

SUSITNA-WATANA HYDROELECTRIC PROJECT

Formal ILP Proposed Study Plan Review

August 9, 2012

Prepared by ABR, Inc. —
Environmental Research & Services



Proposed Studies: Wildlife Resources, III

- Evaluation of Wildlife Habitat Use
- Wildlife Harvest Analysis
- Little Brown Bat Distribution and Habitat Use
- Small Mammal Species Composition and Habitat Use



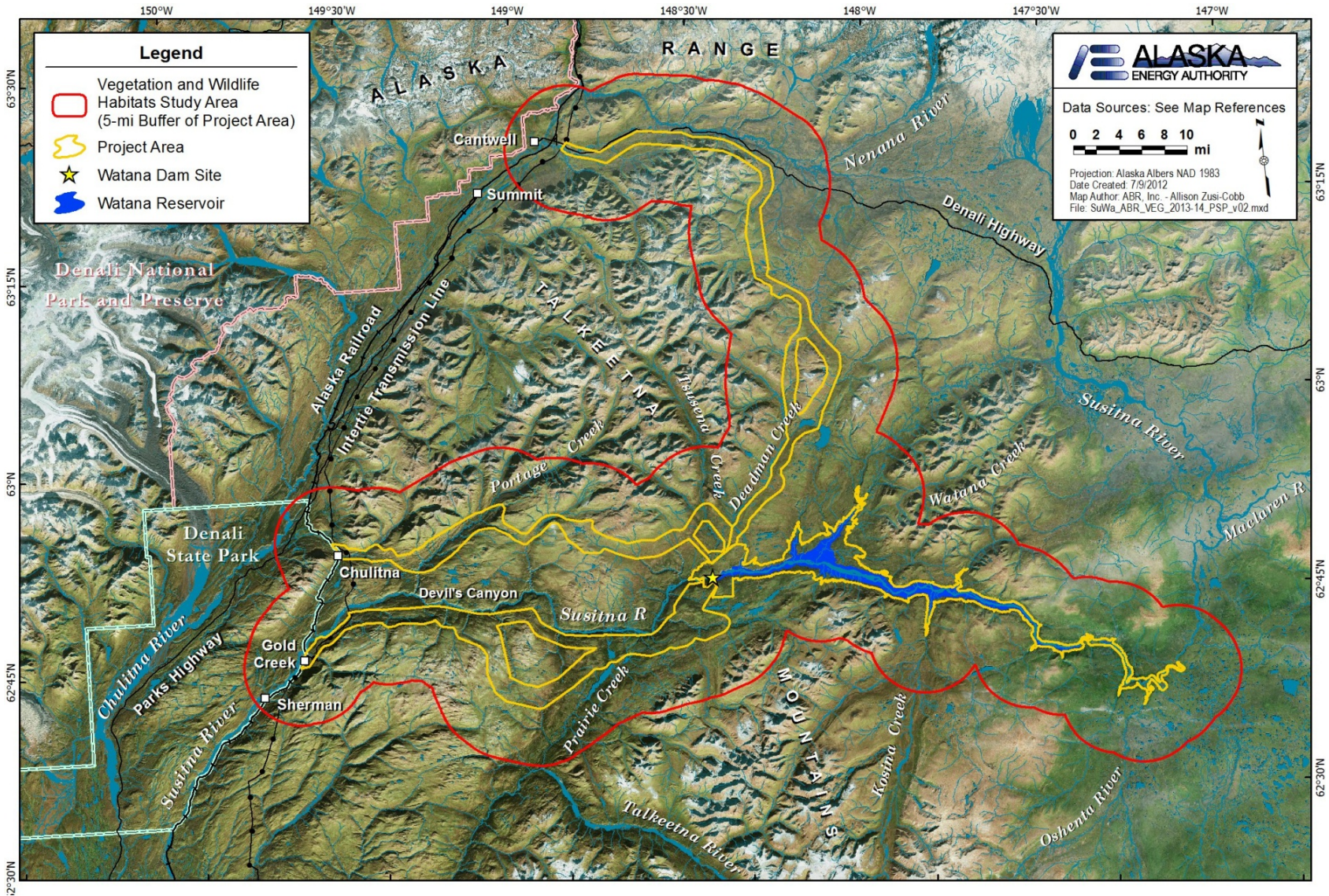
Objectives: Wildlife Habitat Evaluation

Goal: Compile Project-specific habitat-use information for mammals and birds to enable quantitative assessments of the potential impacts on wildlife habitats from development and operation of the proposed Project.

Objectives:

- Use Project-specific survey data and the scientific literature to evaluate local habitat associations for mammal and bird species that are of conservation and management concern to federal and state management agencies
- Categorically rank habitat values for bird and mammal species of conservation and management concern for each wildlife habitat type mapped in the Project area.

Study Area: Wildlife Habitat Evaluation



Methods: Wildlife Habitat Evaluation

- Develop habitat evaluation matrix and maps:
 - Select a set of mammals and bird species of concern based on established criteria for conservation and management concern
 - Develop habitat-value rankings reflecting various life-history stages, keyed to the wildlife habitat types mapped for the Project
 - Create specific habitat-use maps for mammal and bird species of concern, which can be used to quantify Project impacts.

Expected Results: Wildlife Habitat Evaluation

- GIS map of wildlife habitats (from corresponding Botanical Resources study plan)
- Corresponding matrix of habitat-use rankings incorporating Project-specific survey data and information from scientific literature, keyed to mapped habitat types
- Quantification of direct and indirect habitat impacts in Project area, using geospatial database of habitat types and value rankings as a primary tool for impact assessment across multiple species and species-groups

Relationship to Other Studies: Wildlife Habitat Evaluation

- Wildlife habitat evaluation will rely on the wildlife habitat map created for the corresponding Botanical Resources study
- Results from multiple species-specific field studies of mammals and birds will be incorporated into the matrix of habitat-value rankings

Summary of 2012 Activities: Wildlife Habitat Evaluation

- Historical APA Susitna Hydro project habitat mapping (1985–1987 revision) has been obtained in GIS format and is being reviewed for its applicability to the current analysis, along with the historical habitat evaluation
- Vegetation, wetlands, and riparian habitat mapping began in 2012 and will be completed in 2013–2014 to produce the GIS map database that will be used for the wildlife habitat evaluation

Discussion: Wildlife Habitat Evaluation

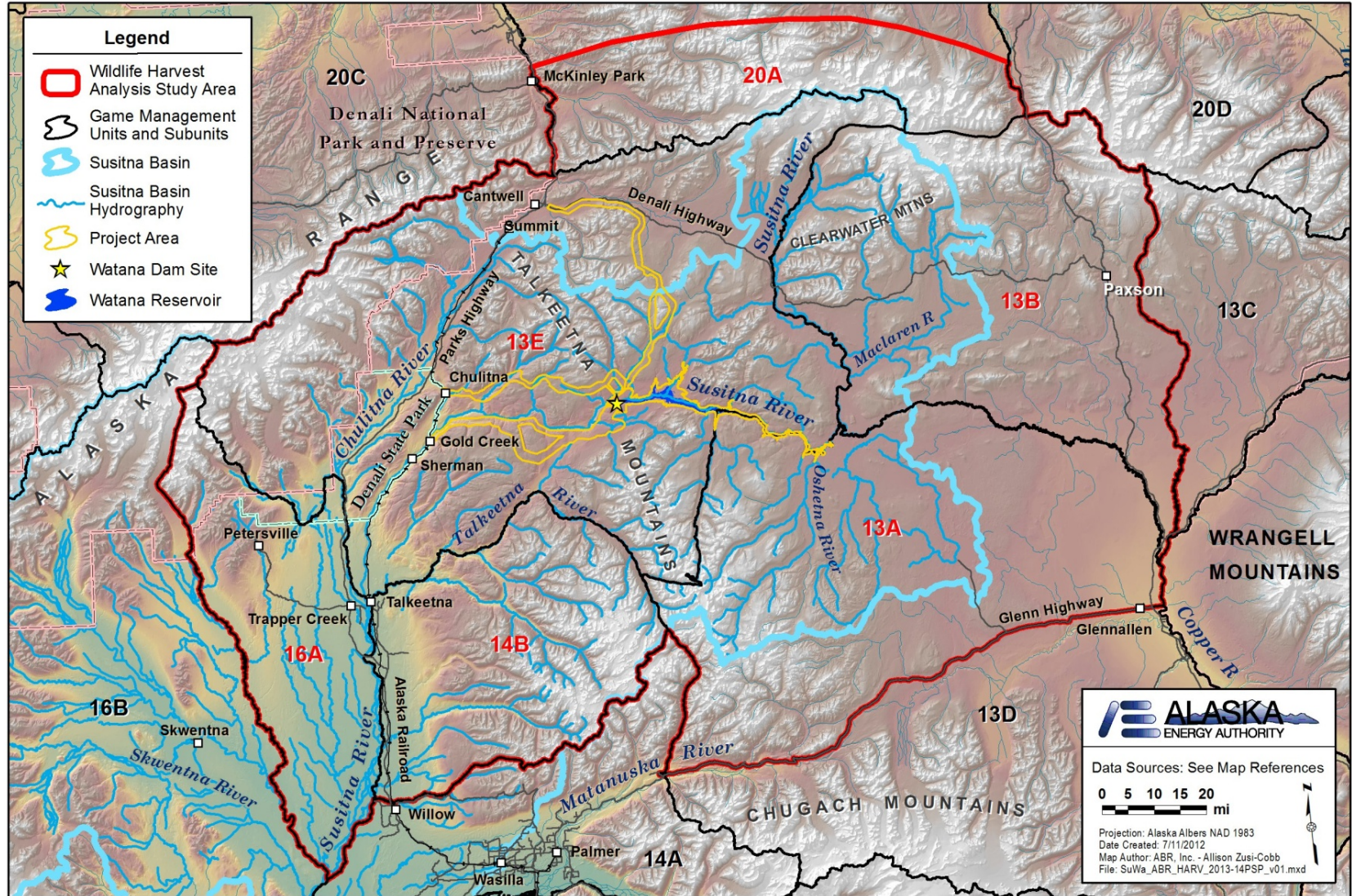
- If available, preliminary species-specific GIS models of habitat use developed for the Alaska Gap Analysis Project (GAP) will be examined for applicability to the Project analysis, as suggested by the State, but, based on previous experience, it is expected that the wildlife habitat map and matrix developed specifically for the Project area will provide more useful information at a finer spatial scale for quantitative analyses.
- Other questions or concerns regarding the proposed study plan?

Objectives: Harvest Analysis

- Identify past and current harvest effort for large and small game (including furbearers), harvest locations, access modes
- Compare current harvest locations of big game, furbearers, and small game with data on seasonal distribution, abundance, and movements of harvested species, using the results of concurrent Project studies
- Provide harvest data for use in analyses being conducted for the recreational study, and potentially for subsistence and socioeconomic studies.



Study Area: Harvest Analysis



Methods: Harvest Analysis

- Compile and analyze ADF&G harvest database records
- Compile and analyze USFWS subsistence harvest data
- Review ADF&G management reports
- Review ADF&G trapper questionnaires
- Review ADF&G small game outlook and harvest surveys
- Review ADF&G and USFWS subsistence surveys and harvest reports
- Interview regional biologists
- Compare harvest data and patterns with Project plans and the distribution of game mammals and birds.



Expected Results: Harvest Analysis

- Harvest data for moose, caribou, bears, wolf, wolverine, river otter, beaver, marten, and possibly small game (depending on availability of new ADF&G data collection effort):
 - Sex and number harvested
 - Harvest timing, effort, and mode of access
 - Harvest location, to finest spatial scale possible, depending on data quality and quantity
- 2013–2014 study is a continuation of AEA 2012 Study W-S2.
- Results will be provided for use in recreational study, and potentially for subsistence and socioeconomic studies.



Relationship to Other Studies: Harvest Analysis

- Results of big-game, furbearer, and small-game studies will provide information on seasonal distribution and abundance for comparison with harvest data
- Analytical results will be provided for the recreation study.

Summary of 2012 Activities: Harvest Analysis

- ADF&G harvest data have been transferred from ADF&G master database to ABR, under terms of cooperative data-sharing agreement.
- 2003–2011 harvest data obtained thus far; older data may not be of comparable quality.
- Federal subsistence harvest data not yet obtained, but will be requested directly from USFWS.
- Coordination with recreation study is underway.

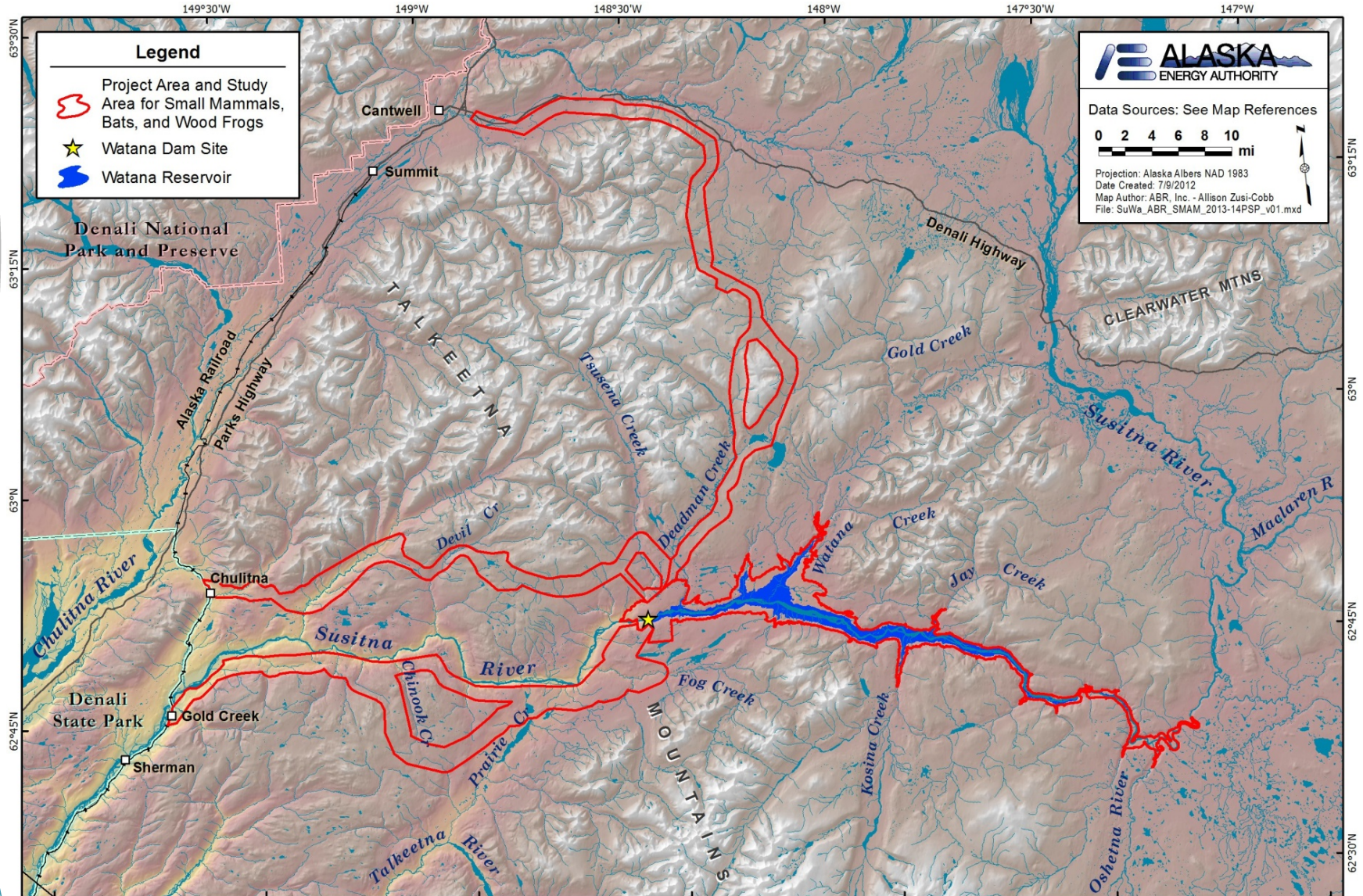
Discussion: Harvest Analysis

- No stakeholder comments specific to this study have been identified.
- Other questions or concerns regarding the proposed study plan?

Objectives: Little Brown Bat & Small Mammals

- Assess occurrence of bats and distribution of habitats used by bats within impoundment zone and Project infrastructure areas
- Review geological data and inspect topographic features to assess potential for roosting sites and winter hibernacula
- Examine human structures as potential roosting sites or hibernacula
- Describe species composition, relative abundance, and habitat associations of small mammals in the Project area.

Study Area: Bats & Small Mammals



Methods: Bats & Small Mammals

- Field surveys for bats:
 - Acoustic surveys of bats using deployment of broad-band ultrasonic detector stations in different forested habitats
 - Examination of anthropogenic structures in study area
- Review geological data, inspect topographic features, and scientific literature to assess potential roosting sites and winter hibernacula
- Field surveys for small mammals:
 - Trapping sites using both snap-traps and pitfall traps
 - Trapping site locations allocated by habitat type
 - [Live-trapping of voles with mark–recapture estimates of abundance for Terrestrial Furbearer study]
- Geospatial database of detections/captures among habitat types

Expected Results: Bats & Small Mammals

- Species occurrence and relative abundance of small mammals among different habitat types, for use in wildlife habitat evaluation and impact assessment
- Bat sampling will provide indices of relative bat activity (bat passes per detector-night) during summer and fall flight season (June–September)
- Identification of areas of concentrated flight activity, roosting structures (geological features and), and hibernacula
- Results of bat surveys in 2013 will determine field effort in 2014.

Summary of 2012 Activities: Small Mammals

- Data collection by UAF is beginning this month to develop indices of prey populations (hare-pellet counts and live-trapping/mark-recapture of voles), as background for the proposed Terrestrial Furbearer study.
- No other work is being done this year.

Relationship to Other Studies: Bats & Small Mammals

- These studies will provide input data for the wildlife habitat evaluation.
- The Terrestrial Furbearer study will provide additional prey population indices for small mammals (hare-pellet sampling and vole abundance estimates).

Discussion: Bats & Small Mammals

- Acoustic monitoring in different habitats is proposed throughout the flight season, similar to ADF&G recommendations. A staged 2-year effort is envisioned, in which 2014 work would be expanded, if warranted by the 2013 results.
- BLM requested acoustic surveys for bats in access and transmission corridors as well as the reservoir zone, which are envisioned in the proposed study plan.
- More details on the proposed sampling scheme will be included in the RSP.
- No stakeholder comments were identified regarding the small mammal study.
- Other questions or concerns regarding the proposed study plan?

