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

Alaska Department of Fish and Game
State Wildlife Grant

Grant Number: **T-21** **Segment Number: 1**

Project Number: 25.0

Project Title: Assessing the impact of biomass harvest on priority birds and small mammals in central Alaska.

Project Duration: 1 July 2013 – 30 June 2016

Report Period: 1 July 2013 – 15 April 2014

Report Due Date: 28 September 2014

Principle Investigator: Julie Hagelin, ADF&G

Project Location: Central Alaska

I. SUMMARY OF WORK COMPLETED ON JOBS FOR LAST SEGMENT PERIOD ONLY

Objective 1: Obtain field training in methods applicable to quantifying the effect(s) of biomass harvest on Species of Greatest Conservation Need (SGCN) birds and small mammals.

Accomplishments:
Objective completed. I obtained two weeks of field training during summer 2013 with biologists at Denali National Park and Preserve to learn methods applicable to quantifying SGCN birds and small mammals at biomass harvest sites. Federal Aid Funds were spent on salary, travel, and supplies associated with field work.

Objective 2: Identify suitable research sites presently planned for biomass harvest in conjunction with Alaska's State Department of Natural Resources (DNR), Division of Forestry.

Accomplishments:

1. I identified key resources (databases, GIS habitat layers) administered by DNR that are central to selecting a representative array of suitable research sites with regard to habitat type, tree age, etc. Analysis of this information is underway. Federal aid funds were spent on salary.

2. Conducted five visits to local sites with DNR State Forester, Dr. Brian Young and met with other university researchers. The goal of these visits were to see, first hand, a selection of locations available for study and to learn about the kinds of vegetation data (e.g. on post-harvest regeneration) available for different sites. Such information will be integral to understanding the biomass impact on SGCN species. Federal Aid Funds were spent on salary and travel expenses.

Objective 3: Refine and pilot test survey protocols

Accomplishments:
I conducted a search of recent literature, downloaded ~50 papers on birds and small mammal protocols that appear germane to biomass study. I have reviewed 20 papers in detail thus far. Information in these publications is directly relevant to planning future field work (and to Objective 4). Federal aid funds were spent on salary.

Objective 4: Provide information and expertise on SGCN bird and small mammal needs to appropriate State, local and scientific teams involved in biomass-related decisions and/or wildlife conservation (e.g. Division of Forestry, Partners in Flight).

Accomplishments:

1. I am one of two State Wildlife Biologists asked to serve on a special scientific and technical working group for the Alaska Board of Forestry. My role is to provide input regarding impact of biomass harvest on SGCN wildlife, as the group reviews state reforestation standards. Our first meeting occurred in April 2014, and I plan to contribute a presentation in July 2014.

2. I participated in monthly meetings of the Citizen Advisory Committee of the Tanana Valley State Forest in Fairbanks to provide a context for the importance maintaining habitat critical to SGCN wildlife during discussions of proposed timber sales.

3. To represent SGCN wildlife interests and remain informed of the latest biomass energy developments statewide, I attended Alaska Board of Forestry meetings in Fairbanks in March 2014. I also participated in monthly meetings of the Biomass Working Group, organized by University of Alaska. The working group brings together an interdisciplinary array of academic, private, and agency interests to discuss and plan for biomass energy in central Alaska.

Objective 5: Develop a collaborative and statistically rigorous research project with State Wildlife Biologists aimed at evaluating biomass harvest on SGCN's in a manner that will promote future best management practices.

Accomplishments:

1. I held bi-weekly meetings (September-January) with State Wildlife Biologist and collaborator, Tom Paragi, to plan the project's scope and identify key habitat parameters that will inform SGCN wildlife patterns at biomass sites. The planning process currently includes:
    - Evaluating the proportions of different habitat types and associated SGCN species likely impacted by biomass harvest, based on existing forestry database information (Objective 1).
    - Selection of pilot study sites (Objective 2)
    - Literature review of best management practices for biomass harvest that will

promote a positive impact on SGCN birds and mammals in boreal forests.

2. We consulted twice with a biometrician, whose specific expertise and past experience is critical to evaluating existing data and project planning. Statistical guidance will help us develop appropriate sample sizes of representative habitats, assess statistical power, and determine the number of habitat parameters that we can correlate with future surveys of SGCN wildlife. Federal aid funds were spent on the consultant's salary.

II. PUBLICATIONS

None. This is a grant to design a future research project. However, we anticipate our planning efforts may result in a literature review of Best Management Practices for Biomass Harvest and SGCN wildlife that is notably lacking for Alaska. This would inform State agencies (Dept of Fish and Game, Dept. of Natural Resources) and commercial interests about methods to promote and/or maintain SGCN species diversity in biomass harvested areas of boreal forest.

III. ADDITIONAL FEDERAL AID-FUNDED WORK NOT DESCRIBED ABOVE THAT WAS ACCOMPLISHED ON THIS PROJECT DURING THIS SEGMENT PERIOD

I contributed information to two oral presentations at professional meetings related to biomass harvest and potential impact on SGCN birds and small mammals. Both talks were delivered by my Fish and Game colleague, Tom Paragi (see Objective 5).

1. "Design of best management practices for wildlife habitat in Alaska Boreal forest" presented at the Alaska Chapter of The Wildlife Society (Anchorage, AK).
2. Invited talk: "Increased logging for wood energy in Alaska boreal forest: Implications for wildlife and reforestation**"** at the 48th North American Moose Conference and Workshop (Girdwood, AK).

IV. RECOMMENDATIONS FOR THIS PROJECT

None.

Prepared by: Julie Hagelin, ADF&G

Date: 8/26/14