AVISTA CORPORATION

2017

BALD EAGLE MONITORING REPORT

ARTICLE 414

SPOKANE RIVER HYDROELECTRIC PROJECT

FERC PROJECT NO. 2545

Prepared By:

Avista Corporation

December 21, 2017

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

1.0 INTRODUCTION

On June 18, 2009, the Federal Energy Regulatory Commission (FERC) issued a license for Avista Corporation's (Avista) Spokane River Project (Project), FERC Project No. 2545, for a 50-year license term. The Project consists of five hydroelectric developments (HED) located on the Spokane River in northern Idaho (in Kootenai and Benewah Counties) and eastern Washington (in Spokane, Stevens, and Lincoln Counties). The FERC licensed Project boundary generally follows the normal full pool elevation of the impoundment associated with each HED. The five HEDs, from upstream to downstream, include:

- Post Falls (River Mile [RM] 102)
- Upper Falls (RM 74.2)
- Monroe Street (RM 74)
- Nine Mile (RM 58)
- Long Lake (RM 34)

Article 414 of the Project License (Project) required the development of a Bald Eagle Management Plan (Plan) which was approved by FERC on May 11, 2011. The Plan included: (i) bald eagle (*Haliaeetus leucocephalus*) nests associated with waters impounded by the Project; (ii) a framework for annual occupancy and productivity monitoring (Monitoring); (iii) annual surveys to identify new nests (Surveys); (iv) investigations to identify bald eagle nesting territories including primary use areas, home ranges, and key use sites (investigations); and (v) reporting requirements. This Bald Eagle Monitoring Report (Report) summarizes the 2017 results of the Plan implementation.

The Plan defines the Monitoring Area as the area that encompasses bald eagle nest sites associated with waters impounded by the Project. In general, this area extends one-half mile beyond the Project boundaries. Annual Monitoring, Surveys, and Investigations are completed within this area. Within the Monitoring Area the Plan defines the Planning Area which is the geographic area associated with the requirement to prepare site-specific management plans for bald eagle nests. The Planning Area includes Avista-owned lands where an active or alternate nest associated with waters impounded by the Project is present, and specific additional nesting territories, where investigations indicate, that (1) Project operations may have negative effects on bald eagle productivity or habitats, and (2) opportunities for protection are available.

Avista hired Licia Stragis, Timberland Management Company senior biologist, to assist with implementation of the Plan. This annual monitoring report includes the results for implementation of the Plan. Original and electronic copies of all field forms, photographs, geographic information system (GIS) databases, and reports are on file at Avista.

2.0 OCCUPANCY AND PRODUCTIVITY MONITORING

2.1 Methods

Location of Territories Monitored. Thirty-three nesting territories were monitored in 2017 to determine annual occupancy and productivity. *Figures 1 and 2* show the locations of these nesting territories.

Dates of Monitoring. Monitoring occurred between February 1 and July 31. The methods described below follow those detailed in the Plan. Supplemental efforts included additional observation dates and extending the observation period to midday for watercraft and some land-based monitoring.

According to the Plan, each known nest is to be observed a minimum of three times during the nesting season to determine occupancy and productivity. The first observation was an initial determination of occupancy that occurred between February 1 and April 15; the second observation, an update of nesting status, occurred between April 15 and June 15 and the third observation, a determination of productivity, occurred between June 15 and July 31. In early 2017 the south Coeur D'Alene Lake boat launches and bays were covered with ice making the monitoring viewpoints in those areas inaccessible. Subsequent observation dates in May were able to yield the occupancy and productivity information.

Observations were generally made from first light to midday and required up to one and one half hours to determine the occupancy and productivity. High-resolution optics were used to facilitate observations. Observations were conducted from watercraft, land vehicle, and on foot. Land-based observations took place from a vehicle whenever possible to avoid disturbance to eagles. Nests approached on foot, took place with the observer remaining at least 330 feet from the nest and/or hidden from view, and observers retreated if eagles displayed agitated behavior. During each visit, data pertinent to the determination of nest occupancy and productivity were recorded. This included:

- Nest condition
- Nest repair or construction
- Presence and behavior of adults
- Adult incubation or brooding posture
- Number of eggs (where visible)
- Number and age of young using a standardized aging key based on plumage, size, and posture (Carpenter 1990)

Observers also noted any habitat alterations or activities that have occurred near the nest site that may affect eagle productivity. Based on the results of observations and professional judgment, one of the following occupancy determinations was made for each monitored territory.

1. Active: Two adults present in a territory containing a nest during the nesting season, or one adult observed incubating with young, or near a known nest. Nesting determination is the activity status of the nest. "Active" is a transitional designation. A nest that is deemed "Active"

at the beginning of the nesting season received a determination of "Successful", "Active, Not Successful", or "Active, Success Unknown" at the completion of monitoring.

> **Active Successful**: One or more young fledged from the nest. When the "Successful" determination is used, the Report includes the number of eagles fledged from the nest. According to the Plan, productivity results assume the young noted in the nest during the last observation have successfully fledged. However, the pre-fledging period is considered a very sensitive period. Nestlings at this stage are developing flight abilities, may flush from the nest prematurely, and perish due to disruption (USFWS 2007). Therefore, actual numbers of fledglings and percentages may be the same or lower.
>
> **Active, Not Successful:** An occupied territory where no young were produced. When the "Active, Not Successful" determination is used, observers tried to determine the cause of reproductive failure where possible, and note the nature, extent, and location of activities or habitat alterations in the territory. As of 2015, this determination includes previous "nest abandoned" designation where eagles had deserted or stopped attending the nests.
>
> **Active, Success Unknown:** Occupied territory not adequately monitored to determine success. The use of this determination requires an explanation as to why the territory was not adequately monitored to determine success.

2. **Not Active:** No nesting activity and no adults in a nesting territory. When the "Not Active" determination is used, observers recorded any modifications or disturbances to habitat that have occurred near the nest site and the distance to those disturbances. The nature, extent, and proximity of habitat modifications/disturbances should be included in the annual report. These nests are not included in the analysis of Project area productivity, nest productivity, and nest failure rates.

3. **Status Unknown:** Territory not checked or incompletely checked to determine occupancy. The use of the "Status Unknown" determination requires an explanation of why the territory was not checked or why observations were not adequate to determine occupancy. The annual report includes recommendations to allow for adequate observations during subsequent monitoring.

All territory occupancy, nesting activity status, and productivity data was recorded on standardized data forms. Copies of these forms are included in *Appendix A.*

2.2 Results

2017 Territory Occupancy, Nesting Activity Status, and Productivity Determination

Thirty-three nests were monitored in 2017. The 2012-2017 monitoring results are shown in *Table 1* and summarized below.

- Occupancy: 85%: Of the 33 nests that were monitored; 28 nesting territories were occupied and had active nests. Five were unoccupied and were not active.
- Active nests: Of the 28 active nests; 26 had known productivity.
  - Active, Successful: 23 nests.

- Active, Unsuccessful: 3 nests.
- Active, Success Unknown: 2 nests.

- Project area productivity: Thirty-two young were fledged from the 26 active nests with known productivity, (n=26). The average number of fledglings per active Project nest was 1.23.
- Successful nest productivity: 88%. Of the 26 active nests with known productivity, 23 were successful. Thirty-two young were fledged from the twenty-three successful nests. (n=23). The average number of fledglings per successful nest was 1.39.

Annual productivity of nesting territories in Project waters is summarized in *Table 2*. No disturbances to bald eagles occurred as a result of Project activities.

Table 1. Annual Bald Eagle Territory Nest Monitoring Results

Territory Name	Nest Number	Nest in Planning Area	Potential Disturbance Factors	2017 Nest Determination	# of Fledglings					
					2017	2016	2015	2014	2013	2012
IDAHO										
Ahrs Creek	07I10301	No	Jet boat race, ranch	Active, Successful	1	1	1	NA	NA	NA
Blessing Slough	07I07601	No	None. No nest found	Not Active	0	0	0	2	0	UNK
Bull Run	07I10401	No	Nest on trans. pole removed	Not Active	0	NA				
Cougar Bay	07I03502	No	Residential, osprey nests	Not Active	0	2	0	2	UNK	0
Eddyville	07I07701	No	Residential	Active, Successful	2	2	2	2	2	2
Falls Creek	07I03703	No	Jet boat race	Active, Successful	1	UNK	1	1	0	0
Fernan W	07I03401	No	Residential	Active, Successful	2	1	1	1	1	NA
Fernan E	07I03402	No	Residential	Active, Successful	1	-				
Hepton Lake	07I10101	No	Residential, Hwy 3	Active, Successful	1	1	2	2	2	NA
Heyburn Park S	07I05702	No	Park, roads, Trail of CDA.	Active, Success Unknown	UNK	1	2	1	2	0
Heyburn Park N	07I05701	No	Park, roads, Trail of CDA.	Active, Successful	2	2	-	-	-	-
Killarney Lake	07I01702	No	None	Active, Successful	1	2	0	1	1	2
Mica Bay	07I05401	No	Residential	Active, Successful	2	1	2	2	1	2

Territory Name	Nest Number	Nest in Planning Area	Potential Disturbance Factors	2017 Nest Determination	# of Fledglings 2017	2016	2015	2014	2013	2012
Post Falls	07I08002	Yes	Residential, roadway, osprey	Active, Not Successful	0	1	2	1	2	1
Rainy Hill	07I07402	No	None. Collapsed	Not Active	0	0	1	2	UNK	UNK
Rose Lake	07I01902	No	Residential	Active, Successful	1	0	1	0	1	0
St. Maries	07I04301	No	None	Active, Successful	1	UNK	UNK	0	2	1
Turner Bay	07I06604	No	Residence, near Hwy.	Active, Successful	2	2	0	0	1	2
Turtle Lake	07I02402	No	Residence, jet boat race	Active, Successful	1	1	1	2	2	0
Upper Spokane River	07I10202	No	Development across river	Active, Successful	1	0	UNK	0	UNK	NA
Windy Bay	08I00103	No	None	Active, Successful	2	2	1	2	UNK	1
WASHINGTON										
Charles Maas	06W30505	No	WA Park and residential	Active, Successful	2	2	1	1	1	1
Deep Creek	06W10902	Yes	Trails	Active, Not Successful	0	UNK	2	NA	NA	NA
Four Mound	06W10502	No	Residential	Active, Successful	1	1	2	NA	NA	NA
Long Lake South	06W22010	Yes	Residential	Active, Successful	1	0	0	0	0	2
Lower Spokane River	06W10101	No	Osprey, Hwy 291,residential	Active, Not Successful	0	2	1	1	0	NA
Northshore	06W10403	Yes	Dock	Not Active	0	1	1	2	NA	NA
Powerball	06W10701	Yes	Osprey, other eagles	Active, Successful	2	2	2	NA	NA	NA

Territory Name	Nest Number	Nest in Planning Area	Potential Disturbance Factors	2017 Nest Determination	# of Fledglings 2017	2016	2015	2014	2013	2012
Riverside Launch	06W10601	No	Osprey, recreation	Active, Successful	2	2	2	NA	NA	NA
Sportsman	06W10801	No	Residence	Active, Successful	2	1	1	NA	NA	NA
Suncrest	06W10301	No	Residential, trails	Active, Successful	1	1	1	0	NA	NA
Whalen	06W29703	Yes	Osprey	Active, Success Unknown	UNK	UNK	1	1	2	3
Willow Bay	06W10201	No	Other eagles, osprey, resort, Hwy 291	Active, Successful	1	2	2	1	NA	NA
Total fledglings					**32 (n=26)**	**33 (n=25)**	**33 (n=23)**	**27 (n=22)**	**20 (n=**	**19 (n=17)**
Fledglings/ nest					**1.23 (n=26)**	**1.32 (n=25)**	**1.44 (n=23)**	**1.23 (n=22)**	**1.25 (n=16)**	**1.12 (n=17)**
Fledglings/ successful nest					**1.39 (n=23)**	**1.50 (n=22)**	**1.44 (n=23)**	**1.50 (n=18)**	**1.54 (n=13)**	**1.73 (n=11)**

NA=monitoring start in year indicated, no previous year information

UNK=Status unknown

Table 2. Annual Summary of Project Area Bald Eagle Productivity

	2017	2016	2015	2014	2013	2012
Number of territories checked	33	32	32	27	23	19
Number of active territories	28	29	26	22	21	19
Percent active (occupancy)	85	91	81	81	91	100
Number of nests with known productivity	26	25	23	22	16	17
Number of successful nests	23	22	23	18	13	11
Number of active nest failures	3	3	0	4	3	6
Number success unknown	2	4	2	0	5	2
Percent active nest success	88	88	100	82	81	65
Percent active nest failure	12	12	0	18	19	35
Number of fledglings	32	33	33	27	20	19
Fledglings /nest	1.23	1.32	1.44	1.23	1.25	1.12
Fledglings/ successful nest	1.39	1.50	1.44	1.50	1.54	1.73

2.3 Discussion

The occupancy and productivity percentages in 2017 are similar to the previous 2012-2016 Project monitoring results, and previous studies conducted by Idaho Fish and Game (IDFG) from 1979 to 2006 in the Idaho Eagle Management Area 7 of north Idaho and Montana (Sallabanks 2006). The Project Area fledglings per successful nest was lower in 2017 than the previous years, but still within the average productivity range of the aforementioned Idaho Eagle Management Area.

The number of known nesting territories in the Project area has increased from 19 in 2012 to 33 in 2017. This 74% increase is consistent with similar breeding pair and population increases, as indicated by the USFWS (2016), which documented a 30% increase between 2007 and 2009 of known occupied nesting territories within the United States. Taking into account the close proximity between existing nests identified on Figures 1 and 2, much of the Project Area appears to be close to its carrying capacity to support nesting pairs of bald eagles. The Fernan Lake territory was categorized as two territories in 2017, Fernan Lake East and Fernan Lake West. Both nests were occupied, active, and fledged young.

Most of these nest sites experience some human caused disturbance and habitat alterations from nearby residences, transportation elements, or human recreation as shown in *Table 1*. Only a few of the nests are in isolation from these types of ongoing disturbances. Natural disturbances include many other species such as osprey, owls, hawks, other birds, and other predators.

No disturbances to bald eagles occurred as a result of Project activities. The following section discusses the factors affecting occupancy and productivity of the individual nesting territories. They are ordered according to the final nesting determination.

Active, Successful. Twenty-three of 28 active nests were successful, fledging a total of 33 nestlings.

Active, Not Successful. There were three territories where adults were present in the territory during the nesting season but nesting was not successful: Post Falls, Deep Creek, and Lower Spokane River.

The Post Falls territory was determined active with a two adults observed March 16. The nest was in good condition. On April 27 one adult was observed and the nest was in good condition. On June 30 no adults were observed and the nest had collapsed. No fledglings were observed. Therefore, adult presence indicated an active status, but due to the nest collapse and lack of observed young the nest was determined to be unsuccessful. Aside from the collapsed nest, there were no observed disturbances or habitat alterations.

The Deep Creek territory was determined active with both adults present by mid-April. Adults were engaged in nesting activity through the end of May that indicated a new active nest south of the previous year's nest. However, on June 8 no adults were observed in the territory. At that same date more than a dozen vultures were perching near the nest stand. Upon further investigation, several new, dark brown/black primary and down feathers were found in the grass around and below the vultures. A carcass was not found. The eagle adults were not observed in the territory again until early July. At that point the two adults were perching independently and not exhibiting any nesting behavior. No fledglings were observed. Therefore, initial adult presence indicated an active nest. The circumstances indicate a late nesting failure. The nest was determined to be unsuccessful.

The Lower Spokane River territory was determined active with one incubating adult on March 29. No adults were observed near the nest or in the territory at later observation dates in May, June, and July. The nest was in good condition but appeared untended later in the season. Therefore, adult presence and incubation indicated an active nest but due to lack of adult presence later in the nesting season and lack of young, the nest was determined to be unsuccessful. There were no observed or potential disturbances or habitat alterations.

Active, Success Unknown: There were two territories where adults were present in the territory during the nesting season but nesting success was not confirmed: Heyburn Park South and Whalen.

The Heyburn Park South territory was determined active with one adult observed in the nest on May 5. On June 27 an adult was observed perching nearby, however no nestlings or fledglings were observed on subsequent visits. Therefore, adult presence indicates an active nest, but due to the lack of young, success was unknown. No disturbances or habitat alterations were observed.

The Whalen territory was determined active with an adult observed on May 4 perched at the nest. No adults were observed on June 15. No nestlings or fledglings were observed on subsequent visits. Therefore, adult presence indicates an active nest, but due to the lack of observed young, success was unknown. No disturbances or habitat alterations were observed.

Not Active. Five nests in territories were not active: Blessing Slough, Bull Run, Cougar Bay, Rainey Hill, and Northshore. There were no eagles seen in these nesting territories during the monitoring period.

The Blessing Slough territory was inactive in 2017, with no adults and no nest observed. There were no observed or potential disturbances or habitat alterations. It was inactive in 2016 and 2015. It was active and successful in 2014.

The Bull Run territory was inactive in 2017. No adults and no nests were observed. The nest was first located in 2016 on a transmission pole but the nest was removed in fall of 2016. There were no other observed disturbances or habitat alterations.

The Cougar Bay territory was inactive in 2017, with no adults at either alternative nest locations. The south nest was active and fledged two young in 2016. There were no observed disturbances or habitat alterations.

The Rainey Hill territory was inactive in 2017. There were no adults observed. The nest collapsed in 2016. It was active and fledged one in 2015. There were no observed disturbances or habitat alterations.

The Northshore territory was inactive in 2017. No adults were observed in the territory or at alternative nest locations. The territory was active and successful in 2016, 2015 and 2014. There were no observed disturbances or habitat alterations.

Historic Territories. Territories not active or occupied by adult eagles for three successive years are considered historic territories. These are not included in monitoring results. However, the location of these nests is retained in the GIS database and the area is included in surveys for new nests.

The Swan Lake territory with nests 07I02001 and 07I02002 became historic in 2017. There were no adults or nests observed in 2017 and 2016. The nests were inactive in 2015 and 2014. Potential disturbances were from recreation. There were no habitat alterations observed.

Other historic territories include Harrison West in 2016 and Anderson Lake in 2015.

3.0 SURVEYS TO IDENTIFY NEW NESTS

3.1 Methods

The methods described below follow those detailed in the 2010 Plan, with a minor adjustment that extended the survey period through the monitoring period.

Avista coordinates with the USFWS, IDFG, WDFW and other entities to identify potential new bald eagle territories or nests. Supplemental efforts included communications with local and nearby residents of the Project area during the course of ongoing investigations.

Survey Routes. The survey routes by watercraft followed the Project shorelines. Other surveys were conducted by land-based vehicle, watercraft, or on foot to locations where there were new observations of adult eagles.

Survey Dates. Surveys were initiated the first week of March during territory investigations and during the ongoing monitoring. Documentation for any new nest, or suspected new nest, encountered during the surveys include a minimum of two nest photographs, GPS location, and relevant descriptive information indicating nest location, nest condition, proximity to known nests, and significant habitat alterations. All new nest data is recorded on standardized data forms.

3.2 Results

Two new alternative nests were located during the survey efforts (Table 3): The new Upper Spokane River and Deep Creek nests were constructed in 2017 and included in the 2017 monitoring effort. These new alternative nests are included in the GIS database along with the locations of the previous bald eagle nests (*Figures 1 and 2*). Documentation of the Upper Spokane River nest is included in *Appendix B.* The new Deep Creek nest was assigned a provisional number and approximate location for the purposes of this report. The nesting attempt failed before the location of the nest was confirmed.

Table 3. 2017 New Bald Eagle Nests

Territory Name	Number	Latitude, Longitude	Nest in Planning Area	Location/ Relationship to known nests	Notes
NEW NEST, EXISTING TERRITORY					
Upper Spokane River, ID	07I10202	47.697144, -116.838619	No	2.6 mi. north of Cougar Bay 07I03502	Active in 2017
Deep Creek, WA	06W10502	47.844578, -117.665043	Yes	2.3 mi. south of Riverside Launch 06W10601	Active in 2017

4.0 NESTING TERRITORY INVESTIGATION

The investigation is conducted over two consecutive years. The purpose of this investigation is to identify nesting territories and associated primary use areas, home ranges, and key use sites of all known bald eagle nesting territories that include active or alternate nests within the monitoring area. New nest territories documented during the course of annual surveys to identify new nests will be added to the scheduled investigations. Nesting territories are only omitted with mutual agreement of USFWS, IDFG, and WDFW as appropriate.

Results of the nesting territory investigations for nesting territories that are not located in the Planning Area are summarized in this Report. Site-specific Management plans are completed and included in Appendix C for nesting territories located within the Planning Area.

4.1 Methods

The methods summarized below follow those detailed in the Plan. Professional judgment was used as appropriate to modify these methods for site-specific circumstances.

Location of Territories. Territory locations were identified by water body; Washington or Idaho county; Section, Township and Range; parcel owners; nearby developments; and land use.

Study Dates and Schedules. Observers collected two nesting seasons of habitat-use data at each of the nests. Observation periods were scheduled once every two weeks for each nest under investigation, from March 1 through July 31. Observation periods occurred from either (i) first light to mid-morning or (ii) two to three hours before sunset to dusk. A combination of morning and evening observation data was collected for each territory under investigation. The observation periods were occasionally extended into late morning hours for investigations if temperatures remained moderate.

Study Methods. During each observation period, eagle activity was recorded on standardized data forms in a time-interval format referenced to locations marked on a map and/or recorded by GPS. The information documented included: begin and end time, eagle (female, male, or juvenile), location (referenced to map or by GPS), activity, disturbances, and other pertinent information described in the Plan. Observers summarized habitat use by the number of minutes each eagle spent using each habitat feature. Time-interval records that include observations of agitated behavior were summarized by the type of disturbance, frequency, duration, and distance to the source of disturbance.

Observers followed nesting eagles as far as safely and legally possible during the observation period. Observations were conducted from water and/or land, and a variety of vantage points were used. The observation locations were marked on a map or recorded by GPS.

Eagle activities, locations, and habitat features referenced during the investigation were entered into a spatially-linked GIS database after two years of investigations. Habitat use was summarized by the number of minutes each eagle spent using each habitat feature. GIS analysis was used to identify, delineate and quantify the bald eagle nesting territories, home range, primary use areas, and key use sites from the data collected during the field investigations.

Home range, Nesting territory, Primary use areas, Key use sites, and Disturbances. Territory size and shape are affected by topography, available tree structure and prey base. Home range is defined as the geographic area defined by movements and locations of bald eagles. The area may be defined annually, seasonally, daily or any part thereof (Montana Bald Eagle Working Group 1994). Territory observations were conducted from March 1 through July 31 during the nesting and brood rearing periods. Therefore, the home range boundaries were delineated using the extent of eagle movement during this observation period and supplemented with relevant information from other sources. Movement and location during the fall and winter were not investigated and were therefore not included as part the home range in this report.

The nesting territory includes primary use areas and key use sites occupied by eagles during the period of March 1 through July 31. Primary use areas were defined as areas occupied by eagles greater than 75% of the time during investigations. Key use sites include nests, primary perches, and roosting stands. Nesting territory boundaries were delineated by incorporating a 660-foot

buffer around the active nest sites and a 300-foot buffer around the primary perches to encompass the flight patterns between these sites.

Disturbances are those activities noted during investigations or from other sources that resulted in disturbance or agitation to nesting eagles and/or reduced the quality or availability of local nesting habitat.

4.2 Results

2017 was the second year of the investigations for the Powerball and Riverside Launch territories in Washington. It was the first year of investigations for the Deep Creek nesting territory in Washington and Bull Run Territory in Idaho. *Table 4* summarizes the results of the 2016 and 2017 consecutive seasons of nesting territory investigations for the Powerball and Riverside Launch bald eagle territories and those from previous annual reports.

Table 4. Bald Eagle Nesting Territory Investigation Summary

Territory Name	Territory Number	Planning Area	Distance to Nearest Nest	Location	Study Dates	Home Range Estimate	Nesting Territory Estimate	Disturbance to Eagles or Habitat
Whalen, WA	06W2973	Yes	1 mile	RM 44.5	2012/ 2013	675 ac.	120 ac.	Osprey, other eagles, anglers.
Long Lake South, WA	06W2209	Yes	2 miles	RM 39.5	2012/ 2013	800 ac.	260 ac.	Other eagles, ranching operations.
Lower Spokane River, WA	06W2209	No	2.1 miles	RM 33.3	2013/ 2014	208 ac.	88 ac.	Osprey, other eagles, human.
Post Falls, ID	07I08001	Yes	5.9 miles	RM 102	2013/ 2014	201 ac.	42.5 ac.	Osprey, other eagles, construction.
Northshore, WA	06W10401	Yes	2 miles	RM 36	2014/ 2015	1247 ac.	103 ac.	Ravens, other eagles.
Suncrest, WA	06W10301	No	2 miles	RM 53	2014/ 2015	434 ac.	106 ac.	Human, great horned owl.
Mica Bay, ID	07I05401	No	3.5 miles	RM 117.5	2015/ 2016	567ac.	113 ac.	Residential.
Willow Bay, WA	06W10201	No	1mile	RM 45.6	2015/ 2016	966 ac.	202 ac.	Other eagles, osprey, Hwy, resort.
Powerball, WA	06W10701	Yes	2.2 miles	RM 42.5	2016/ 2017	598 ac.	240 ac.	Osprey, other eagles
Riverside Launch, WA	06W10601	No	1.3 miles	RM 56.6	2016/ 2017	410 ac.	102 ac.	Osprey, recreation
Deep Creek, WA	06W10902	Yes	2.2 miles	RM 60	2017/ 2018	TBD	TBD	TBD

4.3 Riverside Launch Nesting Territory Investigation

Location. The Riverside Launch territory is located along the Spokane River, RM 56.6, in Spokane County. It is 0.66 miles downstream of Nine Mile Dam and just upstream of the Charles Mass territory. The territory is located primarily in Section 32, Township 47 North, Range 42 East, and Section 5, Township 26 North, Range 42 East. Parcels in the bald eagle territory area are primarily Riverside State Park lands and private properties. Habitat in the territory includes the aquatic habitat of the Spokane and Little Spokane Rivers with wide wetland and riparian zones. There is mixed deciduous/ conifer forest, and upland agricultural areas. There are recreational trailheads and boat launches. Highway 291 is within and along the east boundary of the territory. There is residential development along the west shoreline of the Spokane River. The topography, land use, home range, and nesting territory elements are shown in *Figure 3.*

Study dates and Schedules. Territory observation periods in 2016 and 2017 were conducted once every two weeks from March 1 through July 31, as detailed in the Plan. A combination of morning and evening data was collected. A total of 11 territory investigations were conducted per year, for a total of 22 territory investigations.

Study methods. Study methods detailed in the Plan for investigations produced time-interval records about eagle activities, locations, habitat use, and potential disturbances in order to characterize home ranges nesting territory, primary use areas, and key use sites. The data identified disturbances or potential disturbances to nesting eagles. Background research of the territory area, annual monitoring reports, landowner communications, agency communications, and supplemental notes provided information about ongoing activities and those that may or have caused loss or degradation of habitat within a nesting territory.

Results. The results of habitat-use investigations include a brief narrative and map conveying the information about home range estimates, primary use areas, key use sites, and disturbances to nesting eagles or eagle habitat. Home ranges, nest territories, nest sites, perch trees, and night roost stands are not permanent locations and are anticipated to change over time.

Home range estimates. The home range includes approximately 410 acres and is up to 1.7 miles long and 0.8 miles wide. The home range encompasses the east and west shorelines of the Spokane River with about 1.5 miles of the Little Spokane River. The home range is primarily Riverside State Park lands.

Nesting territory estimates. The nesting territory is approximately 102 acres and is up to 1 mile along the west side of the Spokane River and up to 0.2 miles wide. Nesting territory boundaries were delineated on the maps incorporating primary use areas. The method to determine the nesting territory used a minimum of 300-foot buffer around the primary perches. A 660-foot buffer is a maximum buffer used at active nest sites following USFWS (2007) guidelines. The prey capture sites near the primary perches are included in the nesting territory. The nesting territory includes the Spokane River west shoreline and the adjacent level terrace. Habitat is aquatic, riparian, and agricultural. This nesting territory has more human development that others Project sites because of the high recreational use.

Primary use areas. These areas are defined as occupied by nesting eagles greater than 75% of the time and includes the nests, primary perches and roost stands.

Key use sites (including nest sites, primary perches, prey capture sites, and roost stands)

Nest sites. There was one nest location active in 2016 to 2017. It is located on the west shore opposite the boat ramp on a residential lot in a large live Ponderosa pine. This nest site has been utilized since monitoring was initiated in 2015, no alternative nest locations have been identified in the territory.

Primary perches. There are four primary perches. Two primary perch locations are located along the east shore in tall live trees with large diameters. The west shore has one large diameter snag and one live tree. The primary perches are in trees that afforded optimal views of the nesting territory and at prey capture sites. The primary perches did not change during the two year investigation.

Prey capture sites. Four of five prey capture locations are identified in the nesting territory. All are aquatic locations with fish identified as the prey species. Other potential prey species include hatchlings of waterfowl and turkey, quail, pocket gophers and other rodents.

Roost stands. There is one night roost stand that was utilized during the two-year investigation. It is located immediately south of the nest in a conifer thicket.

Disturbances

Typically the eagles are not disturbed by the routine activities such as vehicles, development, or infrastructure that were present prior to eagle nesting. Disturbances noted below are listed according to highest degree of disturbance and frequency. The activities were either observed during investigations to disturb nesting eagles, or to have the potential to disturb the nesting eagles. No observable land use changes or construction was observed in the nesting territory during the two year investigation. Existing development includes Riverside State Park, park access areas, and residences. Despite the potential for disturbances from osprey, recreation and residences, productivity has been stable at this nest since monitoring began with two young fledged in 2015, 2016, and 2017.

Osprey. Osprey caused the main disturbances to nesting eagles. They were first observed in the territory in mid-April. By this time the eagle pair had been through courtship, nest-building, and incubation. There were two osprey nests within the home range, none in the nesting territory. Territory defense actions within the home range and nesting territory and conflicts over aquatic prey captures were regular occurrences with vocalizations and pursuit flights.

Human activity. The eagles were generally not disturbed by the regular human activities such as recreation, residents, or park maintenance. Watercraft launched at the boat ramp typically did not disturb the eagles. On a couple occasions, when boaters momentarily approached the primary perches, the eagles appeared distracted or flushed to a nearby perch. The only park maintenance that the eagles appeared to notice was weed-whacking motors. Hiking trails were east and across the river from the nest but for the most part visually blocked with a row of thick shrubbery. Hikers, often with dogs, were regularly observed. But no disturbance was observed. The residences near the nest did not appear occupied during investigations. No observable land use changes or construction was observed in the nesting territory during the two year investigation.

Avista Project Operations. There are no Avista infrastructure elements located in the Riverside Launch home range or nesting territory with the exception of utility lines to the

residences. Nine Mile Dam is located upstream of the home range boundary, operational activities include seasonal water level fluctuation.

5.0 REFERENCES

Carpenter, G. 1990. An Illustrated Guide for Identifying Developmental Stages of Bald Eagles Nestlings in the Field. San Francisco Zoological Society, San Francisco, CA.

Golder Associates, Inc. 2010. Bald Eagle Management Plan; Spokane River Hydroelectric Project: FERC Project No. 2545. 55pp. May 7, 2010.

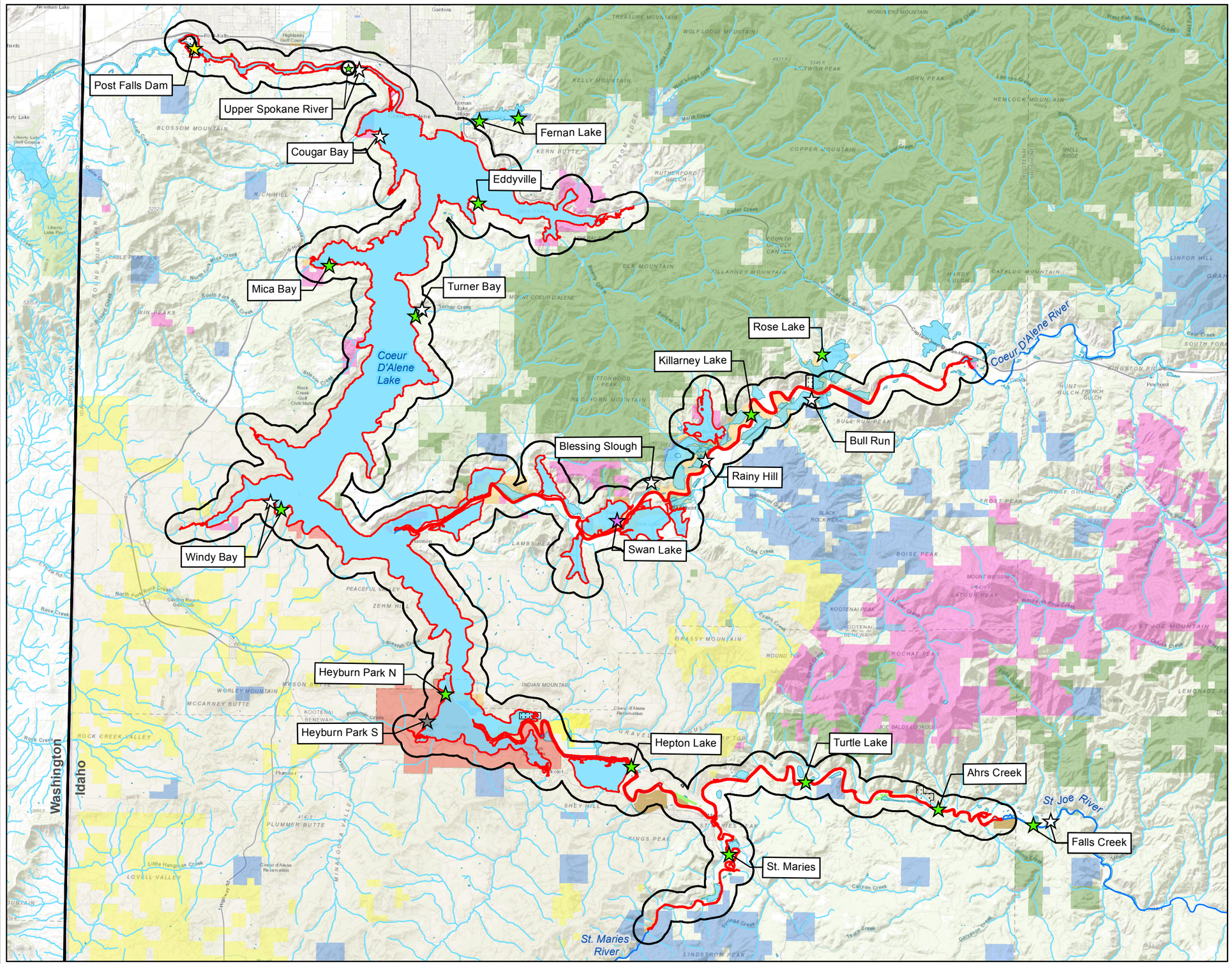
Montana Bald Eagle Working Group. 1994. Montana Bald Eagle Management Plan. 2nd edition. Bureau of Reclamation. 104 pp.

Sallabanks, Rex. Idaho Bald Eagle Nest Monitoring 2006 Annual Report. Idaho Department of Fish and Game Nongame and Endangered Wildlife Program. Boise, Idaho. https://collaboration.idfg.idaho.gov/WildlifeTechnicalReports/Bald%20Eagle%20Nesting%20Report%202006.pdf. Retrieved October 10, 2017

US Fish and Wildlife Service (USFWS) 2006. National Bald Eagle Management Guidelines. U.S. Fish and Wildlife Service. May 2007. https://www.fws.gov/pacific/eagle/all_about_eagles/Bald_Eagle_Management_Guidelines.html. Retrieved October 10, 2017.

US Fish and Wildlife Service (USFWS) 2016. Bald and Golden Eagles Population Demographics and estimation of sustainable take in the United States, 2016 update.

FIGURES



LEGEND

2017 Bald Eagle Nests

- New
- Active, Successful
- Active, Not Successful
- Active, Success Unknown
- Not Active/Alternate
- Collapsed
- Historic
- Post Falls HED Boundary
- Survey Area
- Avista-Owned Land/Planning Area

Surface Land Management/Ownership

- Benewah County
- Bureau of Land Management
- City of St. Maries
- Forest Service
- Idaho Department of Fish and Game
- Idaho Department of Lands
- Idaho Department of Parks and Recreation
- Other Idaho State Agencies
- Tribal Land

Bald eagle nest location data are confidential and are not for public circulation

N

0 4

Scale in Miles

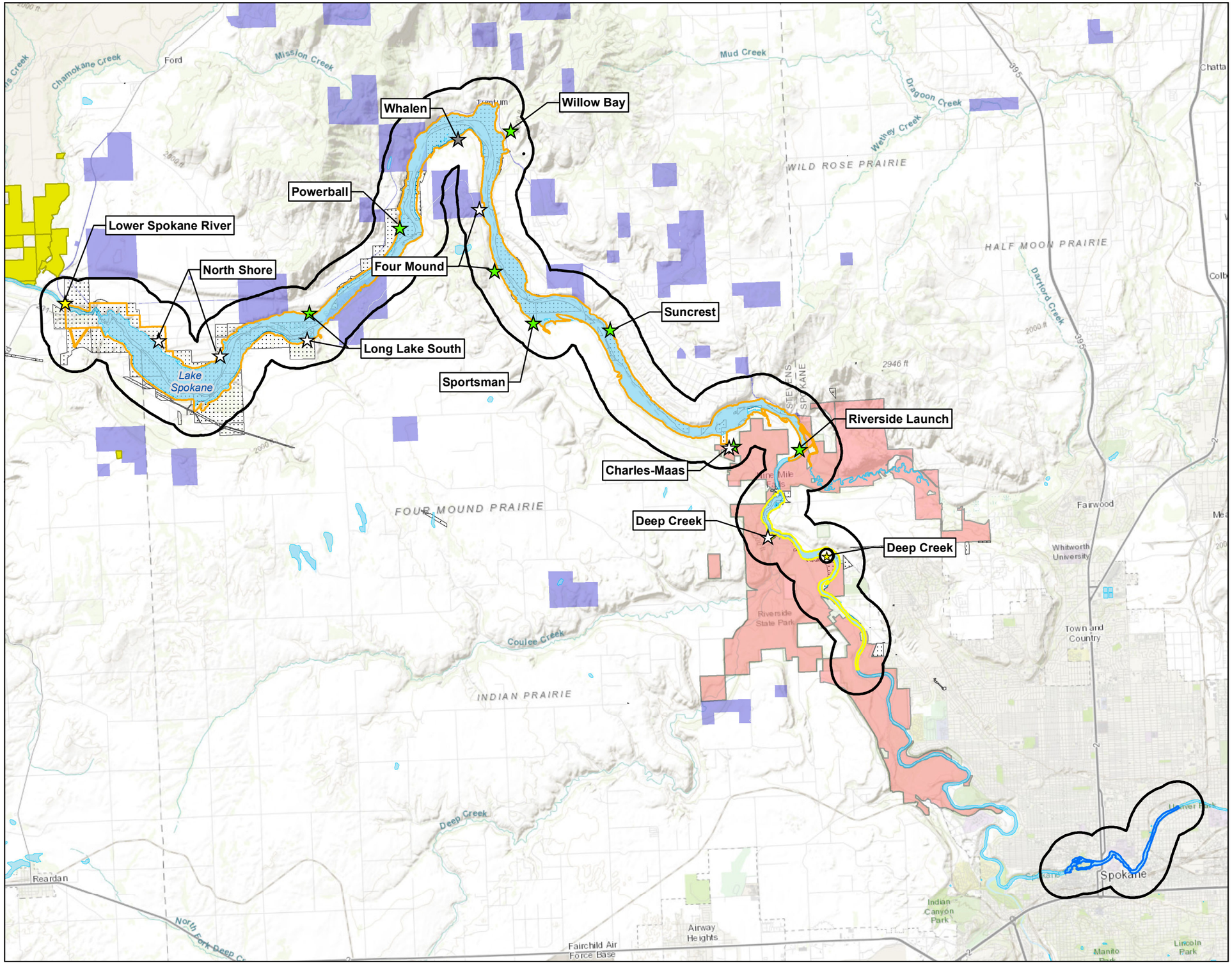
Map Projection:
Idaho State Plane
West Zone (ft) NAD 1983

Source:
Avista (HED areas, land ownership),
USDA-NRCS (quadrangle county mosaics),
Bureau of Land Management (surface land management),
WDFW (bald eagle locations),
David Evans and Associates, Inc. (bald eagle locations),
Background Service Layers: ESRI, DeLorme, NAVTEQ, TomTom, Intermap, USGS

FIGURE **1**

BALD EAGLE NEST LOCATIONS ASSOCIATED WITH PROJECT WATERS IN IDAHO

Document Path: H:\Nest Sites, Eagle, other\2017 BALD EAGLE LEE STRAGIS\Fig1_2017-Idaho4.mxd | 12-08-2017 | David Evans and Associates, Inc.



LEGEND

2017 Bald Eagle Nests

- New
- Active, Successful
- Active, Not Successful
- Active, Success Unknown
- Not Active/Alternate
- Collapsed
- Historic
- Survey Area
- Monroe St./Upper Falls HED Boundary
- Nine Mile HED Boundary
- Long Lake HED Boundary

Surface Land Management/Ownership

- Riverside State Park
- Tribal Land
- Washington State Land
- Avista-Owned Land

Bald eagle nest location data are confidential and are not for public circulation

N

0 2 4

Scale in Miles

Map Projection:
Washington State Plane
North Zone NAD 1983

This figure was originally produced in color. Reproduction in black and white may result in a loss of information.

Source:
Avista (HED areas, land ownership), ESRI (hillshade), USDA-NRCS (quadrangle county mosaics), Bureau of Land Management (surface land management), WDFW (bald eagle nests), Golder Associates Inc.

FIGURE **2**

BALD EAGLE NEST LOCATIONS ASSOCIATED WITH PROJECT WATERS IN WASHINGTON

0739308101700F11R01_Washington_Overview.mxd | 2/11/2010 | BVANG-JOHNSON

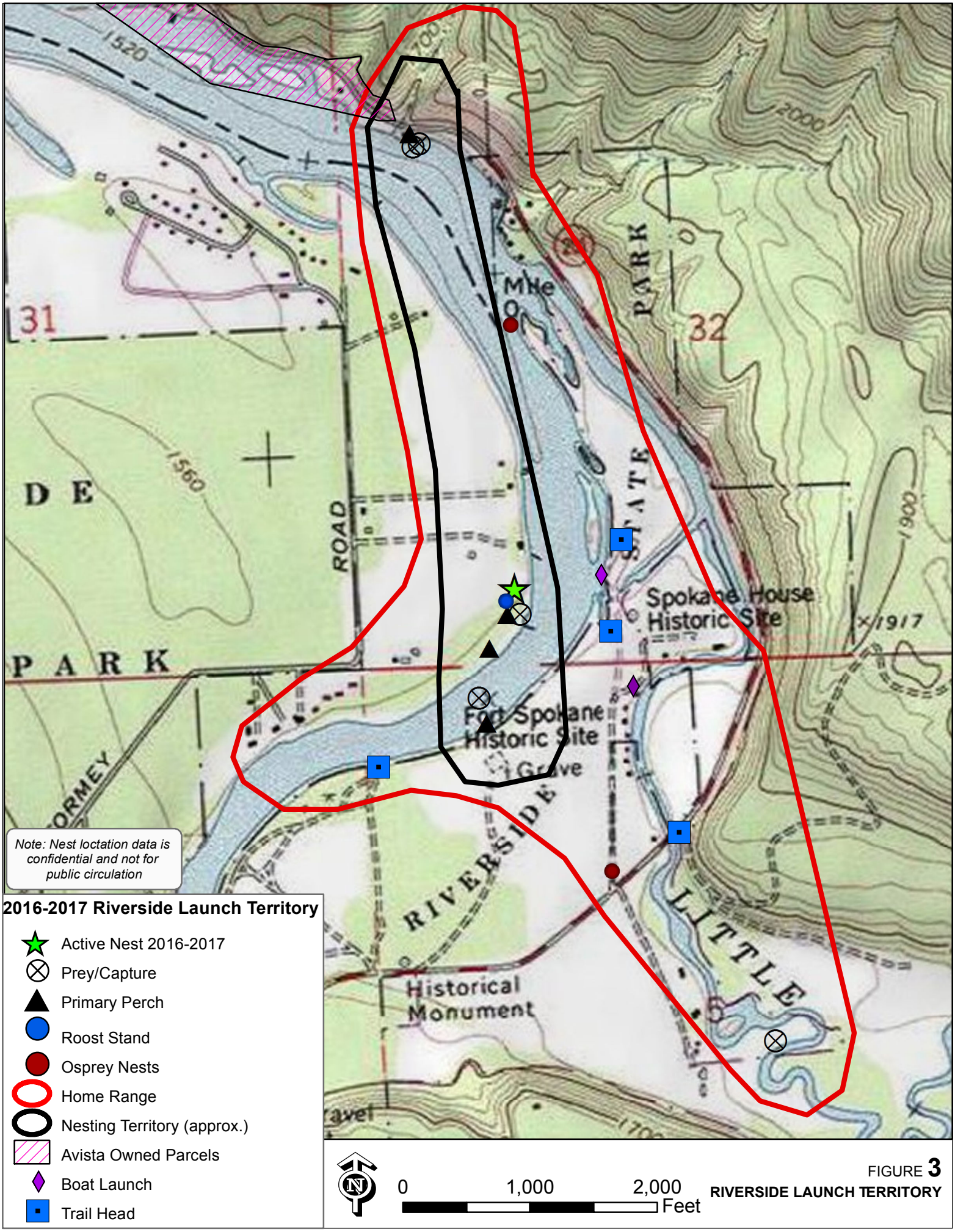


FIGURE **3**
RIVERSIDE LAUNCH TERRITORY

APPENDIX A

2017 OCCUPANCY AND MONITORING FORMS

OCCUPANCY AND MONITORING FORMS
IDAHO

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
20 17

I. ID

Territory Name: Ahrs Creek Territory/Nest Number: 07I031 Observer Initial: DA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☒ (4) Occupied ☒ (5) Active ☐ (6) Unsuccessful ☒ (7) Successful

Nest Condition Code
☐ (1) New ☒ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☒ (6) Successful

Number of Fledglings: 1 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy **February 1 – March 31** (pre-egg laying and early incubation)							
	3/21/17	good		2 AD	—		
Update Nesting Status **April 1 – June 15** (late incubation and nestlings)							
	5/5/17	"		∅			
Determine Productivity **June 15 – July 31** (late nestling and fledging)							
	6/30/17	"				1 juv	

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
2017

I. ID

Territory Name: Blessing Slough Territory/Nest Number: 07I07601 Observer Initial: DA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☐ (6) Complete Survey, Productivity Determined

Status Code
☒ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☐ (4) Occupied ☐ (5) Active ☐ (6) Unsuccessful ☐ (7) Successful

Nest Condition Code
☐ (1) New ☐ (2) Good ☐ (3) Fair ☐ (4) Poor ☒ (5) Nest Destroyed: no nest

Nesting Determination
☐ (1) Status Unknown ☒ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☐ (6) Successful

Number of Fledglings: 0 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy **February 1 – March 31** (pre-egg laying and early incubation)							
	3/17/17			∅			
Update Nesting Status **April 1 – June 15** (late incubation and nestlings)							
	5/5/17			∅			
Determine Productivity **June 15 – July 31** (late nestling and fledging)							
	6/30/17			∅		?	

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
20 17

I. ID

Territory Name: Bull Run Territory/Nest Number: 07I1040 Observer Initial: DA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☒ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☐ (4) Occupied ☐ (5) Active ☐ (6) Unsuccessful ☐ (7) Successful

Nest Condition Code
☐ (1) New ☐ (2) Good ☐ (3) Fair ☐ (4) Poor ☒ (5) Nest Destroyed: nest was removed fall 2016, on transmission pole.

Nesting Determination
☐ (1) Status Unknown ☒ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☐ (6) Successful

Number of Fledglings: 0 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy **February 1 – March 31** (pre-egg laying and early incubation)							
	3/17	none	∅	∅			
Update Nesting Status **April 1 – June 15** (late incubation and nestlings)							
	5/4/17	none	∅	∅			
Determine Productivity **June 15 – July 31** (late nestling and fledging)							
	6/15	none	∅	∅			
		no other nest found, no adults observed					

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
20 17

I. ID

Territory Name: Cougar Bay Territory/Nest Number: 07IO3501/02 Observer Initial: DA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☐ (6) Complete Survey, Productivity Determined

Status Code
☒ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☐ (4) Occupied ☐ (5) Active ☐ (6) Unsuccessful ☐ (7) Successful

Nest Condition Code
☐ (1) New ☒ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination
☐ (1) Status Unknown ☒ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☐ (6) Successful

Number of Fledglings: 0 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy **February 1 – March 31** (pre-egg laying and early incubation)							
	3/16/17			Ø			
Update Nesting Status **April 1 – June 15** (late incubation and nestlings)							
	4/27/17			Ø			
Determine Productivity **June 15 – July 31** (late nestling and fledging)							
	6/30/17			Ø		Ø	

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
2017

I. ID

Territory Name: Eddyville Territory/Nest Number: 07I07701 Observer Initial: DA Reviewer Initial: AS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☒ (4) Occupied ☒ (5) Active ☐ (6) Unsuccessful ☒ (7) Successful

Nest Condition Code
☐ (1) New ☒ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☒ (6) Successful

Number of Fledglings: 2 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy **February 1 – March 31** (pre-egg laying and early incubation)							
	3/16/17	good		2 AD	—		
Update Nesting Status **April 1 – June 15** (late incubation and nestlings)							
	4/27/17	"		2 AD	—		
Determine Productivity **June 15 – July 31** (late nestling and fledging)							
	6/30/17	"				2 juv	

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
2017

I. ID

Territory Name: Falls Creek Territory/Nest Number: 07103703 Observer Initial: DA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☒ (4) Occupied ☒ (5) Active ☐ (6) Unsuccessful ☒ (7) Successful

Nest Condition Code
☐ (1) New ☒ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☒ (6) Successful

Number of Fledglings: 1 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy							
February 1 – March 31 (pre-egg laying and early incubation)	3/21/17	good		1 AD			
Update Nesting Status							
April 1 – June 15 (late incubation and nestlings)	5/5/17	"		ϕ			
Determine Productivity							
June 15 – July 31 (late nestling and fledging)	6/30/17	"				1 juv	

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
2017

I. ID

Territory Name: Fernan (east) Territory/Nest Number: GTE03402, both active Observer Initial: DA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☒ (4) Occupied ☒ (5) Active ☐ (6) Unsuccessful ☑ (7) Successful

Nest Condition Code
☐ (1) New ☒ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☒ (6) Successful

Number of Fledglings: 1 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy **February 1 – March 31** (pre-egg laying and early incubation)							
	3/16/17	good		1AD			
Update Nesting Status **April 1 – June 15** (late incubation and nestlings)	4/27/17	"		1AD	INC		
Determine Productivity **June 15 – July 31** (late nestling and fledging)							
	6/30/17					1juv	

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
20 17

I. ID

Territory Name: Fernan (west) Territory/Nest Number: OZI03401, both active Observer Initial: PA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☒ (4) Occupied ☒ (5) Active ☐ (6) Unsuccessful ☒ (7) Successful

Nest Condition Code
☐ (1) New ☒ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☒ (6) Successful

Number of Fledglings: 2 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy **February 1 – March 31** (pre-egg laying and early incubation)							
	3/16/17	good		1AD			
Update Nesting Status **April 1 – June 15** (late incubation and nestlings)							
	4/27/17	good		1AD	inc		
Determine Productivity **June 15 – July 31** (late nestling and fledging)							
	6/30/17	good				2 juv	

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
20 17

I. ID

Territory Name: Upper Lake Territory/Nest Number: 07110101 Observer Initial: DA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☒ (4) Occupied ☒ (5) Active ☐ (6) Unsuccessful ☒ (7) Successful

Nest Condition Code
☐ (1) New ☒ (2) Good ☐ (3) Fair ☐ (4) Poor ☒ (5) Nest Destroyed: _____

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☒ (6) Successful

Number of Fledglings: 1 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy **February 1 – March 31** (pre-egg laying and early incubation)							
	03/21/17			2AD			
Update Nesting Status **April 1 – June 15** (late incubation and nestlings)							
	05/5/17			2AD			
			old nest collapsed.				
			new nest across river				
Determine Productivity **June 15 – July 31** (late nestling and fledging)							
	6/27/17					1 juv	in tree
			new nest across river collapsed				

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
2017

I. ID

Territory Name: Heyburn Park S Territory/Nest Number: OZI05702 Observer Initial: OA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☒ (3) Single Adult ☐ (4) Occupied ☒ (5) Active ☐ (6) Unsuccessful ☐ (7) Successful

Nest Condition Code
☐ (1) New ☐ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☒ (5) Active, Success Unknown ☐ (6) Successful

Number of Fledglings: 0 young (at or near fledging age)
UNK none observed.

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy							
February 1 – March 31	no access						
(pre-egg laying and early incubation)							
Update Nesting Status							
April 1 – June 15	05/05/17			1 AD	INC		
(late incubation and nestlings)							
Determine Productivity							
June 15 – July 31	6/27/17			1 AD	perched	0	
(late nestling and fledging)						none OBS	

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
20 17

I. ID

Territory Name: Heyburn Park N Territory/Nest Number: 071-05701 Observer Initial: DA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☒ (4) Occupied ☒ (5) Active ☐ (6) Unsuccessful ☒ (7) Successful

Nest Condition Code
☐ (1) New ☒ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☒ (6) Successful

Number of Fledglings: 2 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy **February 1 – March 31** (pre-egg laying and early incubation)							
	no access						
Update Nesting Status **April 1 – June 15** (late incubation and nestlings)							
	5/5/17	good		1 AD			
Determine Productivity **June 15 – July 31** (late nestling and fledging)							
	6/27/17	"				2 juv	

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
20 17

I. ID

Territory Name: Killarney Lake Territory/Nest Number: 07I01702 Observer Initial: DA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☒ (4) Occupied ☒ (5) Active ☐ (6) Unsuccessful ☒ (7) Successful

Nest Condition Code
☐ (1) New ☒ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☒ (6) Successful

Number of Fledglings: 1 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy **February 1 – March 31** (pre-egg laying and early incubation)							
	3/17/17	good		2AD	–		
Update Nesting Status **April 1 – June 15** (late incubation and nestlings)							
	5/5/17	"		2AD			
Determine Productivity **June 15 – July 31** (late nestling and fledging)							
	6/27/17	"				1juv	

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
2017

I. ID

Territory Name: Mica Bay Territory/Nest Number: 07I05401 Observer Initial: DA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☐ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☒ (3) Single Adult ☑ (4) Occupied ☑ (5) Active ☐ (6) Unsuccessful ☑ (7) Successful

Nest Condition Code
☐ (1) New ☑ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☑ (6) Successful

Number of Fledglings: 2 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy **February 1 – March 31** (pre-egg laying and early incubation)							
	3/16/17			1A-D	–		
Update Nesting Status **April 1 – June 15** (late incubation and nestlings)							
	4/27/17			∅			
Determine Productivity **June 15 – July 31** (late nestling and fledging)							
	6/27/17			∅		2 juv	

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
20 17

I. ID

Territory Name: Post Falls Territory/Nest Number: 07I08002 Observer Initial: DA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☒ (4) Occupied ☒ (5) Active ☒ (6) Unsuccessful ☐ (7) Successful

Nest Condition Code
☐ (1) New ☒ (2) Good ☐ (3) Fair ☐ (4) Poor ☒ (5) Nest Destroyed: by 6/30/17

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☒ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☐ (6) Successful

Number of Fledglings: 0 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy **February 1 – March 31** (pre-egg laying and early incubation)							
	3/16/17	good		2 AD	–		
Update Nesting Status **April 1 – June 15** (late incubation and nestlings)							
	4/27/17	good		1 AD			
Determine Productivity **June 15 – July 31** (late nestling and fledging)							
	6/30/17	collapsed		∅		∅	

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
2017

I. ID

Territory Name: Rainy Hill Territory/Nest Number: OTI07402 Observer Initial: DA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☒ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☐ (4) Occupied ☐ (5) Active ☐ (6) Unsuccessful ☐ (7) Successful

Nest Condition Code
☐ (1) New ☐ (2) Good ☐ (3) Fair ☒ (4) Poor ☒ (5) Nest Destroyed: nest collapsed 2016

Nesting Determination
☐ (1) Status Unknown ☒ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☐ (6) Successful

Number of Fledglings: 0 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy							
February 1 – March 31 (pre-egg laying and early incubation)	3/17/17			Ø			
Update Nesting Status							
April 1 – June 15 (late incubation and nestlings)	5/05/17			Ø			
Determine Productivity							
June 15 – July 31 (late nestling and fledging)	6/27/17			Ø			

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
2017

I. ID

Territory Name: Rose Lake Territory/Nest Number: 07I 01902 Observer Initial: DA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☒ (4) Occupied ☒ (5) Active ☐ (6) Unsuccessful ☒ (7) Successful

Nest Condition Code
☐ (1) New ☒ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☒ (6) Successful

Number of Fledglings: 1 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy **February 1 – March 31** (pre-egg laying and early incubation)							
	3/15/17	good		1 AD			
Update Nesting Status **April 1 – June 15** (late incubation and nestlings)							
	4/27/17	"		1 AD			
Determine Productivity **June 15 – July 31** (late nestling and fledging)							
	6/30/17	"				1 juv	

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
20 17

I. ID

Territory Name: St. Maries Territory/Nest Number: 07I04301 Observer Initial: DA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☒ (4) Occupied ☒ (5) Active ☐ (6) Unsuccessful ☒ (7) Successful

Nest Condition Code
☐ (1) New ☒ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☒ (6) Successful

Number of Fledglings: 1 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy **February 1 – March 31** (pre-egg laying and early incubation)							
	no access						
Update Nesting Status **April 1 – June 15** (late incubation and nestlings)							
	5/6/17	good		1 AD			
Determine Productivity **June 15 – July 31** (late nestling and fledging)							
	6/27/17	"				1 juv	

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
2017

I. ID

Territory Name: Swan Lake Territory/Nest Number: 07I02002 Observer Initial: DA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☒ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☐ (4) Occupied ☐ (5) Active ☐ (6) Unsuccessful ☐ (7) Successful

Nest Condition Code
☐ (1) New ☐ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: no nest

Nesting Determination
☐ (1) Status Unknown ☒ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☐ (6) Successful

Number of Fledglings: 0 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy **February 1 – March 31** (pre-egg laying and early incubation)							
	no visit						
	3/17						
			territory remove				
Update Nesting Status **April 1 – June 15** (late incubation and nestlings)							
	5/5			no adults			
Determine Productivity **June 15 – July 31** (late nestling and fledging)							
	6/27						

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
2017

I. ID

Territory Name: Turner Bay Territory/Nest Number: OTI06604 Observer Initial: DA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☒ (4) Occupied ☒ (5) Active ☐ (6) Unsuccessful ☒ (7) Successful

Nest Condition Code
☐ (1) New ☒ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☒ (6) Successful

Number of Fledglings: 2 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy **February 1 – March 31** (pre-egg laying and early incubation)							
	3/16/17	good		Ø			
Update Nesting Status **April 1 – June 15** (late incubation and nestlings)							
	4/27/17	"		2AD			
Determine Productivity **June 15 – July 31** (late nestling and fledging)							
	6/27/17					2 juv	

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
20 17

I. ID

Territory Name: Turtle Lake Territory/Nest Number: 0710240 2 Observer Initial: PA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☒ (4) Occupied ☒ (5) Active ☐ (6) Unsuccessful ☒ (7) Successful

Nest Condition Code
☐ (1) New ☒ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☒ (6) Successful

Number of Fledglings: 1 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy **February 1 – March 31** (pre-egg laying and early incubation)							
	3/21/17			1 AD			
Update Nesting Status **April 1 – June 15** (late incubation and nestlings)							
	5/6/17			1AD			
Determine Productivity **June 15 – July 31** (late nestling and fledging)							
	6/30/17					1JUV	

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
20 17

I. ID

Territory Name: Upper Spokane River Territory/Nest Number: 07I10202 Observer Initial: PA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☑ (4) Occupied ☑ (5) Active ☐ (6) Unsuccessful ☒ (7) Successful

Nest Condition Code
☒ (1) New ☐ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☒ (6) Successful

Number of Fledglings: 1 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy **February 1 – March 31** (pre-egg laying and early incubation)							
	3/16/17	New		∅			
Update Nesting Status **April 1 – June 15** (late incubation and nestlings)							
	4/27/17			∅			
Determine Productivity **June 15 – July 31** (late nestling and fledging)							
	6/30/17					1 JUV	

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
2017

I. ID

Territory Name: Windy Bay Territory/Nest Number: 08100103 Observer Initial: DA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☒ (4) Occupied ☒ (5) Active ☐ (6) Unsuccessful ☒ (7) Successful

Nest Condition Code
☐ (1) New ☒ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☒ (6) Successful

Number of Fledglings: 2 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy **February 1 – March 31** (pre-egg laying and early incubation)							
	no access						
Update Nesting Status **April 1 – June 15** (late incubation and nestlings)							
	5/5/17			1 AD			
Determine Productivity **June 15 – July 31** (late nestling and fledging)							
	6/27/17					2 juv	

OCCUPANCY AND MONITORING FORMS
WASHINGTON

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
2017

I. ID

Territory Name: Charles-Maas Territory/Nest Number: 06W3055 Observer Initial: DA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☑ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☑ (4) Occupied ☑ (5) Active ☐ (6) Unsuccessful ☑ (7) Successful

Nest Condition Code
☐ (1) New ☑ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☑ (6) Successful

Number of Fledglings: 2 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy **February 1 – March 31** (pre-egg laying and early incubation)	3/28/17	good		2 AD			
Update Nesting Status **April 1 – June 15** (late incubation and nestlings)	5/4/17	"		2 AD			
Determine Productivity **June 15 – July 31** (late nestling and fledging)	6/15	"				2 juv	

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
20 17

I. ID

Territory Name: Deep Creek Territory/Nest Number: 06W10901(02) Observer Initial: LS Reviewer Initial: DA
(02) in planning area, but not located

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☑ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☑ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☑ (4) Occupied ☐ (5) Active ☑ (6) Unsuccessful ☐ (7) Successful

Nest Condition Code
☐ (1) New ☐ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: unk

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☒ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☐ (6) Successful

Number of Fledglings: 0 young (at or near fledging age)

Active territory - 2 adults, unsuccessful either because of fldg mortality or not nesting. AD left "primary perches" 6/08

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy February 1 – March 31 (pre-egg laying and early incubation)	3/3, 17, 31	unk	unk	AD in territory, not by (01) nest site			
Update Nesting Status April 1 – June 15 (late incubation and nestlings)	4/18	unk	unk	M perching upstream locations			
	4/29 (5/1)	"	"	"			
	5/24	"	potential nest stand located	M & F perching @ reach area			
	6/08		abandoned –	kill site?, TU UU			
Determine Productivity June 15 – July 31 (late nestling and fledging)	06/23	0		no adults			
	7/9/17			occasional			
	7/16/17			adult sightings in territory not near the stand			

nest location never verified

Territory/Nest Number: Deep Creek

IV. SUPPLEMENTAL NESTING INFORMATION (If known)

Date of adult arrival:		**Date of adult dispersal:**	
Date of egg laying:		**Clutch size:**	
Date of hatching:		**Date/Number of fledglings at dispersal:**	
Date of fledging:		**Banding data:**	

V. NARRATIVE INFORMATION

Nesting attempt failed (Yes/No), date/nesting period of failure: prior to 06/08

Reason for failure: dark, new flight feathers by shoreline near potential nest stand. could have been a nest failure, ~~too~~ early fledging

Nest Abandoned (Yes/No), date:

Reason for abandonment:

Disturbing Activities (record type, duration, and proximity to nest)

Up to 20 turkey vultures near nest stand on 06/08

Habitat Alterations (record type, extent, and proximity to nest)

Ongoing Disturbances (record type, extent, and proximity to nest)

Prepared by: L. Stragier

Reviewed by: **Date:**

Page 1 of 1

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
20 17

I. ID

Territory Name: Four Mound Territory/Nest Number: 06W10502 Observer Initial: DA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☒ (4) Occupied ☒ (5) Active ☐ (6) Unsuccessful ☒ (7) Successful

Nest Condition Code
☐ (1) New ☒ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☒ (6) Successful

Number of Fledglings: 1 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy **February 1 – March 31** (pre-egg laying and early incubation)							
Update Nesting Status **April 1 – June 15** (late incubation and nestlings)							
	5/4	good	-	2AD		-	
Determine Productivity **June 15 – July 31** (late nestling and fledging)							
	6/15	good				1 JUV	

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
2017

I. ID

Territory Name: Long Lake S Territory/Nest Number: 06W22010 Observer Initial: DA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☒ (4) Occupied ☒ (5) Active ☐ (6) Unsuccessful ☒ (7) Successful

Nest Condition Code
☐ (1) New ☒ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☒ (6) Successful

Number of Fledglings: 1 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy **February 1 – March 31** (pre-egg laying and early incubation)	3/28	good		1 AD		–	
Update Nesting Status **April 1 – June 15** (late incubation and nestlings)	5/4/17	good	–	2 AD		–	
Determine Productivity **June 15 – July 31** (late nestling and fledging)	6/15	"				1 juv	

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
2017

I. ID

Territory Name: Lower Spokane River Territory/Nest Number: OGW 1016 1 Observer Initial: LS Reviewer Initial: DA

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☒ (4) Occupied ☒ (5) Active ☒ (6) Unsuccessful ☐ (7) Successful

Nest Condition Code
☐ (1) New ☒ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☒ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☐ (6) Successful

Number of Fledglings: 0 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy **February 1 – March 31** (pre-egg laying and early incubation)	3/29/17	good	Good inc	Female	INC	–	–
Update Nesting Status **April 1 – June 15** (late incubation and nestlings)	5/12/17	good	ø	ø	ø		
	6/7/17	Good	ø	adult seen not @ nest			
	talked to residents – will call if they see AD or JUV @ nest						
	vacant			ø			
Determine Productivity **June 15 – July 31** (late nestling and fledging)	7/18/17	good	ø	ø	ø	ø	
		nest vacant					
		unattended					

 Territory/Nest Number: Lower Spokane River

IV. SUPPLEMENTAL NESTING INFORMATION (If known)

Date of adult arrival:		**Date of adult dispersal:**	prior to 5/12
Date of egg laying:	prior to 3/29	**Clutch size:**	
Date of hatching:		**Date/Number of fledglings at dispersal:**	
Date of fledging:		**Banding data:**	

V. NARRATIVE INFORMATION

Nesting attempt failed (Yes/No), date/nesting period of failure: after 3/29, before 5/12

Reason for failure: unknown

Nest Abandoned (Yes/No), date: prior to 5/12

Reason for abandonment: not determined

Disturbing Activities (record type, duration, and proximity to nest) Dam work completed last year - upstream, residents' home & yard improvement, pet walking, camp
- none of these caused problems in previous years

Habitat Alterations (record type, extent, and proximity to nest)

none

Ongoing Disturbances (record type, extent, and proximity to nest)

osprey

Prepared by: L. Staggs **Date:** 7/18/17

Reviewed by: **Date:**

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)

BALD EAGLE NEST MONITORING FORM

2017

I. ID

Territory Name: North Shore Territory/Nest Number: 06W10402(3) Observer Initial: DA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code

☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☑ (6) Complete Survey, Productivity Determined

Status Code

☒ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☐ (4) Occupied ☐ (5) Active ☐ (6) Unsuccessful ☐ (7) Successful

Nest Condition Code

☐ (1) New ☐ (2) Good ☒ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination

☐ (1) Status Unknown ☒ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☐ (6) Successful

Number of Fledglings: 0 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy February 1 – March 31 (pre-egg laying and early incubation)	03/28/17	fair	ø	ø			
Update Nesting Status April 1 – June 15 (late incubation and nestlings)	05/09/17	"	ø	ø			
Determine Productivity June 15 – July 31 (late nestling and fledging)	6/15/17	"	ø	ø			

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
20 17

I. ID

Territory Name: Powerball Territory/Nest Number: 06W10701 Observer Initial: LS Reviewer Initial: DA

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☒ (4) Occupied ☒ (5) Active ☐ (6) Unsuccessful ☒ (7) Successful

Nest Condition Code
☐ (1) New ☒ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☒ (6) Successful

Number of Fledglings: 2 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
~~Initial Determination of Occupancy~~ **February 1 – March 31** (pre-egg laying and early incubation)	03/01/17	good	nest repairing	M + F	ø		
	3/15 + 3/30	"		M + F	inc.	hatchlings?	
Update Nesting Status April 1 – June 15 (late incubation and nestlings)	4/18			M + F	inc		
	4/28			M + F	brooding	2	
	5/10 + 23			M + F	brooding	2	perching
Determine Productivity June 15 – July 31 (late nestling and fledging)	6/7 + 23			M + F		2	perching, flapping
	7/5/17			M + F		2	fldging flt.
	7/18			M F		ø	fldged.

Page 1 of 1

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
2017

I. ID

Territory Name: Riverside Launch Territory/Nest Number: 06WD601 Observer Initial: LS Reviewer Initial: _____

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☒ (4) Occupied ☒ (5) Active ☐ (6) Unsuccessful ☒ (7) Successful

Nest Condition Code
☐ (1) New ☒ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☒ (6) Successful

Number of Fledglings: 2 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy	3/2	good	~	M & F	Perching		
February 1 – March 31	3/16+29	"	incubating	M + F	inc		
(pre-egg laying and early incubation)							
Update Nesting Status	4/17	"					
April 1 – June 15	5/1	"		M + F	inc. - brooding? hatchlings?		
(late incubation and nestlings)	5/10	"		M + F		1	
	5/25	"		M & F	brooding	2	
Determine Productivity	6/7			M + F	☒	2	on branch perching
June 15 – July 31	7/07			M + F		2	fldging
(late nestling and fledging)	7/20			M + F		2	fldging
				M + F 1/fldgs		but near nest	

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
20 17

I. ID

Territory Name: Sportsman Territory/Nest Number: 06w10801 Observer Initial: DA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☒ (4) Occupied ☒ (5) Active ☐ (6) Unsuccessful ☒ (7) Successful

Nest Condition Code
☐ (1) New ☒ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☒ (6) Successful

Number of Fledglings: 2 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy February 1 – March 31 (pre-egg laying and early incubation)	3/28/17	good	–	1 AD	–		
Update Nesting Status April 1 – June 15 (late incubation and nestlings)	5/4/17	good		1 AD	–		
Determine Productivity June 15 – July 31 (late nestling and fledging)	6/15	good				2 juv	

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
BALD EAGLE NEST MONITORING FORM
2017

I. ID

Territory Name: Suncrest Territory/Nest Number: 06W1031 Observer Initial: DA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code
☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code
☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☒ (4) Occupied ☒ (5) Active ☐ (6) Unsuccessful ☒ (7) Successful

Nest Condition Code
☐ (1) New ☒ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination
☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☒ (6) Successful

Number of Fledglings: 1 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy February 1 – March 31 (pre-egg laying and early incubation)	3/28/17	good		∅			
Update Nesting Status April 1 – June 15 (late incubation and nestlings)	5/4/17	"		1 AD			
Determine Productivity June 15 – July 31 (late nestling and fledging)	6/15/17	"				1 JUV	

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)

BALD EAGLE NEST MONITORING FORM

2017

I. ID

Territory Name: Whalen Territory/Nest Number: 06N29703 Observer Initial: DA Reviewer Initial: LS

II. SURVEY SUMMARY

Survey Code

☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☒ (5) Productivity Not Determined
☑ (6) Complete Survey, Productivity Determined

completed survey

Status Code

☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☒ (4) Occupied ☒ (5) Active ☐ (6) Unsuccessful ☐ (7) Successful

Nest Condition Code

☐ (1) New ☒ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination

☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☑ (4) Active, Not Successful ☒ (5) Active, Success Unknown ☐ (6) Successful

Number of Fledglings: unk young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy February 1 – March 31 (pre-egg laying and early incubation)	3/28/17			Ø			
Update Nesting Status April 1 – June 15 (late incubation and nestlings)	5/4/17			1 AD	@ nest		
Determine Productivity June 15 – July 31 (late nestling and fledging)	6/15/17			Ø			

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)

BALD EAGLE NEST MONITORING FORM

2017

I. ID

Territory Name: Willow Bay Territory/Nest Number: 06W10201 Observer Initial: DA Reviewer Initial: ZS

II. SURVEY SUMMARY

Survey Code

☐ (1) Not Checked ☐ (2) Not Located ☐ (3) No Initial Occupancy Determination ☐ (4) No Nesting Status Update ☐ (5) Productivity Not Determined
☒ (6) Complete Survey, Productivity Determined

Status Code

☐ (1) Unoccupied ☐ (2) Other Species ☐ (3) Single Adult ☒ (4) Occupied ☒ (5) Active ☐ (6) Unsuccessful ☒ (7) Successful

Nest Condition Code

☐ (1) New ☒ (2) Good ☐ (3) Fair ☐ (4) Poor ☐ (5) Nest Destroyed: _____

Nesting Determination

☐ (1) Status Unknown ☐ (2) Not Active ☐ (3) Nest Abandoned ☐ (4) Active, Not Successful ☐ (5) Active, Success Unknown ☒ (6) Successful

Number of Fledglings: 1 young (at or near fledging age)

III. SURVEY RESULTS

OBSERVATION PERIOD	Date Checked	Nest Condition	Nesting Activity (construction etc.)	Adult Presence / Behavior	Incubation/Brooding Posture	Number of Young	Stage of Young
Initial Determination of Occupancy **February 1 – March 31** (pre-egg laying and early incubation)	3/28/17	good	–	1 AD	–		
Update Nesting Status **April 1 – June 15** (late incubation and nestlings)	5/4/17	"	–	2AD	-		
Determine Productivity **June 15 – July 31** (late nestling and fledging)	6/15/17			1AD		1 JUV	

APPENDIX B

2017 NEW NEST DOCUMENTATION

SPOKANE RIVER HYDROELECTRIC PROJECT (FERC Nos. 2545-091 and 12606-000)
RAPTOR NEST RECORD

Species: Bald Eagle

Territory name (if known): Upper Spokane River

Territory/nest number (if known): 06I10502

Reported by: David Armes Date: 05/19/2016

Location: T 50 N R 4 W Section 9 ¼ NE of ¼ NE

State: ID County: Spokane

Elevation: 2116 feet Aspect: North

Lat/Lon: 47.696751, -116.830384 Hydrologic unit: Spokane River

Nest stratum: Tree Nest height (circle ft or m): 100

Position on slope: Terrace above shore Nest condition: good

Tree species: Ponderosa pine Tree height (circle ft or m): 125 DBH (circle in or cm): 28

Land ownership: Private

USGS Quad name: Spokane River

Directions to nest: Southshore of Spokane River between Post Falls and Coeur d'Alene.

Comments:

Observer Initial: DA Date 03 /16/17 Reviewer Initial: YG Date:12/18/17

See Figure 1 for location*

Photograph of Nest Location

APPENDIX C

SITE SPECIFIC MANAGEMENT PLAN

SITE-SPECIFIC MANAGEMENT PLAN

Powerball Territory Investigation

Avista's 2010 Bald Eagle Management Plan (Plan) requires the preparation of a Site-specific Management Plan for nesting territories located within the Planning Area. The Plan defines the Planning Area as Avista owned lands where an active or alternate nest associated with Project waters is present, and select additional nesting territories where investigations indicate that (1) Project operations may have negative effects on bald eagle productivity or habitats, and (2) opportunities for protection are available. This Site-specific Management Plan contains the results of the habitat-use investigations and identifies nesting territory, home range, primary use areas, and key sites used during nesting, brood rearing, and fledging periods as well as activities that result in potential disturbances to nesting eagles and ongoing activities that result in loss or degradation of habitat within a nesting territory. Additionally, measures are proposed to reduce bald eagle/human conflicts based on identified threats primarily on areas where Avista has some management authority to protect habitat and may have the ability to enforce seasonal restrictions on activities found to disturb nesting eagles. Avista will coordinate with United States Fish and Wildlife Service (USFWS), Idaho Department of Fish and Game (IDFG), and Washington Department of Fish and Wildlife (WDFW), as appropriate to determine whether management plans are already available.

This Site-specific Management Plan may need periodic updating as home ranges, nest territories, nest sites, perch trees, night roost stands are not permanent locations. Therefore, spatial and temporal restrictions in regard to buffer zones for nest sites, perching, foraging, and roosting stands may require updating.

Location. The Powerball bald eagle territory is located at river mile 42.5 of the Spokane River (Long Lake), downstream of the Whalen bald eagle territory and Tum Tum. The territory is located primarily in Sections 1 and 12 of Township 27 North, Range 40 East in Stevens County and Spokane County, Washington. Highway 291 is located west of the territory and South Bank Road is located east of the territory. The landforms in the territory are terraced with the steep hillslopes to the shorelines of the Spokane River. The habitat within the territory includes undeveloped seral conifer forest, rangeland, and Spokane River aquatic habitat. Land owners in the territory area include State lands, Avista, and private residences. There are a few roadways and trails within the territory, these are associated with residential access. There are no public access points in the territory. An electric transmission corridor bisects the territory. The topography, land use, home range, and nesting territory elements are shown in *Figure 1*.

Study Dates and Schedules. Territory observations in 2016 and 2017were conducted once every two weeks from March 1 through July 31, as detailed in the Plan. A combination of morning and evening data was collected. A total of 11 territory investigations observation were conducted per year, for a total of 22 territory investigation.

Study Methods. Study methods detailed in the Plan for investigations produced time-interval records about eagle activities, locations, habitat use, and potential disturbances in order to characterize home ranges nesting territory, primary use areas, and key use sites. The data

identified disturbances or potential disturbances to nesting eagles. Background research of the territory area, annual monitoring reports, agency communications, and supplemental notes provided information about ongoing activities and those that may or have caused loss or degradation of habitat within a nesting territory.

Results. The results of habitat-use investigations include a brief narrative and maps conveying the information about home range estimates, primary use areas, key use areas, and disturbances to nesting eagles or eagle habitat.

Home range estimates. The home range extends approximately 598 acres: up to 1.7 miles long and 0.8 miles wide as shown in *Figure 1.* The home range includes the Spokane River, east and west shore, and where eagles were seen soaring or engaged in territory defense. The home range land ownership is primarily State lands.

Nesting territory estimates. The nesting territory is approximately 240 acres; up to 1.3 miles long along the Spokane River and up to 0.6 miles wide as shown in *Figure 1.* Nesting territory boundaries were delineated on the maps incorporating primary use areas. The method to determine the nesting territory used a 300-foot buffer around primary perches to encompass the flight patterns between these sites and the two roosts used by the breeding pair. A 660-foot buffer is a maximum buffer used at nest sites following USFWS guidelines as shown in *Table 1*. All prey capture sites are included in the nesting territory.

The nesting territory is primarily located on the west shore on undeveloped Avista and State lands. Most of the existing residential sites were developed over 350 feet from the shoreline. Upland habitat is ponderosa pine and Douglas fir seral forest down to the Spokane River.

Primary use areas are defined as occupied by nesting eagles greater than 75% of the time, included the nest sites, primary perches, and roost stands.

Key use sites (including nest sites, primary perches, prey capture sites, and roost stands)

> **Nest site**. There has been only one nest location for the Powerball territory since monitoring began in 2015. It is located in a large leaning, live ponderosa pine about fifty feet from the shore. It is about 350 feet south of the electric transmission line. This nest has been successful every year since monitoring began in 2015.
>
> **Primary perches.** There are five primary perches identified in the territory. Two on the east shore, three on the west shore. Perch locations are in tall trees or snags with a view of the river and the nest.
>
> **Roost stands.** The nesting territory includes two roost stands. Both are located in densely forested draws near the river. The west roost stand is located adjacent and north of the nest. The east roost stand is located upstream and across the river near a primary perch. They were used in 2016 and 2017 by adult and immature bald eagles.
>
> **Prey capture sites.** Eight prey capture sites were identified. Prey capture in the nesting territory were typically aquatic, in nearshore areas close to the nest and primary perches. Fish were the most common prey species observed. Upland prey captures were observed within the 660-foot nest buffer. Potential prey also includes rodents, waterfowl hatchlings, and upland birds.

Disturbances. Typically the eagles were not disturbed by routine use of roads, homes, or other facilities present prior to nesting and during the nesting period. This territory had relatively few

potential disturbances due to the undeveloped lands in the nesting territory. The disturbances were primarily natural.

Potential disturbances noted below were observed during investigations either to disturb nesting eagles or to have the potential to disturb the nesting eagles. They are listed according to the highest degree and frequency of disturbance. The Powerball breeding pair appeared acclimated to the limited disturbances. Productivity has been stable with two young fledged in 2015, 2016, and 2017.

Osprey. Osprey were the most common disturbance to the nesting bald eagles. The osprey were first observed in the second week of April. At this point, the eagles had been incubating for at least one month. Five out of eight observed encounters of osprey elicited eagle territory defense behaviors of vocalizations and pursuit of the osprey. Two osprey nests were in the home range, one in the nesting territory about 1,000 feet north of the eagle nest.

Immature eagles. Immature eagles were observed sporadically during the nesting season as flybys above and through the nesting territory. Three out of five observed immatures in the territory caused territory defense behavior. Vocalizations were the typical adult territory defense behavior as the immature flew through the nesting territory. There was one observation of the nesting pair driving out an immature eagle from the nesting territory. The east roost stand was used on occasion by immatures.

Turkey vultures. Groups of turkey vultures were observed circling above the home range on occasion. Two instances occurred where the bald eagles drove out a single turkey vulture that was feeding at a prey capture site within 100 feet of the nest.

Other wildlife observed as potential disturbances. Flocks of ravens were observed circling above the nesting territory on two occasions. Starlings were nesting in the electric transmission visibility marker balls strung within the nesting territory. Late in the nesting season they were observed foraging on and around the nest while occupied by the nestlings. No reaction was observed for either of these type of encounters.

Human activity. Human recreation activities minimal and generally did not cause disturbance to the nesting pair. Potential disturbances included boating, jet skis, anglers, and occasional guns shots. At one observation an angler inadvertently flushed a perching eagle. There were no observations of humans approaching the nests. Land based-motorized vehicle access to the home range and nesting territory was negligible due to restricted access.

Avista project construction and operations. Avista's Long Lake dam and associated facilities is not located within the territory home range, except for the electric transmission corridor bisecting the home range and nesting territory. The corridor is a potential habitat influence but there were no observed disturbances to the eagles or impacts to productivity The only operational activities during the territory investigations was the seasonally changing water levels.

POWERBALL MANAGEMENT PLAN

The primary objective of the site-specific management plan is to identify and characterize activities that result in disturbance to nesting eagles. The site-specific management plan will also describe ongoing activities that result in loss or degradation of habitat within a nesting territory. Site-specific bald eagle management plans will include proposed measures to reduce bald eagle/human conflicts based on identified threats.

Avoidance and Protection Measures. To meet the objectives of the Plan, measures may be proposed to avoid or reduce bald eagle/human conflicts based on identified threats. This site-specific management plan will focus on areas where Avista has the management authority to protect habitat and the ability to enforce seasonal restrictions on activities found to disturb nesting eagles.

There are no proposed measures to reduce bald eagle /human conflicts at this time. The existing level of human activities, including recreational activity and Avista operations, have not had a deleterious effect on the eagles. Avista does not have management authority on adjacent private lands where activities may disturb nesting eagles.

The following guidance is specifically for new or a new change in activities or development such as: timber and forestry operations, vertical infrastructure, linear infrastructure such as roads, trails, canals, power lines, other utilities (USFWS 2007), or recreation facilities. To avoid disturbing nesting bald eagles, the USFWS recommends (1) maintaining natural forested (or vegetative) buffers around nest trees to minimize visual and auditory impacts associated with human activities and (2) avoiding certain activities during the nesting season or breeding season. The breeding season extends from January 1 through August 15 in the Pacific Northwest (USFWS 2007). These recommendations are applicable only to those key sites and activities where Avista has management authority.

Table 1. Recommended Spatial and Temporal Restrictions to Protect Bald Eagles Key Sites from New Disturbances

Bald Eagle Use	Buffer Zone Size	Temporal Restriction	Other Restrictions
Nest sites	330 feet (660 feet if action is visible from the nest.)	January 1 through August 15	Year round- avoid permanent development, pesticides, clear cutting, or removal of over story within 330 feet of nest
Primary perches	case-by-case*	January 1 through August 15	Retain snags. Avoid or minimize impacts
Prey capture sites	case-by-case*	January 1 through August 15	Avoid or minimize impacts
Roost stands	case-by-case*	January 1 through August 15	Avoid or minimize impacts

* Primary perches, prey capture sites, and roost stands do not have a defined buffer by USFWS. However to minimize potentially disruption in the eagles nesting territory, the above buffers are proposed.

Additional Guidelines and Management Practices

The following list is a compilation of guidelines and management practices from various projects and agencies that may be applicable to the Powerball territory.

1. Maintain forested habitat in home range to provide secure habitat for eagles.
2. Retain mature trees and old growth stands, particularly within one-quarter mile from water as applicable to Avista-owned lands, to allow for recruitment of snags and other perch trees.
3. Habitat enhancement, i.e. Restoration, thinning, burning, or other activities may be conducted outside of breeding season.
4. Avoid blasting and other activities that produce extremely loud noises within one half mile of active nests during breeding season, unless greater tolerance to the activity (or similar activity) has been demonstrated by the eagles in the nesting area.
5. Monitor nest alternate sites for up to three years.
6. Verify nest sites, key sites and regulatory buffers prior to permanent or intense development activities in order to avoid deleterious effects to nesting pairs.
7. Continue conscientious use of pesticides, herbicides, fertilizers, and other chemicals only in accordance with Federal and State laws to avoid impacts to eagles directly or indirectly thru prey species.

References

US Fish and Wildlife Service (USFWS) 2007. National Bald Eagle Management Guidelines. U.S. Fish and Wildlife Service. May 2007. https://www.fws.gov/pacific/eagle/documents/NationalBaldEagleManagementGuidelines.pdf. Retrieved September 18, 2017.

Figure 1. Powerball Bald Eagle Territory