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cc: [Sokolowski, Rosana](#);
Subject: Rocky Reach Wintering Bald Eagle Report
Date: Wednesday, April 06, 2011 11:06:41 AM
Attachments: [RRWF BAEA wintering 10-11.pdf](#)

RRWF Members,

Please find attached the Bald Eagle Wintering Activity Summary for the 2010 – 2011 season. This report summarizes wintering eagle observations along Rocky Reach Reservoir. Article 403 of the license requires that the licensee conduct annual winter bald eagle surveys for the term of the license in coordination with the RRWF. This report is due to the RRWF annually by April 15.

Please let Von or I know if you have any questions.

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Bald Eagle Wintering Activity Rocky Reach Reservoir



2010 - 2011

**Public Utility District No. 1 of Chelan County
Fish & Wildlife Department
Wenatchee, WA 98807-1231**

INTRODUCTION

The Public Utility District No. 1 of Chelan County (Chelan PUD) owns and operates Rocky Reach hydroelectric project along the Columbia River in central Washington. This project operates under Federal Energy Regulatory Commission (FERC) license #2145-060. Rocky Reach Dam was licensed in 1957 and began generating electricity in 1961. The operating license was renewed in 2009. As a condition of the new operating license, Chelan PUD agreed to continue monitoring numbers of wintering eagles along Rocky Reach Reservoir (Chelan PUD 2010). As required by the FERC and the Rocky Reach Wildlife Forum, this annual report summarizes data collected on wintering bald eagles for the winter of 2010-2011.

HISTORY

From 1975 – 1984, the United States Fish and Wildlife Service (USFWS) conducted monthly aerial surveys for wintering bald eagles along the mid-Columbia River, including Rocky Reach Reservoir (Fielder and Starkey 1980). In 1985, Chelan PUD began regularly monitoring eagles during the winter months along Rocky Reach Reservoir.

The bald eagle was delisted on August 9, 2007. As a result, Chelan PUD reduced the monitoring effort from weekly to monthly during the winter months. This frequency of monitoring exceeds the level suggested in the bald eagle post-delisting monitoring plan (USFWS 2009) and should provide sufficient trend information into the future. Winter surveys allow Chelan PUD to determine distribution of wintering eagles along the Reservoir and to determine the age ratio of sub-adults: adults.

STUDY AREA

Rocky Reach Dam is located approximately 7 miles north of the city of Wenatchee, Washington along the Columbia River at river mile 473.5. The pool behind the dam (Reservoir) extends 42 river miles to Wells Dam (operated by Douglas County PUD) at river mile 515.5. Chelan and Douglas counties border the west and east shores of the reservoir, respectively.

The Reservoir is considered run-of-river with relatively limited water storage capability and active river currents, particularly in the deep main channel of the Columbia River. The Reservoir also has a combination of shallow bays, islands and island complexes, parks, residential, agricultural and natural habitats. Where natural habitat exists, steep cobble or dirt banks comprise much of the reservoir shoreline. Shrub steppe vegetation, fruit orchards, residential, and industrial areas occupy areas up-slope from the riparian edge of the river. Shrub steppe habitat of central Washington is dominated by big sagebrush (*Artemisia tridentata*), rabbitbrush (*Chrysothamnus* spp.), and bluebunch wheatgrass (*Pseudoroegneria spicata*) and is interspersed with pines such as ponderosa pines (*Pinus ponderosa*) and Douglas-fir (*Pseudotsuga menziesii*), especially along the hills to the west that comprise the Eastern Cascades Physiographic province (Franklin and Dyrness 1973). Cottonwoods (*Populus balsamifera* ssp. *trichocarpa*) of differing age groups can also be found along the shores of the river.

SURVEY METHODS

Since golden eagles are a sensitive species in Washington State, both bald and golden eagles are documented during winter surveys. Eagle surveys were conducted by boat monthly from November 2010 – March 2011. A minimum of 2 observers were used on each survey. Surveyors on each side (port and starboard) of the boat monitored the respective shoreline (i.e., Chelan or Douglas) and both shorelines were surveyed concurrently while traveling upriver along Rocky Reach Reservoir.

Eagles are identified to species (bald or golden) and age class whenever possible. Bald eagles were classified as an adult if they exhibited an all-white head or as a sub-adult in any other color phase. Golden eagles were also aged based on plumage characteristics as described in Wheeler & Clark (1995). If age or species of eagles could not be

identified, they were recorded and unknown species or unclassified age status. The location of eagles observed was recorded to the 1/10th river mile as well as bank (Chelan or Douglas) and the perch substrate.

Monthly eagle surveys begin at the Lincoln Rock State Park boat launch and proceeded along the Douglas County shoreline downriver to Rocky Reach Dam, then across the Reservoir to the Chelan County side and upriver along the Chelan County Shore to the upriver end of Turtle Rock Island (river mile 476). At this point the route crosses back over the main channel and downriver along the west side of Turtle Rock Island. At the downriver end of Turtle Rock Island the boat traveled back upriver, along the east shoreline of Turtle Rock Island and the Douglas County shoreline. From the upriver end of Turtle Rock Island, the survey route then continued upriver to the tailrace at Wells Dam. The river just below Wells Dam is quite wide, making it difficult for surveyors to see adequately from the middle of the river. Therefore, the boat cruised near the Douglas County shore beginning at river mile 515.0. Surveyors focused solely on the Douglas County shoreline at this point, continuing upriver to a safe distance below Wells Dam. After the tailrace area was thoroughly surveyed, the Chelan County shoreline was surveyed downriver to river mile 514.9 where the survey then terminated.

RESULTS

During the 2010 -2011 winter period (November – March), a total of 120 eagles were observed along Rocky Reach Reservoir. Of these, 111 were bald eagles, 8 were golden eagles, and 1 eagle was unidentified. The average number of eagles (both species) seen per survey was 24. Peak numbers of eagles were observed during January and March, when a total of 31 and 32 eagles were observed, respectively (Table 1).

Age Ratios

Knowing age ratios of wintering bald eagle populations is important because wintering areas with high proportions of sub-adult bald eagles often indicate an easily available food source which improves the survival chances of younger eagles (Stalmaster 1980, Fitzner et al. 1980, Fielder 1982, Bennetts and McClelland 1991). The maximum number of sub-adult bald eagles observed was 17 (March 2011). The minimum number of 2 sub-adults was observed in November. The average age ratio of bald eagles wintering along the Reservoir for all surveys was 0.7 sub-adults per adult. However, during 3 surveys, this ratio was greater than 1.0 (Table 2). Bald eagle observations by age class are represented in Figure 1.

Perch Sites and Distribution

Perch substrate was recorded for all eagles observed. Eagles were most commonly observed perched in cottonwoods, flying, or perched in ponderosa pine during surveys (Table 3). Eagles were distributed fairly evenly along much of the Reservoir (Figure 2). On average, eagles were more frequently observed in the area between Tenas George Canyon and the Ribbon Cliff vicinity, and in the Howard Flats vicinity.

National Mid-Winter Bald Eagle Surveys

The January 6, 2011 survey was conducted during the National Mid-Winter Bald Eagle Survey timeframe. Data for the survey was submitted via mail to Robert C. Kuntz II, Washington State coordinator for the national counts. A total of 31 bald eagles and 4 golden eagles were observed during this survey. Chelan PUD has regularly participated in the mid-winter bald eagle counting effort.

DISCUSSION

The average number of eagles observed per survey during the winter of 2010-2011 was 22.2. This is higher than the long-term average (1983 – 2010) of 18.3 eagles per survey. The ratio of sub-adult bald eagles observed for the 2010-2011 winter period was also higher than the long-term average of 0.53 sub-adults per adult. However, the total number of wintering bald eagles observed during the 2010-2011 winter was less than the average of 153 bald eagles observed since surveys began in 1983-1984 (Figure 3).

LITERATURE CITED

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TABLES AND FIGURES

Table 1. Rocky Reach Reservoir bald eagle surveys, winter of 2010-2011.

Date	Bald eagles			Golden eagles				Unknown	All Total
	Adult	Subad	Total	Adult	Subad	Unkn	Total	Eagle	
17-Nov-10	7	2	9	1	0	0	1	0	10
16-Dec-10	4	5	9	2	0	0	2	1	12
6-Jan-11	15	16	31	4	0	0	4	0	35
15-Feb-11	23	7	30	1	0	0	1	0	31
8-Mar-11	15	17	32	0	0	0	0	0	32
Total	64	47	111	8	0	0	8	1	120
AVG	12.8	9.4	22.2	1.6	-	-	1.6	0.2	24.0

Table 2. Age ratios of sub-adult to adult eagles during the survey period.

Date	Adult	Subad	Total	subadults per adult
17-Nov-10	7	2	9	0.3
16-Dec-10	4	5	9	1.3
6-Jan-11	15	16	31	1.1
15-Feb-11	23	7	30	0.3
8-Mar-11	15	17	32	1.1
Total	64	47	111	0.7
AVG	12.8	9.4	22.2	0.7

Table 3. Perch detail for all eagles observed. * Includes golden eagle and unidentified eagle observations: Golden eagles were observed flying (n = 6) and perched on rocks (n = 2), and an unidentified eagle was observed in a Douglas-fir.

Perch detail	Total
Cottonwood	55
Flying	23*
Ponderosa pine	17
Rock	7*
Willow	5
Douglas-fir	2*
Light pole	2
Lombardy poplar	2
Shoreline--rocks	2
Burch	1
Fence post	1
Ground	1
Siberian elm	1
Utility pole	1
Grand Total	120

Figure 1. Age classifications of bald eagles along Rocky Reach Reservoir.

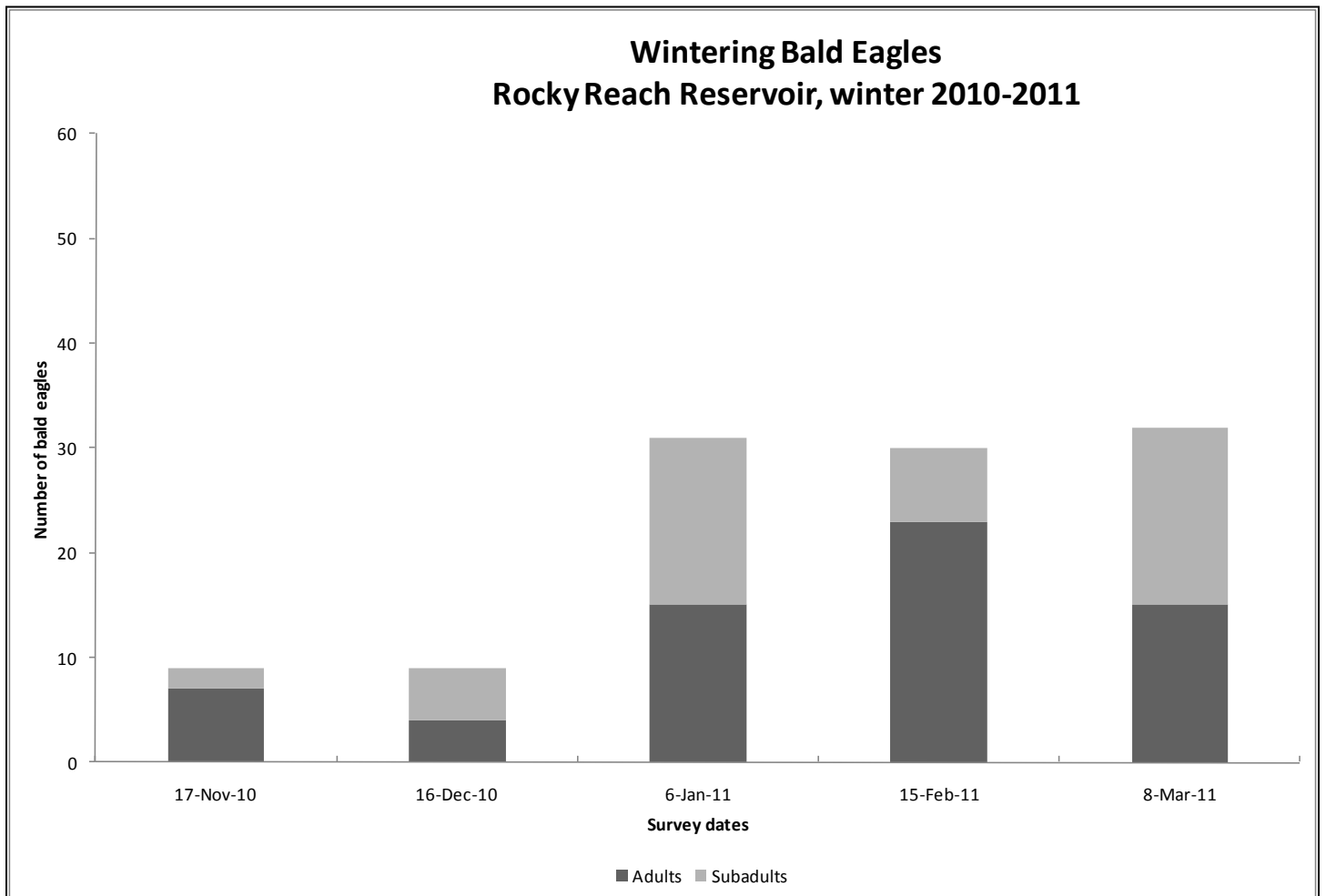


Figure 2. Cumulative observations by river mile along Rocky Reach Reservoir.

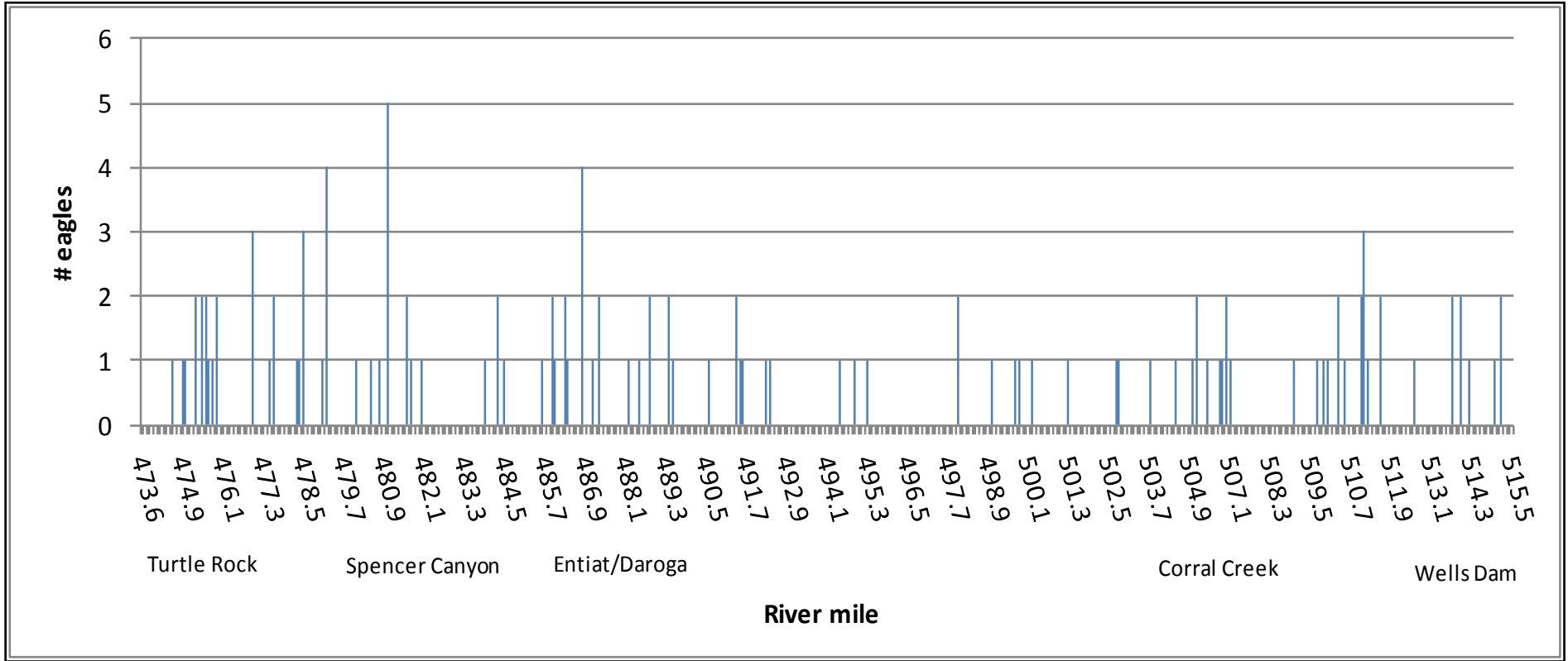


Figure 3. Cumulative observations of bald eagles per survey season. The long-term average observation is 153 eagles/winter.

