

Initial Study Report Meeting

Study 10.14 Surveys of Eagles and Other Raptors



October 21, 2014

Prepared by

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& Services



Study 10.14 Objectives



- Locate and determine the status of raptor nests and territories that could be affected by Project construction and operations.
- Estimate Project effects on the productivity of raptors.
- Estimate effects on habitats by delineating habitat features in a geospatial database.
- Conduct field surveys and literature review to study the habitat-use patterns at fall and winter communal roost and foraging sites of raptors.
- Assess whether planned overhead transmission lines pose a collision risk to migrating or nesting raptors and identify migratory corridors.
- Provide information on the distribution, abundance, food habits, and diet of piscivorous (fish-eating) raptors for Study 5.7 (Mercury Assessment and Potential for Bioaccumulation); feather samples for characterization of mercury levels; and information on the effects of methylmercury on piscivorous raptors.



Study 10.14 Components

- **Nest Occupancy & Productivity Surveys** (ISR Part A, Section 4.1, p 5)
- **Foraging and Roost Surveys** (ISR Part A, Section 4.2, p 8)
- **Migration Surveys** (ISR Part A, Section 4.3, p 8)
- **Mercury Assessment** (ISR Part A, Section 4.4, p 10)
- **Delineation of Eagle Nesting Habitats** (ISR Part A, Section 4.5, p 10)



Study 10.14 Variances



- The occupancy and productivity surveys included limited extensions outside of the study area (RSP Section 10.14.3) to replicate the study area covered in the 2012 surveys.
- Access to some (at least 4) potential observation sites for the migration survey task (RSP Section 10.14.4.1) could not be achieved in 2013 due to the lack of a land-access agreement with the Cook Inlet Regional Working Group (CIRWG).
- Feather samples were not obtained from piscivorous raptors for mercury analysis in 2013 (RSP Section 10.14.4.1) because the necessary federal permit for salvage of Bald Eagle feathers could not be obtained in time before the season ended.



Study 10.14 Summary of Results in ISR



(ISR Part A – Section 5)

Nest Occupancy and Productivity Surveys

- Golden and Bald eagles are the most common species.

2013 Species	Total Nests	No. of Occupied Nests	No. of Occupied Territories ¹	No. of Incubating Pairs	No. of Successful Pairs ²	No. of Nestlings
Golden Eagle	235	43 (24)	37 ³ (19 ⁴)	5	2	2
Bald Eagle	40	23 (3)	23 ⁵ (1)	13 ⁵	5 ⁵	5 ⁵
Gyr Falcon	6	3	3	3	2–3	3–4
Peregrine Falcon ⁶		7	7	7	4–6	9–13
Red-tailed Hawk		(1 ⁷)	(1)	0	0	0
Common Raven	35	6	6	5	–	–
Unidentified raptor	24	0	0	0	0	0
Northern Goshawk	4	1	1	0	0	0

(Parentheses indicate additional possible territories or nests as a result of unknown occupancy status.)

¹ Some occupied territories contained several occupied nests.

² Young ≥75% of fledging age (estimated by comparing with known-age photos).

³ One occupied nest that did not have incubating adults was located 50 m outside of the study area and the occupied territory was included in calculations.

⁴ One nest with an unknown occupancy status was found 68 m outside of the study area and the unknown occupancy status was included in calculations.

⁵ One nest located 185 m outside of the study area was occupied by a breeding pair of Bald Eagles. Due to this nest's proximity to the study area this territory was included in calculations.

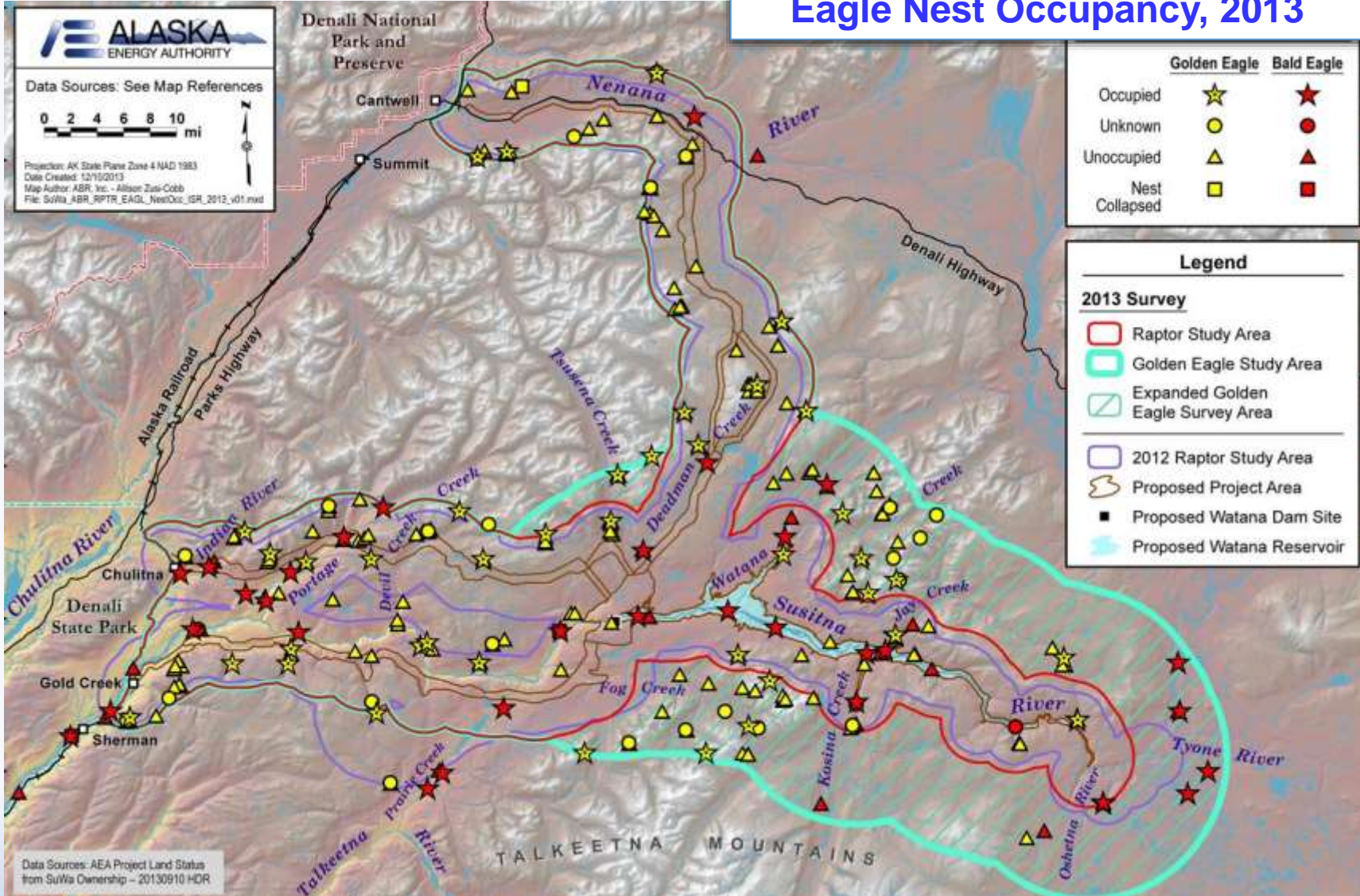
⁶ Ledges and nests were only recorded if currently occupied by a Peregrine Falcon.

⁷ A Red-tailed Hawk was possibly occupying the same Golden Eagle nest it used in 2012.

Study 10.14 Summary of Results in ISR



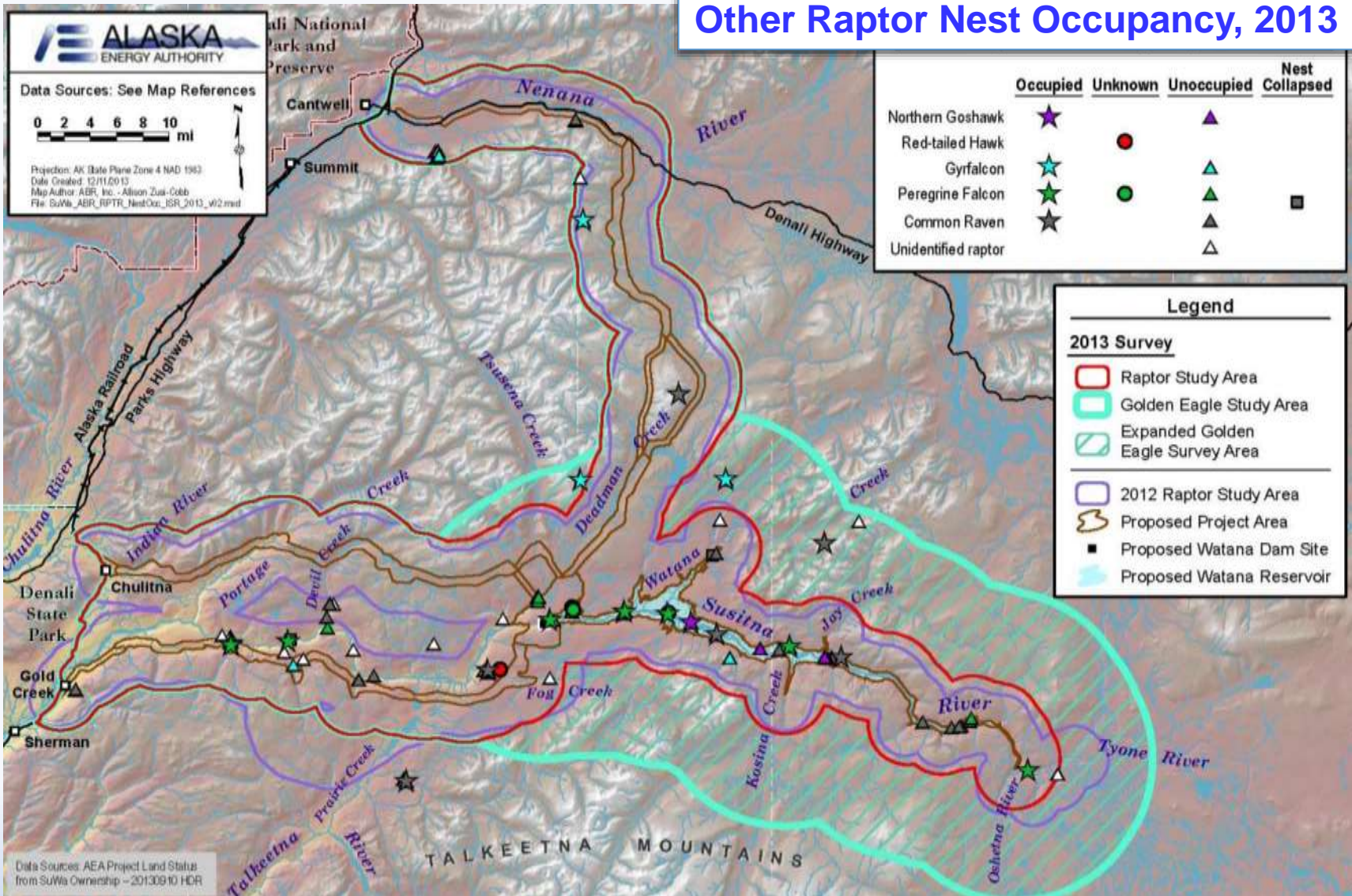
Eagle Nest Occupancy, 2013



Study 10.14 Summary of Results in ISR



Other Raptor Nest Occupancy, 2013



Study 10.14 Summary of Results in ISR

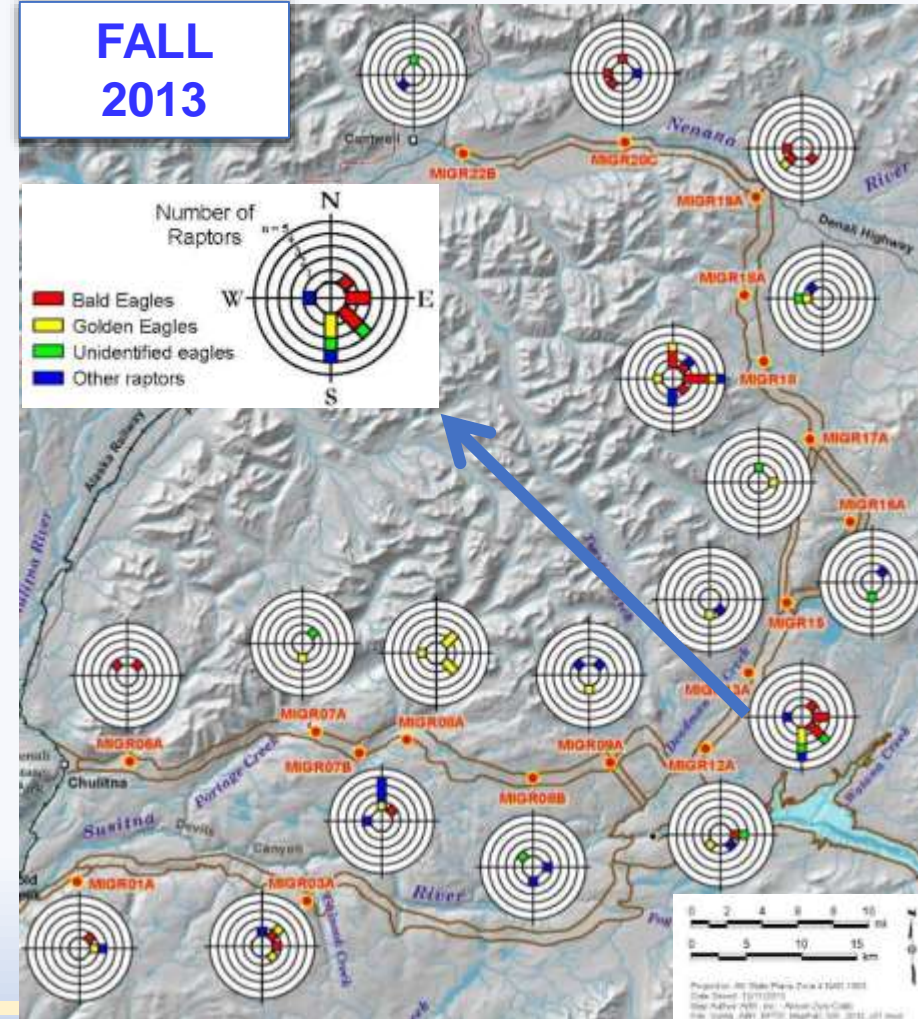
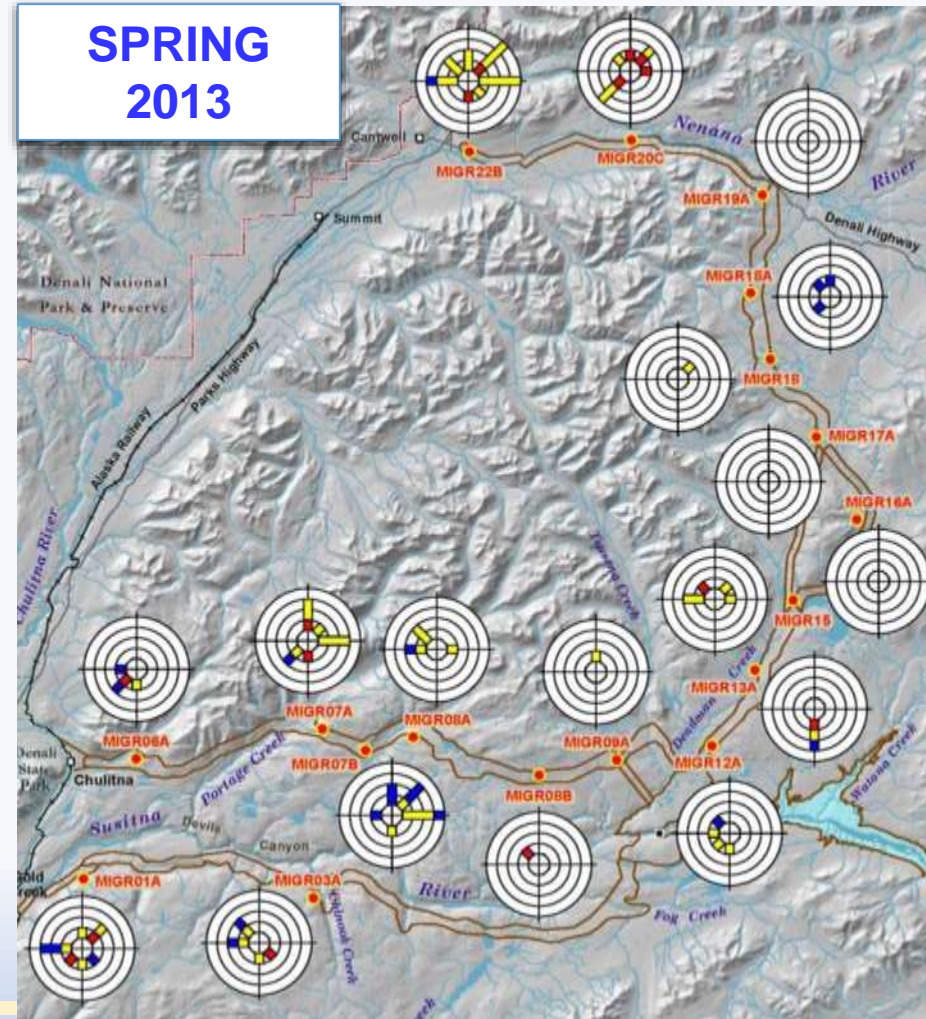


Raptor migration surveys focused on proposed transmission routes:

- Bald and Golden eagles were the most commonly detected species.
- Migration occurred over a broad area, with mostly random flight directions.

**SPRING
2013**

**FALL
2013**



Study 10.14 Summary of Results in ISR



- Nest sightability surveys for eagles:
 - Several nest structures were located that were not found on primary surveys.
 - Sightability correction factor suggested that the majority of nests have been found after multiple surveys.
- Woodland raptor surveys (within proposed reservoir zone):
 - Very low nest density (4 nests).
 - No nests detected on normal-intensity transects.
 - 3 nests detected within high-intensity plots, 1 detected on winter survey.
 - Steep terrain complicated survey and decreased sightability.
 - **Suggests modification of methods to higher intensity.**
- Foraging and communal roosting surveys (fall and early winter 2012–2013):
 - Small numbers of Bald Eagles in late fall.
 - No communal roosts or winter foraging areas were located.
- Nesting habitat for eagles was mapped in field and with remote sensing/GIS:
 - This analysis will be used to help delineate potential breeding/foraging habitat.



AEA Proposed Modifications to Study 10.14 in ISR

(ISR Part C – Section 7.1.2)



- **AEA added the Denali East Option** road and transmission corridor to the study area:
 - 3-mi buffer from the center lines of the new road and transmission alignments.
 - Surveyed in 2014.
- The **mercury analysis objectives and methods have been consolidated under Study 5.7** (Mercury Assessment and Potential for Bioaccumulation).
- The **woodland raptor survey intensity will be increased**:
 - Both observers on the same side of the aircraft looking into the slope.
 - Survey twice as many transect lines.
 - Decrease transect spacing from 400 m to 200 m.
 - Reduce the coverage to 50 percent of the 2013 study area; select sample of blocks to survey.

New Modifications to Study 10.14 since ISR



- The Chulitna Corridor was dropped from the study area in 2014.
- The eagle foraging and communal roosting surveys will be dropped in 2015:
 - These surveys were conducted for two complete seasons (fall/early winter 2012–2013).
 - No major concentration areas were identified.



Current Status 10.14



- In 2014, only nest occupancy and productivity surveys were performed:
 - Surveys were modified in response to corridor changes.
 - Provided raptor nest avoidance information to reduce disturbance.
 - Provided the Project with another year of data for permitting.
- The Study Plan objectives are scheduled for completion in 2015 (except eagle foraging and roost surveys in fall/early winter which have been completed).



Steps to Complete Study 10.14

(ISR Part C – Section 7.1)



To complete the study, the study team will conduct the sampling required to fulfill the Study Plan objectives:

- Raptor nest occupancy and productivity surveys, including woodland raptor surveys.
- Sightability assessment of raptor nesting surveys.
- Delineation of Bald and Golden eagle nesting habitats.
- Spring and fall migration surveys along potential power transmission routes.





Licensing Participants' Proposed Modifications to Study 10.14?

- Agencies
- CIRWG members and Ahtna
- Public

