

# SETTLEMENT AGREEMENT ARTICLE 512 BALD EAGLE NIGHT ROOST SURVEYS

### SEASON ONE RESULTS: NOVEMBER 2009 – FEBRUARY 2010

### BAKER RIVER HYDROELECTRIC PROJECT FERC No. 2150



Puget Sound Energy Bellevue, Washington

# May 2010

BAK SA 512 Night Roost Surveys 2009.Doc Doc ID: BAK.20100525.0271.PSE.TRIG PUGET SOUND ENERGY

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### 1.0 Executive Summary

This bald eagle night roost survey report summarizes the results of season one of the bald eagle night roost surveys conducted between November 2009 and February 2010 to implement the "Bald Eagle Management Plan" for the Baker River Hydroelectric Project. the study has been prepared in compliance with settlement agreement article 512 (SA 512), "Bald Eagle Night Roost Surveys," and settlement agreement article 513 (SA 513), "Bald Eagle Management Plan," of the Order on Offer of Settlement, Issuing New License and Dismissing Amendment Application as Moot dated October 17, 2008 (the "license"). This report was prepared by Puget Sound Energy.

This report summarizes the survey methods and results in accordance with SA 512 and SA 513, which include:

- Background
- The survey area
- Survey protocol and methods
- Survey results
- Discussion
- Survey data sheets and maps

No bald eagle communal night roosts were identified in the Baker basin during the 2009-2010 winter season, although bald eagle activity was observed at the project.

### 2.0 Introduction

This bald eagle night roost survey report has been prepared per settlement agreement article 512 (SA 512), "Bald Eagle Night Roost Surveys," consistent with settlement agreement article 513 (SA 513), "Bald Eagle Management Plan" for the Baker River Hydroelectric Project. Surveys were conducted in consultation with the Terrestrial Resource Implementation Group (TRIG), and were coordinated with the Washington Department of Fish and Wildlife (WDFW).

Puget Sound Energy conducted the surveys to monitor bald eagle wintering behavior within and around the project from November 2009 through February 2010 for the purpose of identifying bald eagle winter night roosts within or near the project boundary.

### 3.0 Background

Bald eagle night roost surveys have occurred extensively along the Skagit River, but little is known about bald eagle communal roost activity in the Baker basin, and no night roosts have yet been identified in the vicinity of the Baker project. Currently, there are five known nesting pairs of bald eagles in the Baker basin near the project, and some of these eagles may be present year-round.

The lands surrounding Lake Shannon are privately owned. If a night roost is identified during the bald eagle night roost surveys conducted per SA 512, affected landowners

would receive a copy of the survey report. Because the US Forest Service (USDA-FS) owns the land surrounding Baker Lake, a night roost identified there would not be within the jurisdictional purview of PSE to provide protection measures beyond those of the land owner. Consequently, Puget Sound Energy concentrated its survey efforts on Lake Shannon where protective measures could be undertaken as a project feature.

### 4.0 Study Area and Methods

#### 4.1 Study Area

Bald eagle night roost surveys were conducted at various survey points within the Baker River Project boundary around Lake Shannon (figure 1) to focus on areas that might benefit from additional protection as active night roost habitat.



Figure 1. Map of Lake Shannon with project boundary and bald eagle nests

### 4.2 Methods

The bald eagle night roost survey protocol was consistent with Washington Department of Fish and Wildlife (WDFW) and the Nature Conservancy (TNC) night roost protocols, and was agreed on by the TRIG. Surveys were conducted twice monthly from November 2009 through February 2010. Each survey began 1 <sup>1</sup>/<sub>2</sub> hours before official sunset time and continued until a half-hour after official sunset time. All surveys included both boat and ground observation methods.

During each survey, all surveyors began by scanning Lake Shannon by boat, traveling from the boat launch at the southeast end of the reservoir and continuing along the western shore to the north end of the lake. Upon reaching the north end of the lake, surveyors were individually dropped off at stations as the boat returned south. If surveyors observed eagle(s) perching during the initial boat survey, then at least one surveyor was stationed in view of the perched eagle(s).

Surveyors recorded weather, time, and the numbers, locations, and behavior of all eagles observed during the surveys. The number of surveyors ranged from three to six, but was typically five per survey. Survey data was recorded on data forms consistent with the WDFW survey forms and approved by the TRIG. Bald eagle observations were also noted on a map by individual surveyors and then compiled in a summary map for each survey date.

### 5.0 Results

#### 5.1 Data Summary

The following table summarizes the data collected for each survey date during season 1 of the Baker bald eagle night roost surveys. Section 6 of this report provides detailed data forms and observation maps.

Survey Date	Total bald eagle observations	Number of bald eagles perching	Behavior Summary
November 9	2	2	Only two eagle observations; no roosting behavior.
November 19	0	0	No eagle observations during this survey.
December 2	3	2	Two eagles perched together, then flew individually across the lake to the same area. One eagle was seen on the bank, possibly feeding. No roosting behavior observed.
December 30	4	1	No roosting behavior observed.
January 15			Peak of eagle activity observed at the project. Eagles were mainly flying in thermals, soaring, and perching for short durations. No roosting behavior observed.
January 28	8	7	Eagles mainly perched near the tops of conifers for short durations, one possible pair of eagles flew off together, no roosting behavior observed.
February 11	9	9	Eagles mainly perched near the tops of conifer trees, most flew off before dark, no roosting behavior observed.
February 25	5	5	Eagles mainly perched in conifers, one in a snag. No roosting behavior observed.

Table 1	Rald earle	night roost	data	summary
	Dala cagic	ingin roost	uata	Summary.

#### 5.2 Discussion

Several factors may have influenced bald eagle communal roosting behavior during winter 2009-2010. The 2009-2010 winter season was relatively mild, without extreme weather events. Thus, the bald eagles in the Baker basin may have exhibited less communal winter roosting activity than normal. There seems to be consistent winter use of the Skagit River basin, which is close enough in proximity to the Baker River basin that any bald eagles using the Baker River basin during the day may have returned to the Skagit River communal roosts in the evening.

Most of the bald eagles observed perching were in or near the tops of conifers, whereas typical night roost behavior involves multiple eagles perched in hardwood trees, near the trunks or on lower branches where the birds are protected from the elements. Also, most of the bald eagles observed took off from their perches before dark.

The historical annual peak of bald eagle activity in the Skagit Basin was consistent with the survey results on Lake Shannon, with the highest number of observations occurring on January 15. However, most of the observed activity included soaring on thermals with short durations of perching.

### 6.0 Survey Data Forms and Observation Maps

	.5	Age Clas	s	Activity		Perch Type		
hours before				(Last Ob	served)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
sunset to (	o 0 5 1=Adult		1=Adult		ing	1=Snag		
hour after		2=Subad	ult	2=Feedin	ng	2=Conifer		
sunset		3=Unkno	own	3=Flying	g	3=Hardwood		
		-		4=Roost	ing	4=Other		
Date: 11-(	09-2009	_						
Observer	(s): Haley E	dwards, To	ny Fuchs,	Mel Walte	ers (PSE) l	Brock Applegate (	WDFW).	
Roost or S	Site Name:	Lake Sha	nnon					
Observati	ion Time:	Arrival:	2:45 p.m	. Departu	re: 5:05 p	.m.		
Weather	Conditions:	Wind: L		(C = calm)	n, L=ligi	ht breeze, $G = g_{i}$	ısty)	
Wind Dir	ection: W	_						
Cloud Co	ver: 0	(C = clea	r, S = scc	attered clo	ouds, $O =$	overcast, $G = g$	ound fog)	
Precip: M	$VW_{N} = nc$	one, <b>R</b> =ra	in, M=n	isty, W=	=Showers	, $S = snow$ , $F = f$	versistent fog)	
Visibility	G (E = ex	cellent > i	mile, G	=good 60	00'-1 mile	, <b>F</b> =fair 300'-6	00', <b>P</b> =poor 0-300	79
Temperat	ture (Appro	<b>x.):</b> 50°F	_					
					. ~			
Total Bir	as Observed	: 2	-	Final Re	oost Coui	nt: 0		
	Perch	Age	1	Мар				
Time	Туре	Class	Activity	Ref #	Comment	ts		
2:57	2	2	3,1	1	Eagle flew	v over lake, perch	ed on tree near shore	eline
3:45	2	2	1	2	Immature	eagle we saw co	ning up the lake	
4:02	2	1	1	3	on a biq b	ranched conifer 1	2 way up slope.	
					<u></u>			
			İ					
		1						
		1						
		+						
		1						
			1					

Figure 2. Baker River Project bald eagle night roost survey data form, November 9, 2009.



Figure 3. Map of Baker River Project bald eagle night roost survey observations, November 9, 2009.

Conduct 1.5		Age Clas	s	Activity		Perch Type
nours before		Ľ		(Last Ob	served)	
sunset to 0.5		1=Adult		1=Perch	ing	1=Snag
hour after		2=Subad	ult	2=Feedin	ng	2=Conifer
sunset		3=Unknc	own	3=Flying 3=Hardw		3=Hardwood
				4=Roost	ing	4=Other
Date: 11-19-2	:009				0	•
Observer(s):	Haley Ed	- dwards, To	ny Fuchs,	Scott Hell	ler, Mel W	alters (PSE), Bro
Roost or Site	Name:	Lake Sha	nnon			· · ·
<b>Observation</b>	Time:	Arrival: 2	2:45	Departur	re: 4:45	
Weather Con	ditions:	Wind: L		(C = caln	n, L=lig	ht breeze, $G = g$
Wind Directi	on:			-	0	
Cloud Cover:	: 0	(C=clea	r, S = sca	attered clo	ouds, O=	overcast, $G = g$
Precip: R	(N=no	- ne, <b>R</b> =ra	in, M=m	isty, W=	=Showers	s, S = snow, F =
Visibility: G	(E = exe	cellent > 1	mile, G	=good 60	00'-1 mile	e, <b>F</b> =fair 300'-
Femperature	(Approx	<b>x.):</b> 40 °F	_			
			-			
Total Birds C	bserved	:0	-	Final Ro	oost Coui	nt: 0
	Porch	1.00		Man		
Time	Type	Class	Activity	Ref #	Commen	ts
	Type	Class	Activity	Kel #	Commen	15

Figure 4. Baker River Project bald eagle night roost survey data form, November 19, 2009.



Figure 5. Map of Baker River Project bald eagle night roost survey observations, November 11, 2009 (no observations).

Conduct 1	.5	Age Clas	s	Activity	Perch Type			
hours befc	re	_		(Last Obser	ved)			
sunset to C	.5	1=Adult		1=Perching	1=Snag			
hour after		2=Subad	ult	2=Feeding	2=Conifer			
sunset		3=Unkno	own	a 3=Flying 3=Hardwood				
				4=Roosting	4=Other			
Date: 12-0	02-2009							
Observer	(s): Haley E	– dwards, Ga	be McGui	re, Mel Walte	rs (PSE) Brock Applegate (WDFW).			
Roost or S	Site Name:	Lake Sha	nnon					
Observati	on Time:	Arrival: 2	2:40 p.m.	Departure:	4:45 p.m.			
Weather (	Conditions:	Wind: L	,	(C = calm, 1)	L = light breeze, $G = gusty$ )			
Wind Dir	ection:							
Cloud Co	ver: C	(C = clea)	r, S = sca	attered cloud	s, $O = overcast$ , $G = ground fog$ )			
Precip: N	(N=nc	ne, <b>R</b> =ra	in, M=n	nisty, W=Sh	owers, $S = snow$ , $F = persistent fog$ )			
Visibility:	E (E = ex)	cellent > 1	mile, G	=good 600'-	<i>1 mile</i> , $F = fair 300'-600'$ , $P = poor 0-300'$ )			
Femperat	ure (Appro	<b>x.):</b> 32°F		0				
			-					
Total Biro	ls Observed	l <b>:</b> 3	_	Final Roost	t Count: 0			
	Perch	Age		Map				
lime	Туре	Class	Activity	Ref # Co	nments			
2:45	2	1	3,1	1 Two	o adult eagles flew into conifer stand			
3.05	4	1	22	2 the	dem too shallow to follow in the boat			
2.55	2	1	2:	3 00	a eagle flew across the lake			
4.40	2	1	3,1		er eagle flew across the lake			
			3,1	00				
4.12								
4.12								
4.12								
4.12 								
4.12 								
4.12								
4.12								
4. 12								
4. 12								
4.12								
+. 12								
+. 12								
+. 12								
4.12								
4.12								

Figure 6. Baker River Project bald eagle night roost survey data form, December 2, .2009.



Figure 7. Map of Baker River Project bald eagle night roost survey observations, December 2, 2009.

Conduct 1	.5	Age Clas	Class Activity Perch Type		Perch Type
nours before				(Last Obser	ved)
sunset to 0	).5	1=Adult		1=Perching	1=Snag
hour after	our after		ult	2=Feeding	2=Conifer
sunset		3=Unknc	own	3=Flying	3=Hardwood
				4=Roosting	4=Other
Date: 12-3	30-2009	_			
Observer	(s): Haley Ec	lwards, To	ny Fuchs,	Scott Heller,	Mel Walters (PSE), Brock Applegate (WDFW)
Roost or S	Site Name:	Lake Sha	nnon		
Observati	ion Time:	Arrival: 2	2:30 p.m.	Departure: 4	<u>4:50 p.m</u> .
Weather (	Conditions:	Wind: L		(C = calm, 1)	L = light breeze, G = gusty)
Wind Dire	ection:	-			
Cloud Co	ver: 0	(C = clea	r, S = sca	ttered cloud	S, O = overcast, G = ground fog
Precip: M	[(N=noi	ne, <b>R</b> =ra	in, M=n	isty, W=Sh	nowers, $S =$ snow, $F =$ persistent fog)
Visibility:	G (E = exc	ellent > 1	mile, G	=good 600' <b>-</b>	1 mile, <b>F</b> = fair 300'-600', <b>P</b> = poor 0-300')
Temperat	ture (Approx	<b>):</b> 36°F	_		
Total Bird	ds Observed	: 4	-	Final Roos	t Count: 0
	Perch	Age		Man	
Time	Туре	Class	Activity	Ref # Co	mments
2.55	none	1	3	1 Eac	ale flew south hugging west shore (BA)
			-		
3:30	2	1	1	2 Eac	ale perched on top of prominent conifer (TF)
3:30	2 none	1	1	2 Eag 3 Hai	gle perched on top of prominent conifer (TF)
3:30 3:35 4:27	2 none 4 (UNK)	1 3 1	1 3 3	2 Eag 3 Hai 4 Eag	gle perched on top of prominent conifer (TF) rd to see, eagle flew into low clouds (HE) gle flew overhead across lake, just south of osprev platform (BA
3:30 3:35 4:27 UNK	2 none 4 (UNK) none	1 3 1 1	1 3 3 3	2 Eag 3 Hai 4 Eag 5 Eag	gle perched on top of prominent conifer (TF) rd to see, eagle flew into low clouds (HE) gle flew overhead across lake, just south of osprey platform (BA gle flew south along the west shore (SH)
3:30 3:35 4:27 UNK	2 none 4 (UNK) none	1 3 1 1	1 3 3 3	2 Eag 3 Hai 4 Eag 5 Eag	gle new south hugging west shore (DA) gle perched on top of prominent conifer (TF) rd to see, eagle flew into low clouds (HE) gle flew overhead across lake, just south of osprey platform (BA gle flew south along the west shore (SH)
3:30 3:35 4:27 UNK	2 none 4 (UNK) none	1 3 1 1	1 3 3 3	2 Eag 3 Hai 4 Eag 5 Eag	gle perched on top of prominent conifer (TF) rd to see, eagle flew into low clouds (HE) gle flew overhead across lake, just south of osprey platform (BA gle flew south along the west shore (SH)
3:30 3:35 4:27 UNK	2 none 4 (UNK) none	1 3 1 1	1 3 3 3	2 Eaç 3 Haı 4 Eaç 5 Eaç	gle perched on top of prominent conifer (TF) rd to see, eagle flew into low clouds (HE) gle flew overhead across lake, just south of osprey platform (BA gle flew south along the west shore (SH)
3:30 3:35 4:27 UNK	2 none 4 (UNK) none	1 3 1 1	1 3 3 3	2 Eag 3 Hai 4 Eag 5 Eag	gle perched on top of prominent conifer (TF) rd to see, eagle flew into low clouds (HE) gle flew overhead across lake, just south of osprey platform (BA gle flew south along the west shore (SH)
3:30 3:35 4:27 UNK	2 none 4 (UNK) none	1 3 1 1	1 3 3 3	2 Eag 3 Hai 4 Eag 5 Eag	gle perched on top of prominent conifer (TF) rd to see, eagle flew into low clouds (HE) gle flew overhead across lake, just south of osprey platform (BA gle flew south along the west shore (SH)
3:30 3:35 4:27 UNK	2 none 4 (UNK) none	1 3 1 1	1 3 3 3	2 Eag 3 Hai 4 Eag 5 Eag 	gle perched on top of prominent conifer (TF) rd to see, eagle flew into low clouds (HE) gle flew overhead across lake, just south of osprey platform (BA gle flew south along the west shore (SH)
3:30 3:35 4:27 UNK	2 none 4 (UNK) none		1 3 3 3	2 Eag 3 Hai 4 Eag 5 Eag 	gle perched on top of prominent conifer (TF) rd to see, eagle flew into low clouds (HE) gle flew overhead across lake, just south of osprey platform (BA gle flew south along the west shore (SH)
3:30 3:35 4:27 UNK	2 none 4 (UNK) none		1 3 3 3	2 Eag 3 Hai 4 Eag 5 Eag 	gle perched on top of prominent conifer (TF) rd to see, eagle flew into low clouds (HE) gle flew overhead across lake, just south of osprey platform (BA gle flew south along the west shore (SH)
3:30 3:35 4:27 UNK	2 none 4 (UNK) none			2 Eag 3 Hai 4 Eag 5 Eag 	gle perched on top of prominent conifer (TF) rd to see, eagle flew into low clouds (HE) gle flew overhead across lake, just south of osprey platform (BA gle flew south along the west shore (SH)
3:30 3:35 4:27 UNK	2 none 4 (UNK) none			2 Eag 3 Hai 4 Eag 5 Eag 	gle perched on top of prominent conifer (TF) rd to see, eagle flew into low clouds (HE) gle flew overhead across lake, just south of osprey platform (BA gle flew south along the west shore (SH)
3:30 3:35 4:27 UNK	2 none 4 (UNK) none			2 Eag 3 Hai 4 Eag 5 Eag 	gle perched on top of prominent conifer (TF) rd to see, eagle flew into low clouds (HE) gle flew overhead across lake, just south of osprey platform (BA gle flew south along the west shore (SH)
3:30 3:35 4:27 UNK	2 none 4 (UNK) none			2 Eag 3 Hai 4 Eag 5 Eag 	gle perched on top of prominent conifer (TF) rd to see, eagle flew into low clouds (HE) gle flew overhead across lake, just south of osprey platform (BA gle flew south along the west shore (SH)
3:30 3:35 4:27 UNK	2 none 4 (UNK) none			2 Eag 3 Hai 4 Eag 5 Eag 	gle perched on top of prominent conifer (TF) rd to see, eagle flew into low clouds (HE) gle flew overhead across lake, just south of osprey platform (BA gle flew south along the west shore (SH)
3:30 3:35 4:27 UNK	2 none 4 (UNK) none			2         Eag           3         Hai           4         Eag           5         Eag           -         -	gle perched on top of prominent conifer (TF) rd to see, eagle flew into low clouds (HE) gle flew overhead across lake, just south of osprey platform (BA gle flew south along the west shore (SH)
3:30 3:35 4:27 UNK	2 none 4 (UNK) none			2         Eag           3         Hai           4         Eag           5         Eag           -         -	gle perched on top of prominent conifer (TF) rd to see, eagle flew into low clouds (HE) gle flew overhead across lake, just south of osprey platform (BA gle flew south along the west shore (SH)
3:30 3:35 4:27 UNK	2 none 4 (UNK) none			2         Eag           3         Hai           4         Eag           5         Eag           -         -	gle new south mugging west shore (DA) gle perched on top of prominent conifer (TF) rd to see, eagle flew into low clouds (HE) gle flew overhead across lake, just south of osprey platform (BA gle flew south along the west shore (SH)
3:30 3:35 4:27 UNK	2 none 4 (UNK) none			2         Eag           3         Hai           4         Eag           5         Eag           -         -	gle new south mugging west shore (DA) gle perched on top of prominent conifer (TF) rd to see, eagle flew into low clouds (HE) gle flew overhead across lake, just south of osprey platform (BA gle flew south along the west shore (SH)
3:30 3:35 4:27 UNK 	2 none 4 (UNK) none			2         Eag           3         Hai           4         Eag           5         Eag           -         -	gle new south magging west shore (DA) gle perched on top of prominent conifer (TF) rd to see, eagle flew into low clouds (HE) gle flew overhead across lake, just south of osprey platform (BA gle flew south along the west shore (SH)

Figure 8. Baker River Project bald eagle night roost survey data form, December 30, 2009.



Figure 9. Map of Baker River Project bald eagle night roost survey observations, December 30, 2009.

BAK SA 512 Night Roost Surveys 2009.Doc Doc ID: BAK.20100525.0271.PSE.TRIG

#### BALD EAGLE WINTER NIGHT ROOST OBSERVATION FORM

Conduct 1.5	Age Class	Activity	Perch Type
hours before		(Last Observed)	
sunset to 0.5	1=Adult	1=Perching	1=Snag
hour after	2=Subadult	2=Feeding	2=Conifer
sunset	3=Unknown	3=Flying	3=Hardwood
		4=Roosting	4=Other

#### Date: 1-15-2010

Observer(s):	Haley Edwards,	, Tony Fuchs,	Scott Heller,	Nethaneal Ove	erman, Mel	l Walters (P	SE), Brock	Applegate (V	NDFW)
D 6 6	Manager Labor	0							-

Roost or Site Name:	Lake Shannon		
<b>Observation Time:</b>	Arrival: 14:35	Departure: 17:00	
Weather Conditions:	Wind: C, L	(C = calm, L = light breeze, G = gu.	sty)
Wind Direction:		-	

#### Wind Direction:

Cloud Cover:O, S(C = clear, S = scattered clouds, O = overcast, G = ground fog)Precip:M, N(N = none, R = rain, M = misty, W = Showers, S = snow, F = persistent fog)Visibility:G(E = excellent > 1 mile, G = good 600'-1 mile, F = fair 300'-600', P = poor 0-300')

**Temperature (Approx.):** 55 °F

Time	Perch Type	Age Class	Activity	Map Ref #	Comments
14:43	none	2	3	1	Soaring SW, 2-3 canopy height, lost sight in sun/clouds (HE)
15:05	none	1	3	2	Flew S across lake at 2-3 canopy height, continued along the west bank (HE/BA)
15:06	none	3	3	3	Flying at 2-3 canopy height, circling (HE)
15:06	none	3	3	4	Flew directly overhead at 1 1/2 canopy height (BA)
15:07	none	1	3	5	Flying at 2-3 canopy height, circling (HE)
15:15	none	1	3	6	Flew south along west shoreline (HE)
15:19	none	3	3	7	Flew S at 2 canopy heght along W bank, called after out of sight (BA/S
15:20	none	1	3		3 individual eagles in same area flying different directions (SH)
15:23	none	3	3	8	Soaring, circling at 1 1/2 canopy height on E side of lake ((HE)
15:24	none	1	3	9	Soaring S over lake (HE)
15:26	none	3	3	10	Soaring SE 1 1/2 canopy height over E side of lake (HE)
15:27	none	3	3	11	2 eagles soaring, circling (HE)
15:28	none	1	3	12	Eagle flew N hugging W side, circling continuously (BA)
15:30	2	1	1,3	13	Eagle perched 1/2 way up small snag, flew overhead, circled W up the creek (HE)
15:32	none	1	3	14	Flushed up towards the dam (HE)
15:34	none	3	3	15	Soaring/circling at 2-3 canopy height (HE)
15:41	none	3	3	16	(#15:28) joined by two other eagles, circling (BA)
15:45	none	1	3	17	Flew S along W side of lake until out of sight (MW)
15:48	none	3	3	16	(SH)
15:50	none	1	3	16	3 eagles soaring/circling (SH)
15:51	none	3	3	16	2 eagles joined the others, 5 total (BA)
15:55	none	2	3	16	

Figure 10. Baker River Project bald eagle night roost survey data form, January 15, 2010, page 1.

<b>T'</b>	Perch	Age		Map Dof#	
Time	Type	Class	Activity	Kel #	
15:55	none	1	3	18	Eagle came close, then back to thermal, flew SW, then N, circling (BA)
15:58	none	3	3	19	Saw eagle over mid lake, joined other eagles (BA)
15:58	2	2	3, 1	20	Flew over the lake, landed in conifer on E bank (MW)
16:00	none	2	3	16	(SH)
16:00	2	1	1	16	(SH)
16:00		1	3	16	(SH)
16:00	2	3	1	16	(SH)
16:00	none	3	3	21	2 more eagles flew over from S to NW (BA/SH)
16:03	none	3	3	22	2 eagles flew W, circling (BA)
16:07	2	1	1	16	(SH)
16:08	none	1	3	22	2 eagles below canopy height, chasing, calling, flying S (BA)
16:12	none	1	3	23	Flying SW over west ridge (TF)
16:14	none	1	3	16	(SH)
16:25	none	2	3	24	Flew N, circling continuously (TF)
16:25	2	2	1	25	(TF)
16:25	2	1	1	26	(TF)
16:25	2	1	1	27	(TF)
16:30	none	2	3	16	(SH)
16:32	none	3	3	28	Eagle flew around circling over ridge, then took off up the lake (BA)
16:42	none	3	3	29	Flying N over eastern ridge at 3 canopy height (HE)
16:57	none	3	3	30	Flew from mid-lake to the W, then flew S along the west side (BA/SH
				I	

Figure 10, continued. Baker River Project bald eagle night roost survey data form, January 15, 2010, page 2.



Figure 11. Map of Baker River Project bald eagle night roost survey observations, January 15, 2010.

Conduct 1.	5	Age Clas	s	Activity	Perch Type
hours befor	re			(Last Observed	)
sunset to 0	.5	1=Adult		1=Perching	1=Snag
hour after		2=Subadu	ult	2=Feeding	2=Conifer
sunset		3=Unkno	wn	3=Flying	3=Hardwood
				4=Roosting	4=Other
Date: 1-28	-2010			0	
Observer(	s): Haley Ec	- dwards, To	ny Fuchs,	Mel Walters (PS	E) Brock Applegate (WDFW).
Roost or S	ite Name:	Lake Shar	nnon		
Observati	on Time:	Arrival: 2	2:50 p.m.	Departure: 5:30	) p.m.
Weather <b>(</b>	Conditions:	Wind:		(C = calm, L = calm)	light breeze, $G = gusty$ )
Wind Dire	ection:	_			
Cloud Cov	v <b>er:</b> S	(C=clea	r, S = scc	ttered clouds, (	O = overcast, G = ground fog)
Precip: N	(N=no)	ne, <b>R</b> =ra	in, M=n	nisty, W=Show	ers, $S =$ snow, $F =$ persistent fog)
Visibility:	$\mathbf{G}(E = exc$	cellent > 1	mile, G	=good 600'-1 m	ile, <b>F</b> =fair 300'-600', <b>P</b> =poor 0-300')
Temperat	ure (Approz	<b>ĸ.):</b>	_		
Total Bird	ls Observed	: 8	-	Final Roost Co	ount: 0
	Dorch	1.00		Man	
Time	Type	Class	Activity	Ref # Comm	ents
1 mit			Activity		
2.55	Inone	1 2	3	і ісашет	lew south hugging west shore
2:55 3:03	none	2	3	1 ⊑agie i 2 Probat	lew south hugging west shore
2:55 3:03 3:08	none none	2 2 1	3	2 Probab	lew south hugging west shore ly same eagle, flew SE across the lake d in the top of conifer
2:55 3:03 3:08 3:15	none none 2 2	2 2 1	3 3 1	2 Probat 3 Perche	lew south hugging west shore ly same eagle, flew SE across the lake d in the top of conifer d in the top of conifer (took off when #5 landed in tree)
2:55 3:03 3:08 3:15 3:28	none none 2 2 2 2	2 2 1 1 2	3 3 1 1 1	2 Probab 3 Perche 4 Perche 5 Eagle I	lew south hugging west shore ly same eagle, flew SE across the lake d in the top of conifer d in the top of conifer (took off when #5 landed in tree) anded in same tree as #4, 2/3 down from the top of the tree.
2:55 3:03 3:08 3:15 3:28 3:30	none none 2 2 2 2 2 2	2 2 1 1 2 1 2	3 3 1 1 1 1	2 Probab 3 Perche 4 Perche 5 Eagle I	lew south hugging west shore ly same eagle, flew SE across the lake d in the top of conifer d in the top of conifer (took off when #5 landed in tree) anded in same tree as #4, 2/3 down from the top of the tree.
2:55 3:03 3:08 3:15 3:28 3:30 3:40	none none 2 2 2 2 2 2 2 2	2 2 1 1 2 1 2 1	3 3 1 1 1 1 1	2 Probat 3 Perche 4 Perche 5 Eagle I 6 Eagle I	lew south hugging west shore ly same eagle, flew SE across the lake d in the top of conifer d in the top of conifer (took off when #5 landed in tree) anded in same tree as #4, 2/3 down from the top of the tree. t4 flew out of sight towards Sulphur Creek
2:55 3:03 3:08 3:15 3:28 3:30 3:40 2:50	none none 2 2 2 2 2 2 2 2 2 2 2	2 2 1 2 1 2 1 1 1 1	3 3 1 1 1 1 1 1 2	2 Probat 3 Perche 4 Perche 5 Eagle I 6 Eagle f 3 Eagle f	lew south hugging west shore ly same eagle, flew SE across the lake d in the top of conifer d in the top of conifer (took off when #5 landed in tree) anded in same tree as #4, 2/3 down from the top of the tree. t4 flew out of sight towards Sulphur Creek lushed and flew around the corner when the boat approache
2:55 3:03 3:08 3:15 3:28 3:30 3:40 3:50 3:55	none none 2 2 2 2 2 2 2 2 2 2 2 0 none	2 2 1 2 1 2 1 1 1 1 1 1	3 3 1 1 1 1 1 3 3	2 Probat 3 Perche 4 Perche 5 Eagle I 6 Eagle I 3 Eagle f 7 Eagle s	lew south hugging west shore ly same eagle, flew SE across the lake d in the top of conifer d in the top of conifer (took off when #5 landed in tree) anded in same tree as #4, 2/3 down from the top of the tree. 44 flew out of sight towards Sulphur Creek lushed and flew around the corner when the boat approache is wooping and calling, heard more than one eagle. alles flew off together towards the S/SW couldn't see through
2:55 3:03 3:08 3:15 3:28 3:30 3:40 3:50 3:55 4:07	none none 2 2 2 2 2 2 2 2 2 2 0 none none	2 2 1 2 1 1 1 1 1 1 1 2	3 3 1 1 1 1 1 3 3 2	2 Probat 3 Perche 4 Perche 5 Eagle I 6 Eagle I 3 Eagle f 7 Eagle s 8 Two eagles	lew south hugging west shore ly same eagle, flew SE across the lake d in the top of conifer d in the top of conifer (took off when #5 landed in tree) anded in same tree as #4, 2/3 down from the top of the tree. 44 flew out of sight towards Sulphur Creek lushed and flew around the corner when the boat approache swooping and calling, heard more than one eagle. gles flew off together towards the S/SW, couldn't see through hum form anothe D/t see through
2:55 3:03 3:08 3:15 3:28 3:30 3:40 3:50 3:55 4:27 4:27	none           none           2           2           2           2           2           2           1           none           none	2 2 1 1 2 1 1 1 1 1 3 2	3 3 1 1 1 1 1 3 3 3 3	2 Probat 2 Probat 3 Perche 4 Perche 5 Eagle 1 6 Eagle 3 3 Eagle 6 7 Eagle 3 8 Two ea 9 Eagle 6	lew south hugging west shore ly same eagle, flew SE across the lake d in the top of conifer d in the top of conifer (took off when #5 landed in tree) anded in same tree as #4, 2/3 down from the top of the tree. 44 flew out of sight towards Sulphur Creek lushed and flew around the corner when the boat approache iswooping and calling, heard more than one eagle. gles flew off together towards the S/SW, couldn't see throug lew from perch SW across lake
2:55 3:03 3:08 3:15 3:28 3:30 3:40 3:50 3:55 4:27 4:50	none           none           2           2           2           2           2           2           1           3	2 2 1 1 2 1 1 1 1 1 3 2	3 3 1 1 1 1 3 3 3 3,1	1     Eagle I       2     Probat       3     Perche       4     Perche       5     Eagle I       6     Eagle I       3     Eagle I       7     Eagle I       7     Eagle I       9     Eagle I       10     Subdut	lew south hugging west shore ly same eagle, flew SE across the lake d in the top of conifer d in the top of conifer (took off when #5 landed in tree) anded in same tree as #4, 2/3 down from the top of the tree. 44 flew out of sight towards Sulphur Creek lushed and flew around the corner when the boat approache iswooping and calling, heard more than one eagle. gles flew off together towards the S/SW, couldn't see throug lew from perch SW across lake ult moved to different perch
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2:55 3:03 3:08 3:15 3:28 3:30 3:40 3:50 3:55 4:27 4:50	none none 2 2 2 2 2 2 2 2 2 0 0 0 0 0 0 1 3 3	2 2 1 1 2 1 1 1 1 1 3 2	3 3 1 1 1 1 1 3 3 3 3,1	1     Eagle 1       2     Probat       3     Perche       4     Perche       5     Eagle 1       6     Eagle 1       3     Eagle 2       3     Eagle 3       3     Eagle 1       7     Eagle 2       8     Two ea       9     Eagle 1       10     Subado	lew south hugging west shore ly same eagle, flew SE across the lake d in the top of conifer d in the top of conifer (took off when #5 landed in tree) anded in same tree as #4, 2/3 down from the top of the tree. 44 flew out of sight towards Sulphur Creek lushed and flew around the corner when the boat approache iwooping and calling, heard more than one eagle. gles flew off together towards the S/SW, couldn't see throug lew from perch SW across lake ult moved to different perch
2:55 3:03 3:08 3:15 3:28 3:30 3:40 3:50 3:55 4:27 4:50	none none 2 2 2 2 2 2 2 2 2 2 2 0 0 0 0 0 1 3 3	2 2 1 1 2 1 1 1 1 1 1 3 2	3 3 1 1 1 1 1 3 3 3 3,1	1     Eagle 1       2     Probat       3     Perche       4     Perche       5     Eagle 1       6     Eagle 3       3     Eagle 3       3     Eagle 1       7     Eagle 3       8     Two ea       9     Eagle 1       10     Subade	lew south hugging west shore ly same eagle, flew SE across the lake d in the top of conifer d in the top of conifer (took off when #5 landed in tree) anded in same tree as #4, 2/3 down from the top of the tree. 44 flew out of sight towards Sulphur Creek lushed and flew around the corner when the boat approache twooping and calling, heard more than one eagle. gles flew off together towards the S/SW, couldn't see throug lew from perch SW across lake It moved to different perch
2:55 3:03 3:08 3:15 3:28 3:30 3:40 3:50 3:55 4:27 4:50 	none           none           2           2           2           2           2           2           1           3           1           3           1	2 2 1 1 2 1 1 1 1 1 3 2 2	3 3 1 1 1 1 1 3 3 3 3,1	1     Eagle I       2     Probat       3     Perche       4     Perche       5     Eagle I       6     Eagle I       3     Eagle I       7     Eagle I       8     Two ea       9     Eagle I       10     Subadit	lew south hugging west shore ly same eagle, flew SE across the lake d in the top of conifer d in the top of conifer (took off when #5 landed in tree) anded in same tree as #4, 2/3 down from the top of the tree. 44 flew out of sight towards Sulphur Creek lushed and flew around the corner when the boat approache wooping and calling, heard more than one eagle. gles flew off together towards the S/SW, couldn't see throug lew from perch SW across lake It moved to different perch
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2:55 3:03 3:08 3:15 3:28 3:30 3:40 3:50 3:55 4:27 4:27 4:50	none           none           2           2           2           2           2           2           1           3           1           3           1           3           1           3           1           3	2 2 1 1 2 1 1 1 1 1 3 2 2	3 3 1 1 1 1 1 3 3 3 3,1	1     Eagle 1       2     Probat       3     Perche       4     Perche       5     Eagle 1       6     Eagle 3       3     Eagle 3       3     Eagle 3       8     Two ea       9     Eagle 1       10     Subade       10     Subade       10     Subade	lew south hugging west shore ly same eagle, flew SE across the lake d in the top of conifer d in the top of conifer (took off when #5 landed in tree) anded in same tree as #4, 2/3 down from the top of the tree. 44 flew out of sight towards Sulphur Creek lushed and flew around the corner when the boat approache twooping and calling, heard more than one eagle. gles flew off together towards the S/SW, couldn't see throug lew from perch SW across lake III moved to different perch
2:55 3:03 3:08 3:15 3:28 3:30 3:40 3:50 3:55 4:27 4:50	none           none           2           2           2           2           2           2           2           1           3           .	2 2 1 1 2 1 1 1 1 1 3 2 2	3 3 1 1 1 1 1 3 3 3 3,1 	1     Eagle 1       2     Probat       3     Perche       4     Perche       5     Eagle 1       6     Eagle 3       3     Eagle 3       3     Eagle 3       8     Two ea       9     Eagle 1       10     Subadt       10     Subadt       11     Subadt       12     Probation	lew south hugging west shore ly same eagle, flew SE across the lake d in the top of conifer d in the top of conifer (took off when #5 landed in tree) anded in same tree as #4, 2/3 down from the top of the tree. 44 flew out of sight towards Sulphur Creek lushed and flew around the corner when the boat approache swooping and calling, heard more than one eagle. gles flew off together towards the S/SW, couldn't see throug lew from perch SW across lake IIIt moved to different perch
2:55 3:03 3:08 3:15 3:28 3:30 3:40 3:50 3:55 4:27 4:50 	none           none           2           2           2           2           2           2           2           1           3           . </td <td>2 2 1 1 2 1 1 1 1 1 3 2 2</td> <td>3 3 1 1 1 1 1 3 3 3 3 3 1 </td> <td>1     Eagle 1       2     Probat       3     Perche       4     Perche       5     Eagle 1       6     Eagle 3       3     Eagle 3       3     Eagle 3       8     Two ea       9     Eagle 1       10     Subadt       10     Subadt       11     Subadt       12     Image: 1       13     Image: 1       14     Image: 1       15     Eagle 3       16     Eagle 3       17     Eagle 3       10     Subadt       10     Image: 1       &lt;</td> <td>lew south hugging west shore ly same eagle, flew SE across the lake d in the top of conifer d in the top of conifer (took off when #5 landed in tree) anded in same tree as #4, 2/3 down from the top of the tree. 44 flew out of sight towards Sulphur Creek lushed and flew around the corner when the boat approache swooping and calling, heard more than one eagle. gles flew off together towards the S/SW, couldn't see throug lew from perch SW across lake IIIt moved to different perch</td>	2 2 1 1 2 1 1 1 1 1 3 2 2	3 3 1 1 1 1 1 3 3 3 3 3 1 	1     Eagle 1       2     Probat       3     Perche       4     Perche       5     Eagle 1       6     Eagle 3       3     Eagle 3       3     Eagle 3       8     Two ea       9     Eagle 1       10     Subadt       10     Subadt       11     Subadt       12     Image: 1       13     Image: 1       14     Image: 1       15     Eagle 3       16     Eagle 3       17     Eagle 3       10     Subadt       10     Image: 1       <	lew south hugging west shore ly same eagle, flew SE across the lake d in the top of conifer d in the top of conifer (took off when #5 landed in tree) anded in same tree as #4, 2/3 down from the top of the tree. 44 flew out of sight towards Sulphur Creek lushed and flew around the corner when the boat approache swooping and calling, heard more than one eagle. gles flew off together towards the S/SW, couldn't see throug lew from perch SW across lake IIIt moved to different perch
2:55 3:03 3:08 3:15 3:28 3:30 3:40 3:50 3:55 4:27 4:50 	none           none           2           2           2           2           2           2           2           1           3           . </td <td>2 2 1 1 2 1 1 1 1 1 3 2 2</td> <td>3 3 1 1 1 1 1 3 3 3 3,1 </td> <td>1     Eagle 1       2     Probat       3     Perche       4     Perche       5     Eagle 1       6     Eagle 3       3     Eagle 3       3     Eagle 3       8     Two ea       9     Eagle 1       10     Subadt       10     Subadt       11     Subadt       12     Image: 1       13     Image: 1       14     Image: 1       15     Eagle 3       16     Eagle 3       17     Eagle 3       10     Subadt       10     Image: 1       11     Image: 1       12     Image: 1       13     Image: 1       14     Image: 1       15     Image: 1       16     Image: 1       17     Image: 1       18     Image: 1       19     Image: 1       10     Image: 1       11     Image: 1       12     Image: 1       &lt;</td> <td>lew south hugging west shore ly same eagle, flew SE across the lake d in the top of conifer d in the top of conifer (took off when #5 landed in tree) anded in same tree as #4, 2/3 down from the top of the tree. 44 flew out of sight towards Sulphur Creek lushed and flew around the corner when the boat approache swooping and calling, heard more than one eagle. gles flew off together towards the S/SW, couldn't see throug lew from perch SW across lake IIIt moved to different perch</td>	2 2 1 1 2 1 1 1 1 1 3 2 2	3 3 1 1 1 1 1 3 3 3 3,1 	1     Eagle 1       2     Probat       3     Perche       4     Perche       5     Eagle 1       6     Eagle 3       3     Eagle 3       3     Eagle 3       8     Two ea       9     Eagle 1       10     Subadt       10     Subadt       11     Subadt       12     Image: 1       13     Image: 1       14     Image: 1       15     Eagle 3       16     Eagle 3       17     Eagle 3       10     Subadt       10     Image: 1       11     Image: 1       12     Image: 1       13     Image: 1       14     Image: 1       15     Image: 1       16     Image: 1       17     Image: 1       18     Image: 1       19     Image: 1       10     Image: 1       11     Image: 1       12     Image: 1       <	lew south hugging west shore ly same eagle, flew SE across the lake d in the top of conifer d in the top of conifer (took off when #5 landed in tree) anded in same tree as #4, 2/3 down from the top of the tree. 44 flew out of sight towards Sulphur Creek lushed and flew around the corner when the boat approache swooping and calling, heard more than one eagle. gles flew off together towards the S/SW, couldn't see throug lew from perch SW across lake IIIt moved to different perch
2:55 3:03 3:08 3:15 3:28 3:30 3:40 3:50 3:55 4:27 4:50 	none           none           2           2           2           2           2           2           2           1           3           . </td <td>2 2 1 1 2 1 1 2 1 1 1 1 1 2 2 1 2 1 1 1 1 1 2 1</td> <td>3 3 1 1 1 1 1 3 3 3 3,1 </td> <td>1     Eagle 1       2     Probat       3     Perche       4     Perche       5     Eagle 1       6     Eagle 3       3     Eagle 3       3     Eagle 3       6     Eagle 3       7     Eagle 3       8     Two ea       9     Eagle 1       10     Subade       10     Subade       110     Su</td> <td>lew south hugging west shore ly same eagle, flew SE across the lake d in the top of conifer d in the top of conifer (took off when #5 landed in tree) anded in same tree as #4, 2/3 down from the top of the tree. 44 flew out of sight towards Sulphur Creek lushed and flew around the corner when the boat approache swooping and calling, heard more than one eagle. gles flew off together towards the S/SW, couldn't see throug lew from perch SW across lake IIIt moved to different perch</td>	2 2 1 1 2 1 1 2 1 1 1 1 1 2 2 1 2 1 1 1 1 1 2 1	3 3 1 1 1 1 1 3 3 3 3,1 	1     Eagle 1       2     Probat       3     Perche       4     Perche       5     Eagle 1       6     Eagle 3       3     Eagle 3       3     Eagle 3       6     Eagle 3       7     Eagle 3       8     Two ea       9     Eagle 1       10     Subade       10     Subade       110     Su	lew south hugging west shore ly same eagle, flew SE across the lake d in the top of conifer d in the top of conifer (took off when #5 landed in tree) anded in same tree as #4, 2/3 down from the top of the tree. 44 flew out of sight towards Sulphur Creek lushed and flew around the corner when the boat approache swooping and calling, heard more than one eagle. gles flew off together towards the S/SW, couldn't see throug lew from perch SW across lake IIIt moved to different perch
2:55 3:03 3:08 3:15 3:28 3:30 3:40 3:50 3:55 4:27 4:50 	none           none           2           2           2           2           2           2           2           2           1           3	2 2 1 1 2 1 1 2 1 1 1 1 3 2 2 1 1 1 1 1	3 3 1 1 1 1 1 3 3 3 3,1 	1     Eagle 1       2     Probat       3     Perche       4     Perche       5     Eagle 1       6     Eagle 3       3     Eagle 3       3     Eagle 3       7     Eagle 3       8     Two ea       9     Eagle 1       10     Subade       10     Subade       110     S	lew south hugging west shore ly same eagle, flew SE across the lake d in the top of conifer d in the top of conifer (took off when #5 landed in tree) anded in same tree as #4, 2/3 down from the top of the tree. 44 flew out of sight towards Sulphur Creek lushed and flew around the corner when the boat approache swooping and calling, heard more than one eagle. gles flew off together towards the S/SW, couldn't see throug lew from perch SW across lake ult moved to different perch

Figure 12. Baker project River Project bald eagle night roost survey data form, January 28, 2010.



Figure 13. Map of Baker River Project bald eagle night roost survey observations, January 28, 2010.

	1.5	Age Clas	s	Activity	Perch Type
hours befo	ore	Ũ		(Last Obser	ved)
sunset to	0.5	1=Adult		1=Perching	1=Snag
hour after		2=Subad	ult	2=Feeding	2=Conifer
sunset		3=Unkno	own	3=Flying	3=Hardwood
				4=Roosting	4=Other
Date: 2-1	1-2010			0	
Observer	(s): Haley E	– dwards, To	ny Fuchs,	Scott Heller, I	Mel Walters (PSE)
Roost or	Site Name:	Lake Sha	nnon		
Observat	ion Time:	Arrival: 2	2:55 p.m.	Departure: 5	5:53 p.m.
Weather	<b>Conditions:</b>	Wind: C		(C=calm, I	L = light breeze, G = gusty)
Wind Dir	rection:	_		_	
Cloud Co	over: O	(C=clea	r, S = sca	attered cloud.	s, $O = overcast$ , $G = ground fog$ )
Precip: R	(N=no	ne, <b>R</b> =ra	in, M=n	nisty, W=Sh	owers, $S = snow$ , $F = persistent fog$ )
Visibility	: G (E = executive)	cellent > i	' mile, G	=good 600'-	1 mile, <b>F</b> = fair 300'-600', <b>P</b> = poor 0-300')
Tempera	ture (Appro:	<b>x.):</b> 45°F	_		
			-		
Total Bir	ds Observed	9	-	Final Roost	t Count 0
	Donah	1.00		Man	
Time	Type	Age	Activity	Nap Bof # Cor	nmonts
1 mme 2-57	2	1			Inments
2.37	3	1			
0.40					
3:12	2			- Fac	le perched in the top of a conifer flushed by boat flew N and
3:12 3:32	2	1	1	Eag 3 land	le perched in the top of a conifer, flushed by boat, flew N and ded across the lake from # HE 4.
3:12 3:32 3:34	2	1	1	3 land	le perched in the top of a conifer, flushed by boat, flew N and led across the lake from # HE 4. le perched in the top of a conifer.
3:12 3:32 3:34 3:45	2 2 2 3	1 1 1 1	1 1 1	3 land 4 Eag 5 Fac	le perched in the top of a conifer, flushed by boat, flew N and ded across the lake from # HE 4. le perched in the top of a conifer. le flew up the lake
3:12 3:32 3:34 3:45 3:50	2 2 2 3 2	1 1 1 1	1 1 1 1	3 land 3 land 4 Eag 5 Eag	Ile perched in the top of a conifer, flushed by boat, flew N and ded across the lake from # HE 4. Ile perched in the top of a conifer. Ile flew up the lake.
3:12 3:32 3:34 3:45 3:50 4:22	2 2 2 3 2 2	1 1 1 1 1 1	1 1 1 1 1	Eag 3 land 4 Eag 5 Eag 6 Eag	le perched in the top of a conifer, flushed by boat, flew N and ded across the lake from # HE 4. le perched in the top of a conifer. le flew up the lake. le perched on west side of lake, was gone after 5 minutes.
3:12 3:32 3:34 3:45 3:50 4:22 4:33	2 2 2 3 2 2 2 2 2	1 1 1 1 1 1 1	1 1 1 1 1 1	3 lanc 3 lanc 4 Eag 5 Eag 6 Eag 7	le perched in the top of a conifer, flushed by boat, flew N and ded across the lake from <b>#</b> HE 4. le perched in the top of a conifer. le flew up the lake. le perched on west side of lake, was gone after 5 minutes.
3:12 3:32 3:34 3:45 3:50 4:22 4:33 4:35	2 2 3 2 2 2 2 2 2 2 2	1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 2	Eag           3         land           4         Eag           5         Eag           6         Eag           7         8           9         Eag	Ile perched in the top of a conifer, flushed by boat, flew N and ded across the lake from # HE 4. Ile perched in the top of a conifer. Ile flew up the lake. Ile perched on west side of lake, was gone after 5 minutes.
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Figure 14. Baker River Project bald eagle night roost survey data form, February 11, 2010.



Figure 15. Map of Baker River Project bald eagle night roost survey observations, February 11, 2010.

Conduct 1	.5	Age Clas	s	Activity	. I	Perch Type				
hours befo	ore	1 4 1 1		(Last Obse	erved)	1 0				
sunset to (	0.5	I=Adult	1.	1=Perchin	ıg	I=Snag				
hour after		2=Subad	ult	2=Feeding	g i	2=Conifer				
sunset		3=Unknc	wn	3=Flying	-	3=Hardwood				
D (	5 3010			4=Roostin	ng 4	4=Other				
Date: 2-2:	5-2010	-		0			A I I.			
Observer	(s): Haley Ed	dwards, To	ny ⊢uchs,	Scott Heller	r, Mel Wali	ters (PSE) Broo	Applegate	(WDFW).		
Roost or S	Site Name:	Lake Shai	nnon	Description	. (.15					
Observat	ion Time:	Arrival: :	3:40 p.m.	Departure	<u> </u>	1.				
weather	Conditions:	wina:		c = caim,	L=ugnt	<i>breeze</i> , <b>G</b> =g	isiy)			
wind Dir	ection:	-	• • • • • • • •	attered of	da 0	novagat C -	in a second for -1			
Cloud Co	ver: $U$	$\mathbf{P} = clea$	r, 3 =scc in M	uierea ciou aisto, W–9	uas, U=0 Showers	vercasi, $G = g$	ouna Jog) parsistant f	og)		
r recip: N	$\frac{1}{E} = \frac{1}{E} = \frac{1}{2}$	$ne, \mathbf{n} = ra$	111, 1 <b>VI</b> = N Smile C	usiy, w = S	Showers, J	$\mathbf{S} = SHOW, \mathbf{F} = \mathbf{F}$	ersistent Jo '00' <b>p</b>	ugj		
v isidility:	E (E = exc	$\frac{2}{2} = 1 = 1$	mue, G	-gooa 600	<i>) -1 mile</i> ,	<b>r</b> =jair 300'-0	ου, <b>r</b> =po	or 0-300')		
remperat	ure (Approx	<b></b> 40 F	-							
Total Riv	ds Observed	• 5		Final Roo	ost Count	• 0				
Total Dife	us observeu	• 5	-	T mai 100	Jst Count	• •				
		1 ~~~		Man						
	Perch	Age		17 ILLEP						
Time	Perch Type	Age Class	Activity	Ref # C	Comments					
Time 3:57	Perch Type 2	Age Class 1	Activity 1	<b>Ref # C</b>	Comments					
Time 3:57 4:15	Perch Type 2 1	Age Class 1	Activity 1	Ref #         C           1         2	Comments	om the top of a	inag			
Time 3:57 4:15 4:20	Perch Type 2 1 2	Age Class 1 1	Activity 1 1 1	Ref #         C           1         2         1/           3         Ea	Comments /3 down fro	om the top of a	ag hed in conif	fer (flushed )	by the boat)	
Time 3:57 4:15 4:20 4:35	Perch Type 2 1 2 2 2	Age Class 1 1 1 1	Activity 1 1 1 3,1	Ref #         C           1         2           2         1/           3         Ea           4         B0	Comments /3 down fro agle flew u	om the top of a ip lake and per	snag hed in conif ⊨in the same	fer (flushed	by the boat)	
Time 3:57 4:15 4:20 4:35 4:42	Perch Type 2 1 2 2 2 2 2	Age Class 1 1 1 1 1 1	Activity 1 1 3,1 1	Ref #         C           1         2           2         1/           3         Ea           4         Be           5         Ea	Comments /3 down fro agle flew u ooth eagles agle in the	om the top of a up lake and per (HE2 and HE3 top of a conife	snag hed in conif in the same on the east	fer (flushed   e spot t side of the	by the boat) lake	
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Time           3:57           4:15           4:20           4:35           4:22           4:42           4:52           5:15           5:35	Perch Type 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Age <u>Class</u> 1 1 1 1 1 1 1 1 1 1 1 1 1	Activity 1 1 3,1 1 3 3,1 3 3,1 3	Ref #         C           1         2           2         1/           3         Ei           4         Bi           5         Ei           6         Ei           7         Ei           8         Si	Comments /3 down fro agle flew L toth eagles agle in the agle flew L agle flew s agle flew s ame eagle	om the top of a up lake and per (HE2 and HE3 top of a conife up the lake and south over the I as above (BA	mag thed in conif in the sam on the east out of sight ke, then per	fer (flushed   e spot t side of the rched. over the lak	by the boat) lake	
Time           3:57           4:15           4:20           4:35           4:42           4:52           5:15           5:35           5:44	Perch Type 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Age <u>Class</u> 1 1 1 1 1 1 1 1 1 1 1 1 1	Activity 1 1 3,1 1 3 3,1 3 3,1 3 3 3	Ref #         C           1         2           2         1/           3         Ei           4         Bi           5         Ei           6         Ei           7         Ei           8         Si           9         Ei	Comments /3 down fro agle flew u toth eagles agle in the agle flew u agle flew s ame eagle agle #HE2	om the top of a up lake and per (HE2 and HE3 top of a conife up the lake and south over the I as above (BA thew off up the	anag thed in conif in the sam on the east out of sight ke, then per ) flew south lake.	fer (flushed e spot t side of the rched. over the lat	by the boat) lake ke.	
Time           3:57           4:15           4:20           4:35           4:42           4:52           5:15           5:35           5:44	Perch Type 2 1 2 2 2 2 2 2 0 2 2 2 2 2 2 2 2 0 0 0 0	Age <u>Class</u> 1 1 1 1 1 1 1 1 1 1 1 1 1	Activity 1 1 3.1 1 3 3,1 3 3 3	Ref #         C           1	Comments /3 down fro agle flew L toth eagles agle in the agle flew L agle flew s ame eagle agle #HE2	om the top of a up lake and per (HE2 and HE3 top of a conife up the lake and south over the l e as above (BA t flew off up the	mag hed in conif in the sam on the east out of sight ike, then per ) flew south lake.	fer (flushed   e spot t side of the rched. over the lał	by the boat) lake <e.< td=""><td></td></e.<>	
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Time           3:57           4:15           4:20           4:35           4:42           4:52           5:15           5:35           5:44	Perch Type 2 1 2 2 2 2 none 2 2 2 2 2 none	Age <u>Class</u> 1 1 1 1 1 1 1 1 1 1 1 1 1	Activity 1 1 3,1 1 3 3,1 3 3 	Ref #         C           1	Comments /3 down fro agle flew u toth eagles agle in the agle flew u tagle flew s ame eagle agle #HE2	om the top of a ip lake and per i (HE2 and HE3 top of a conife ip the lake and south over the l e as above (BA flew off up the	anag ihed in conification on the same out of sight ike, then per ) flew south lake.	fer (flushed   e spot t side of the rched. over the lak	by the boat) lake ke.	
Time           3:57           4:15           4:20           4:35           4:42           4:52           5:15           5:35           5:44	Perch Type 2 1 2 2 2 2 none 2 2 2 none 2 2 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Age Class 1 1 1 1 1 1 1 1 1 1 1 1 1	Activity 1 1 3,1 1 3 3,1 3 3 	Ref #         C           1	Comments /3 down fro agle flew u toth eagles agle in the agle flew u agle flew s ame eagle agle #HE2	om the top of a up lake and per (HE2 and HE3 top of a conife up the lake and south over the l as above (BA flew off up the	snag ihed in conif in the same on the east out of sight ike, then per ) flew south lake.	fer (flushed   e spot t side of the rched. over the lat	by the boat) lake ke.	
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Figure 16. Baker River Project bald eagle night roost survey data form, February 25, 2010.



Figure 17. Map of Baker River Project bald eagle night roost survey observations, February 25, 2010.

### 7.0 References

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