

**FEDERAL AID
ANNUAL PERFORMANCE REPORT**

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

**ALASKA DEPARTMENT OF FISH AND GAME
WILDLIFE RESTORATION GRANT**

GRANT NUMBER: AKW-4 Wildlife Restoration FY2015

PROJECT NUMBER: 34.0

PROJECT TITLE: Forest management and wildlife-habitat relationships in Interior Alaska

PROJECT DURATION: 1 July 2014–30 June 2016

REPORT DUE DATE: 28 September 2015

PARTNER: None

PRINCIPAL INVESTIGATORS: Thomas F. Paragi, Julie C. Hagelin, and Scott M. Brainerd

COOPERATORS: James D. Durst (ADF&G-Division of Habitat), Martha Freeman (Alaska Department of Natural Resources-Division of Forestry)

WORK LOCATION: Region III, Fairbanks

I. SUMMARY OF WORK COMPLETED THIS SEGMENT ON JOBS IDENTIFIED IN ANNUAL WORK PLAN

OBJECTIVE 1: Conduct a literature review that summarizes existing information about boreal wildlife and habitat that is applicable to forest management in Interior Alaska.

JOB/ACTIVITY 1A: Conduct literature review.

The first year was primarily literature review to assemble the state of information from the circumpolar boreal region on forest-wildlife interactions and wildlife response to forest practices (objective 1). Our focus was on published and agency (gray) literature from Alaska and western Canada but included boreal forest topics from the remainder of North America and Eurasia (primarily Fennoscandia and Russia). We broadly divided topics by expertise and among online search engines: Paragi focused on game species using Wildlife and Ecology Worldwide (EBSCOhost) and the University of Alaska Fairbanks library e-catalog; Hagelin on non-game species using Web of Science (Thomson Reuters) and Google Scholar; and Brainerd on evaluations of sustainable forest management using personal contacts in Eurasia and the Research Gate database. Hagelin's contributions for non-game species were supported under State Wildlife Grant T-21, Project# 25.0.

We compiled abstracts and key words with the citations and added annotation where pertinent to convey context for Alaska boreal forest. We also obtained 2 texts to review that describe design of sustainable forest management intended to maintain biological diversity that has been applied since the 1990s during some timber harvests in Canada (Burton et al. 2003) and globally with emphasis in Fennoscandia (Angelstam et al. 2004).

II. SIGNIFICANT DEVIATIONS AND/OR ADDITIONAL FEDERAL AID-FUNDED WORK NOT DESCRIBED ABOVE THAT WAS ACCOMPLISHED ON THIS PROJECT DURING THIS SEGMENT PERIOD

Paragi and Hagelin were invited to participate in a science and technical committee convened by the Alaska Board of Forestry to review reforestation standards for the boreal region. The committee is composed of applied foresters and research ecologists who were charged with evaluating regulations that govern regeneration of harvested forest, including minimum stocking levels that must exist after timber harvest and recommendations for post-logging site preparation (scarification, control of competing vegetation, planting of seedlings, etc.).

Our contributions highlighted the positive and negative relationships between reforestation practices, habitat, and wildlife populations. Participation in the committee involved 5 meetings in Fairbanks (May and September 2014; February, April, and May 2015) and 1 teleconference. Specifically, we provided 1) literature citations for an annotated bibliography, and 2) an oral presentation “Wildlife-vegetation interactions in regeneration of Alaska boreal forest,” given separately to the committee and to the Board of Forestry.

Final recommendations of the science and technical committee will be considered by a separate implementation committee composed of managers and representatives from industry and environmental interests that are charged with drafting modifications to existing regulatory language.

III. PUBLICATIONS

None.

LITERATURE CITED:

Angelstam, P., M. Dönz-Breuss, and J.-M. Roberge, editors. 2004. Targets and tools for the maintenance of forest biodiversity. *Ecological Bulletins* 51.

Burton, P. J., C. Messier, D. W. Smith, and W. L. Adamowicz, editors. 2003. Towards sustainable management of the boreal forest. Canadian Science Publishing (NRC Research Press), Ottawa.

IV. RECOMMENDATIONS FOR THIS PROJECT

We will continue the literature review on topics other than reforestation and add to the annotated bibliography. Synthesis of the literature will occur to describe forest-wildlife interactions and wildlife response to forest practices germane to Alaska. This synthesis,

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plus patterns we identify in existing spatial data on forest vegetation and disturbance from fire and logging, will help us to design a framework for monitoring and adaptively managing forests and wildlife in areas where trees are commercially harvested in the Tanana Valley (objective 2). Paragi and Hagelin will participate in the final 2 meetings of the science and technical committee in fall 2015 and provide wildlife research recommendations related to reforestation. Hagelin's future contributions to this project will be funded under State Wildlife Grant T-31, Project# 25.0.

PREPARED BY: Thomas F. Paragi

DATE: 17 August 2015