	Ad	735	9-19		Clear	19
253	M	Juv	580	9-20		Clear	2
254	M	Juv	530	9-20		Clear	15
255	M	Ad	640	9-21		Clear	19
256	M	Juv	610	9-21		Clear	12
131	F	Juv	625	9-21	.126	Clear	19
132	F	Juv	570	9-21		Clear	19
258	M	Juv	640	9-22		Clear	2
155	F	Juv	-	9-13		Fairbanks	2
156	F	Juv	-	9-13		Fairbanks	2
302	M	Juv	-	9-13		Fairbanks	2
158	F	Juv	-	9-13		Fairbanks	1
199	F	Juv	-	9-14		Fairbanks	4
399	M	Juv	-	9-14		Fairbanks	4

APPENDIX A (continued)

Band #	Sex	Age	Wt gm	Cap Date	Radio Freq 150	Cap Loc	Trap #95-
159	F	Juv	605	9-14		Fairbanks	4
301	M	Juv	670	9-14		Fairbanks	5
303	M	Juv	650	9-16		Fairbanks	4
160	F	Juv	500	9-16		Fairbanks	4
161	F	Juv	475	9-16		Fairbanks	9
304	M	Ad	685	9-16	.179	Fairbanks	6
162	F	Juv	520	9-17		Fairbanks	10
305	M	Juv	570	9-17		Fairbanks	10
163	F	Ad	565	9-17	.240	Fairbanks	1
164	F	Juv	490	9-18		Fairbanks	9
306	M	Ad	610	9-18		Fairbanks	3
307	M	Juv	700	9-20		Fairbanks	2
308	M	Juv	580	9-20		Fairbanks	3
165	F	Ad	540	9-20	.169	Fairbanks	2
309	M	Juv	640	9-21		Fairbanks	4
166	F	Juv	560	9-21		Fairbanks	4
167	F	Juv	590	9-22	.229	Fairbanks	2
310	M	Juv	600	9-22		Fairbanks	1
168	F	Juv	530	9-22	.250	Fairbanks	4
133	F	Ad	585	9-22	.160	Fairbanks	10
257	M	Juv	580	9-22		Fairbanks	10
259	M	Juv	580	9-23		Fairbanks	11

# Alaska's Game Management Units



The Alaska Department of Fish and Game administers all programs and activities free from discrimination based on race, color, national origin, age, sex, religion, marital status, pregnancy, parenthood, or disability. The department administers all programs and activities in compliance with Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act of 1990, the Age Discrimination Act of 1975, and Title IX of the Education Amendments of 1972.

If you believe you have been discriminated against in any program, activity, or facility, or if you desire further information please write to ADF&G, P.O. Box 25526, Juneau, AK 99802-5526; U.S. Fish and Wildlife Service, 4040 N. Fairfax Drive, Suite 300 Webb, Arlington, VA 22203 or O.E.O., U.S. Department of the Interior, Washington DC 20240.

For information on alternative formats for this and other department publications, please contact the department ADA Coordinator at (voice) 907-465-6077, (TDD) 907-465-3646, or (FAX) 907-465-6078.