

**Alaska Department of Fish and Game  
Division of Wildlife Conservation  
September 2008**

## **Brown bear data analysis and manuscript preparation**

**Sean Farley**

**Research Final Performance Report  
1 July 2007–30 June 2008  
Federal Aid in Wildlife Restoration  
W-33-6  
Study 4.35**

If using information from this report, please credit the author(s) and the Alaska Department of Fish and Game. The reference may include the following: Farley, S. 2008. Brown bear data analysis and manuscript preparation. 1 July 2007-30 June 2008. Alaska Department of Fish and Game. Federal Aid in wildlife restoration research final performance report, grant W-33-6; project 4.36. Juneau, Alaska. 4pp.

# FEDERAL AID FINAL RESEARCH PERFORMANCE REPORT

ALASKA DEPARTMENT OF FISH AND GAME  
DIVISION OF WILDLIFE CONSERVATION  
PO Box 115526  
Juneau, AK 99811-5526

**PROJECT TITLE:** Data analysis and manuscript preparation

**PRINCIPAL INVESTIGATOR:** Sean Farley

**COOPERATORS:** Bureau of Land Management, National Park Service, U.S. Air Force, U.S. Army, U. S. Fish and Wildlife Service, U.S. Forest Service

**FEDERAL AID GRANT PROGRAM:** Wildlife Restoration

**GRANT AND SEGMENT NO.** W-33-6

**PROJECT NO.** 4.35

**WORK LOCATION:** Anchorage

**STATE:** Alaska

**PERIOD:** July 1, 2007 – June 30, 2008

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## **I. PROBLEM OR NEED THAT PROMPTED THIS RESEARCH**

This project was in support of ongoing data collection, analysis, and manuscript publication.

## **II. REVIEW OF PRIOR RESEARCH AND STUDIES IN PROGRESS ON THE PROBLEM OR NEED**

Multiple projects are covered in this report, including: work on Kenai Peninsula brown bear movements; examining the use of salmon streams by black and brown bears; applying stable isotope analysis to ecologically related questions; characterizing movement, diet, and minimum numbers of bears in the Anchorage area; and fulfilling editorial roles for professional publications as well as for agency material such as a pilot study to assess the Kenai Peninsula brown bear population size and bear movements, diet and numbers in Unit 14C.

## **III. APPROACHES USED AND FINDINGS RELATED TO THE OBJECTIVES AND TO PROBLEM OR NEED**

OBJECTIVE 1: Data reduction, analysis, and manuscript preparation.

All work referenced here followed accepted methods of data analysis. Much of the work represents the fruit of successful collaborations established with other scientists.

## **IV. MANAGEMENT IMPLICATIONS**

As a result of this project, the below publications and presentations were produced.

**V. SUMMARY OF WORK COMPLETED ON JOBS IDENTIFIED IN ANNUAL PLAN FOR LAST SEGMENT PERIOD ONLY**

There were 5 peer reviewed manuscripts published this period, 7 presentations at local, national and international meetings, 1 poster presented at an international meeting, and multiple reviews of journal articles.

**VI. ADDITIONAL FEDERAL AID-FUNDED WORK NOT DESCRIBED ABOVE THAT WAS ACCOMPLISHED ON THIS PROJECT DURING THE LAST SEGMENT PERIOD, IF NOT REPORTED PREVIOUSLY**

None.

**VII. PUBLICATIONS**

Peer-reviewed Manuscripts

Fortin, J.K., S.D. Farley, K.D. Rode, and C.T. Robbins. 2007. Dietary and spatial overlap between sympatric ursids relative to salmon use. *Ursus* 18:19-29.

Graves, T.A., S.D. Farley, M.I. Goldstein, and C. Servheen. 2007. Identification of functional corridors with movement characteristics of brown bears on the Kenai Peninsula, Alaska. *J. Landscape Ecology*. 22(5):765-772.

Rode, K.D., S.D. Farley, J. Fortin, and C.T. Robbins. 2007. Nutritional consequences of experimentally introduced tourism in brown bears. *J. Wildlife Management*. 71(3):929-939.

Robbins, C.T., J.K. Fortin, K. D. Rode, S.D. Farley, L.A. Shipley, and L.A. Felicetti. 2007. Optimizing protein intake as a foraging strategy to maximize mass gain in an omnivore. *Oikos*. 116: 1675-1682.

Stegall, V.K., S.D. Farley, L.D. Rea, K.W. Pitcher, R. Rye, C.L. Kester, C.A. Stricker, and C.R. Bern. 2007. Discrimination of carbon and nitrogen isotopes from milk to serum and vibrissae in Alaska Steller sea lions (*Eumetopias jubatus*). *Canadian Journal of Zoology*. 86(1):17-23.

Presentations

Farley, S.D. 2007. Balancing Public Recreation and Bear Conservation. 18th International Conference on Bear Research & Management. Nov. 4-11, 2007.

Fortin, J.K., S.D. Farley, K.D. Rode, and C.T. Robbins. 2007. Dietary and Spatial Overlap Between Sympatric Ursids Related to Salmon Use. 18th International Conference on Bear Research & Management. Nov. 4-11, 2007.

Rode, K.D., S.D. Farley, J. Fortin, and C.T. Robbins. 2007. Nutritional Consequences of Experimentally Introduced Tourism in Brown Bears. 18th International Conference on Bear Research & Management. Nov. 4-11, 2007.

Coltrane, J., A.P. Barboza, S. Farley, and R. Sinnott. 2008. The effect of season and diet on intake, energy, and nitrogen balance in North American Porcupines. 2008 Annual meeting of the Alaska Chapter of the Wildlife Society. Apr 22-24, Anchorage, Alaska

Farley, S.D., R. Sinnott, J. Coltrane, H. Griese, C. Garner, and D. Battle. 2008. Alaskan

brown bear (*Ursus arctos*) numbers, movement, and diet in an urban setting: A study conducted on Elmendorf Air Base, Ft. Richardson Army Post, and the Bureau of Land Management Campbell tracts area of Bicentennial Park, Anchorage, Alaska. 2008 Nat'l. Military Fish & Wildlife Assoc. Phoenix, Az.

Farley, S.D., H. Griese, R. Sinnott, J. Coltrane, D. Battle, and C. Garner. 2008. Alaska Brown bear numbers, movements, and diet in Elmendorf Air Base, Ft. Richardson , and the municipality of Anchorage. 2008 Annual meeting of the Alaska Chapter of the Wildlife Society. Apr 22-24, Anchorage, Alaska

Rea, L.D., S.D. Farley, C.A. Stricker, V.K. Stegall, C.A. Eischens. 2008. A novel approach to monitoring changes in the diet of lactating mothers through isotopic analysis of young steller sea lion vibrissae. 7<sup>th</sup> Biennial Symposium of the Comparative Nutrition Society., Liscomb Mills, Nova Scotia, Canada.

#### Posters

Rea, L.D., S.D. Farley, C.A. Stricker, V.K. Stegall, C.A. Eischens. 2008. A novel approach to monitoring changes in the diet of lactating mothers through isotopic analysis of young steller sea lion vibrissae. 6<sup>th</sup> Int. Conf. Application Stable Isotope Techniques to Ecological Studies. Honolulu, Hawaii.

#### 2007-2008 Reviews

Reviewer for multiple manuscripts in Canadian Journal of Zoology, Ecology, Journal of Wildlife Management, and Physiological and Biochemical Zoology

Editorial board member, Canadian Journal of Zoology

Alaska Department of Fish and Game review of Interagency Brown Bear Study Team pilot project: The efficacy of a modified grid based DNA-mark recapture estimate to reliably estimate the Kenai Peninsula brown bear population.

### **VIII. RESEARCH EVALUATION AND RECOMMENDATIONS**

None.

### **IX. APPENDIX**

None.

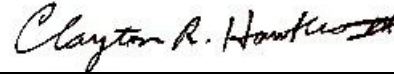
Project 4.35 – Brown Bear manuscripts  
FY08 Final Performance Report

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APPROVAL DATE: \_\_\_\_\_