



Photo credit: US Fish and Wildlife Service

Project title:

Corvallis Municipal Watershed
Marbled Murrelet Surveys

Submitted to:

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Submission date:

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2018 Report

MARBLED MURRELET SURVEYS

FOR
**Corvallis
Municipal
Watershed**

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INTRODUCTION

Turnstone Environmental Consultants Inc. (Turnstone) was contracted to conduct 47 marbled murrelet surveys within the Corvallis Municipal Watershed during the 2018 survey season. The goal of these surveys was to determine the presence, occupancy, or likely absence of the marbled murrelet within the delineated survey areas. This report summarizes the results of surveys conducted by Turnstone during the 2018 season.

METHODOLOGY

Survey Sites

Surveys were conducted within 8 sites. Survey stations were established by Turnstone. Initially, site CW18B had 6 planned visits; due to presence detections, an additional 3 surveys were added to make a total of 9 for the season.

Table 1. 2018 survey sites.

SITE	CONTRACTED SURVEYS	SURVEY STATUS	SURVEYS COMPLETED TO PROTOCOL	COMMENTS
CW18A	5	Year-1	5	No detections.
CW18B	6 (9)	Year-1	9	Presence detected.
CW18C	6	Year-1	6	No detections.
CW18D	6	Year-1	6	No detections.
CW18E	5	Year-1	5	No detections.
CW18F	5	Year-1	5	No detections.
CW18G	5	Year-1	5	No detections.
CW18H	6	Year-1	6	No detections.
Totals	44 (47)		47	47 total completed surveys



Survey Methods

Turnstone conducted marbled murrelet surveys according to the 2003 Pacific Seabird Group (PSG)'s *Methods for Surveying Marbled Murrelets in Forests: A Revised Protocol for Land Management and Research* ("PSG Protocol") between May 1 and August 5, 2018. Surveys begin a minimum of forty-five minutes before sunrise and extended to a minimum of seventy-five minutes after sunrise – longer if murrelet detections occurred during the final fifteen minutes of the survey. Each protocol survey visit consisted of the following:

- The early morning arrival of a certified marbled murrelet surveyor at a predetermined survey station.
- The voice recording (into a handheld voice recorder) of any murrelet activity, noise level, and weather conditions (including cloud cover, ceiling height, wind speed, and precipitation).
- The transcription of voice recordings onto survey forms.
- The recording of survey location and arrival time using GPS.

PSG Protocol stipulates that all survey sites receive five to nine visits throughout the survey season, depending on survey results during the first five visits. If a murrelet is detected during that time, up to four additional survey visits are conducted in an effort to positively determine murrelet occupancy. Turnstone was contracted to conduct a specific number of these surveys on a site-by-site basis. The PSG Protocol recommends no more than 30 and no less than 6 days between site visits except for late season presence detections, at which point an additional 4 site visits may be clustered as close as two days apart if necessary.

Survey Data & Quality Control

Survey forms were labeled with survey site name, station number, visit number, date surveyed, and number and type of detections encountered.

Prior to submission to Trout Mountain Forestry (TMF) and the City of Corvallis (City), survey data is passed through three levels of review. First, surveyors reviewed their own data forms before submitting them to the crew leader. The crew leader inspected the data forms for completeness, legibility, and accuracy before submitting to the project coordinator. The project coordinator further inspected the data forms before submitting survey information to TMF and the City.

In addition, survey schedules were reviewed weekly by the project coordinator throughout the survey season in order to ensure adherence to both the PSG protocol and contract terms.

Personnel

Staff Training

Marbled murrelet training was conducted during the week of April 23, 2018, in Prairie Creek State Park, California. Turnstone staff and local murrelet biologist Sean McAllister provided the training to field crews.

Before surveys began on May 1, all Turnstone personnel were required to take and successfully pass marbled murrelet surveyor certification or recertification in 2018 as well as a hearing evaluation in 2017 or 2018.



Crew Organization

Based on the projected workload, Turnstone established project crew based out of Corvallis, Oregon which was supplemented by help from certified professional staff. Jeff Reams, Project Manager, and Sarah McCord, Project Coordinator, worked with crew leader Jake Taylor and surveyors Thomas Cooney, Emily Halsell, Noelle Moen, Courtney Ollmann, Susan Salafsky, and Deklyn Wood to successfully complete the 2018 murrelet surveys.

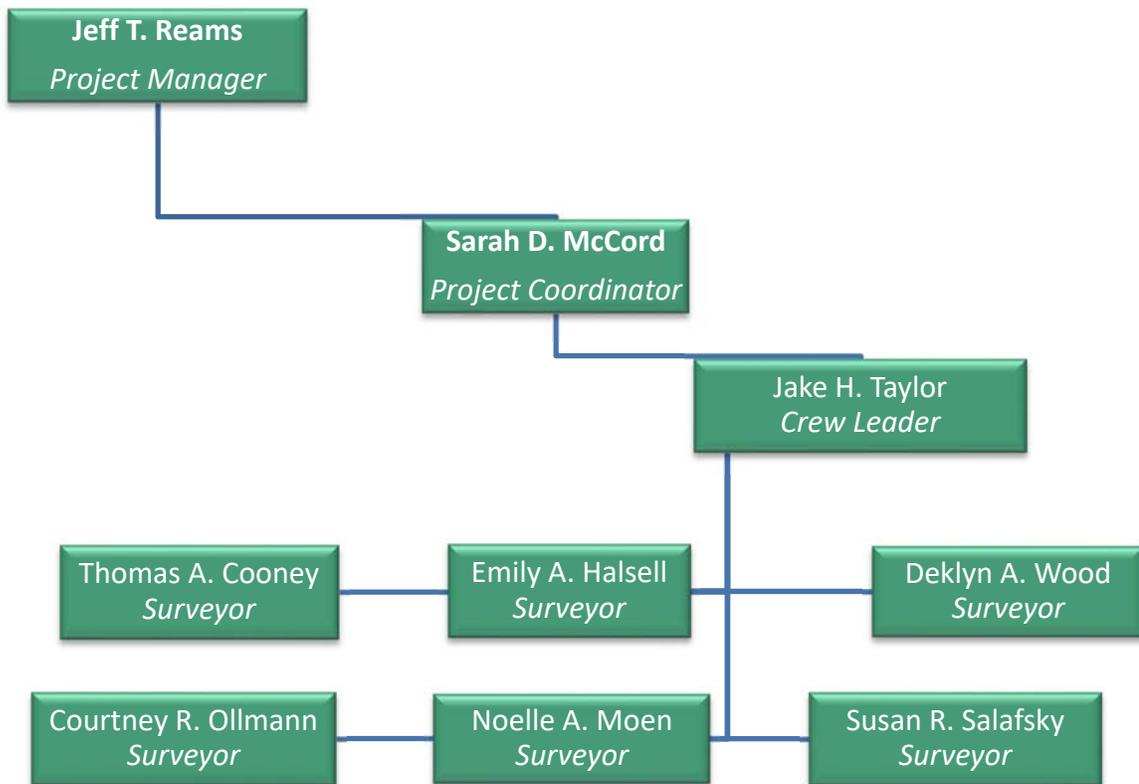


Figure 1. 2018 Staff organizational chart



Table 2. 2018 survey crew.

SURVEYOR NAME	INITIALS	MOST RECENT CERTIFICATION/REFRESHER
Thomas A. Cooney	TAC	April 26, 2018 – Prairie Creek Redwoods State Park, Orick, CA
Emily A. Halsell	EAH	April 26, 2018 – Prairie Creek Redwoods State Park, Orick, CA
Noelle A. Moen	NAM	April 26, 2018 – Prairie Creek Redwoods State Park, Orick, CA
Courtney R. Ollmann	CRO	June 14, 2018 – Prairie Creek Redwoods State Park, Orick, CA
Susan R. Salafsky	SRS	April 26, 2018 – Prairie Creek Redwoods State Park, Orick, CA
Deklyn A. Wood	DAW	April 26, 2018 – Prairie Creek Redwoods State Park, Orick, CA
Sarah D. McCord	SDM	April 25, 2018 – Prairie Creek Redwoods State Park, Orick, CA
Jeff T. Reams	JTR	April 26, 2018 – Prairie Creek Redwoods State Park, Orick, CA

A mid-season refresher was conducted on June 29, 2018 at Cape Perpetua State Park. Members of Turnstone survey crews and professional staff were present for the refresher. Murrelets were observed during the survey session, including audible and visual detections with occupied behaviors.

RESULTS

A total of 47 surveys were completed during the 2018 survey season (Table 3). Biologists recorded murrelet activity during two of the 47 surveys. On three occasions, surveyors were unable to reach their survey sites due to the electronic gate being locked and had to reschedule. All surveys were conducted to protocol.

Presence only behavior was recorded in site CW18B. Detections occurred on two of the visits; a total of 7 detections were recorded. Based on the audible detections, the murrelets seemed to be traveling along North Fork Rock Creek above the North Fork Reservoir.

No detections were recorded at CW18A, CW18C, CW18D, CW18E, CW18F, CW18G and CW18H.



Figure 2. 2018 CW18B marbled murrelet presence observations



Table 3. 2018 marbled murrelet detection summary.

SITE	STA.	VIS.	SURVEYOR	DATE	START	SUNRISE	USNO LOCATION	PROT. MET	# DETS.	COMMENTS
CW18A	5	1	EAH	5/4/18	5:14	5:59	Philomath	Y	0	
CW18A	2	2	EAH	5/24/18	4:52	5:37	Philomath	Y	0	
CW18A	3	3	EAH	6/20/18	4:43	5:28	Philomath	Y	0	
CW18A	4	4	CRO	7/3/18	4:49	5:34	Philomath	Y	0	
CW18A	1	5	CRO	7/10/18	4:54	5:39	Philomath	Y	0	
CW18B	4	1	NAM	5/15/18	5:01	5:46	Philomath	Y	0	
CW18B	1	2	EAH	6/7/18	4:44	5:29	Philomath	Y	2	Audible only
CW18B	3	3	SDM	6/13/18	4:43	5:28	Philomath	Y	0	
CW18B	5	4	EAH	6/27/18	4:46	5:31	Philomath	Y	0	
CW18B	6	5	CRO	7/4/18	4:49	5:34	Philomath	Y	0	
CW18B	3	6	CRO	7/11/18	4:54	5:39	Philomath	Y	0	
CW18B	2	7	JHT	7/24/18	5:07	5:52	Philomath	Y	0	
CW18B	1	8	JHT	7/30/18	5:13	5:58	Philomath	Y	5	Audible only
CW18B	3	9	SDM	8/5/18	5:20	6:05	Philomath	Y	0	
CW18C	1	1	SRS	5/16/18	5:00	5:45	Philomath	Y	0	
CW18C	3	2	SDM	6/14/18	4:43	5:28	Philomath	Y	0	Locked out on 6/8
CW18C	5	3	CRO	7/6/18	4:51	5:36	Philomath	Y	0	
CW18C	4	4	EAH	7/13/18	4:56	5:41	Philomath	Y	0	
CW18C	2	5	DAW	7/27/18	5:10	5:55	Philomath	Y	0	
CW18C	6	6	EAH	8/2/18	5:16	6:01	Philomath	Y	0	
CW18D	6	1	EAH	5/1/18	5:19	6:04	Philomath	Y	0	
CW18D	1	2	TAC	5/21/18	4:55	5:40	Philomath	Y	0	
CW18D	2	3	JHT	6/18/18	4:43	5:28	Philomath	Y	0	
CW18D	5	4	JTR	7/6/18	4:51	5:36	Philomath	Y	0	



SITE	STA.	VIS.	SURVEYOR	DATE	START	SUNRISE	USNO LOCATION	PROT. MET	# DETS.	COMMENTS
CW18D	3	5	CRO	7/12/18	4:55	5:40	Philomath	Y	0	
CW18D	4	6	JHT	7/31/18	5:14	5:59	Philomath	Y	0	
CW18E	5	1	EAH	5/2/18	5:17	6:02	Philomath	Y	0	
CW18E	2	2	EAH	5/25/18	4:51	5:36	Philomath	Y	0	
CW18E	3	3	EAH	6/23/18	4:44	5:29	Philomath	Y	0	
CW18E	4	4	CRO	7/5/18	4:50	5:35	Philomath	Y	0	
CW18E	1	5	CRO	7/13/18	4:56	5:41	Philomath	Y	0	
CW18F	2	1	SRS	5/11/18	5:05	5:50	Philomath	Y	0	
CW18F	1	2	EAH	6/6/18	4:44	5:29	Philomath	Y	0	Locked out on 6/1
CW18F	2	3	JHT	6/19/18	4:43	5:28	Philomath	Y	0	
CW18F	1	4	JTR	7/5/18	4:50	5:35	Philomath	Y	0	
CW18F	2	5	CRO	7/14/18	4:57	5:42	Philomath	Y	0	
CW18G	4	1	NAM	5/11/18	5:05	5:50	Philomath	Y	0	
CW18G	1	2	EAH	5/31/18	4:47	5:32	Philomath	Y	0	
CW18G	2	3	EAH	6/28/18	4:46	5:31	Philomath	Y	0	
CW18G	5	4	EAH	7/10/18	4:54	5:39	Philomath	Y	0	
CW18G	3	5	SDM	7/17/18	5:00	5:45	Philomath	Y	0	
CW18H	1	1	EAH	5/3/18	5:16	6:01	Philomath	Y	0	
CW18H	3	2	TAC	5/22/18	4:54	5:39	Philomath	Y	0	
CW18H	4	3	EAH	6/19/18	4:43	5:28	Philomath	Y	0	
CW18H	5	4	EAH	7/2/18	4:48	5:33	Philomath	Y	0	
CW18H	2	5	SDM	7/13/18	4:56	5:41	Philomath	Y	0	
CW18H	6	6	JHT	7/27/18	5:10	5:55	Philomath	Y	0	Locked out 7/23



CONCLUSION

CW18A

Turnstone completed five surveys at five stations with no presence detected during Year-1 (2018). A minimum of five surveys are recommended in 2019 (Year-2).

CW18B

Turnstone completed nine surveys at six stations with presence detected during Year-1 (2018). This site is tentatively classified as having presence, pending results of a second year of surveys. A minimum of 9 surveys are recommended in 2019 (Year-2).

CW18C

Turnstone completed six surveys at six stations with no presence detected during Year-1 (2018). A minimum of six surveys are recommended in 2019 (Year-2).

CW18D

Turnstone completed six surveys at six stations with no presence detected during Year-1 (2018). A minimum of six surveys are recommended in 2019 (Year-2).

CW18E

Turnstone completed five surveys at five stations with no presence detected during Year-1 (2018). A minimum of five surveys are recommended in 2019 (Year-2).

CW18F

Turnstone completed five surveys at two stations with no presence detected during Year-1 (2018). A minimum of five surveys are recommended in 2019 (Year-2).

CW18G

Turnstone completed five surveys at five stations with no presence detected during Year-1 (2018). A minimum of five surveys are recommended in 2019 (Year-2).

CW18H

Turnstone completed six surveys at six stations with no presence detected during Year-1 (2018). A minimum of six surveys are recommended in 2019 (Year-2).



APPENDIX A – 2018 SURVEY DATA FORMS



OREGON MARBLED MURRELET FOREST SURVEY FORM

Survey Visit to Protocol

Clear Form

Page 1 of 1

(Y or N, initials): Y JT

Total Detections: 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 5 Day 1 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18D Station Number: 6

Station Location - T 12 N or S, R 8 E or W, S 18, QQ (1/16) SW, of Q (1/4) NW

UTM zone: 10 E (x) coordinate: 462440 N (y) coordinate: 4930896 Source: GPS Datum: NAD 83 FOM: _____

Observer (s) Name: Emily Halsell Initials: EAH Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 1,240 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0604

Elst: Philomath

Begin Survey Time: 0512 End Survey Time: 0719

Temperature at Sunrise: 41.0

Uqwteg<aaaaaa
USNO

Temperature at End of Survey: 42.0 C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 5 1 2	MID	2	Y	Y	Y	N	N	N	1	N	Begin Survey
0 6 0 4	MID	2	Y	Y	Y	N	N	N	1	N	Sunrise
0 6 1 3	MID	3	Y	Y	Y	N	N	N	1	N	Cloud cover increase to 100%
0 7 1 9	MID	3	Y	Y	Y	N	N	N	1	N	End Survey

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤2.0 canopy height, LO = ≤1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

** ODFW DATABASE USE ONLY **

OREGON MARBLED MURRELET FOREST SURVEY FORM

Survey Visit to Protocol

Clear Form

Page 1 of 1

(Y or N, initials): Y JT

Total Detections: 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 5 Day 2 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18E Station Number: 5

Station Location - T 12 N or S, R 7 E or W, S 18, QQ (1/16) NE, of Q (1/4) SE

UTM zone: 10 E (x) coordinate: 462104 N (y) coordinate: 4930354 Source: GPS Datum: NAD 83 FOM: _____

Observer (s) Name: Emily Halsell Initials: EAH Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 829 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0604 Elv: Philomath Begin Survey Time: 0512 End Survey Time: 0717

Temperature at Sunrise: 43.0 ° Temperature at End of Survey: 48.0 ° C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 5 1 2	UL	0	Y	Y	Y	N	N	N	0	N	Begin Survey
0 6 0 2	UL	0	Y	Y	Y	N	N	N	0	N	Sunrise
0 7 1 7	UL	0	Y	Y	Y	N	N	N	0	N	End Survey

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤ 1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

** ODFW DATABASE USE ONLY **

OREGON MARBLED MURRELET FOREST SURVEY FORM

Survey Visit to Protocol

Clear Form

Page 1 of 1

(Y or N, initials): Y JT

Total Detections: 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 5 Day 3 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18H Station Number: 1

Station Location - T 12 N or S, R 7 E or W, S 26, QQ (1/16) NW, of Q (1/4) SE

UTM zone: 10 E (x) coordinate: 459895 N (y) coordinate: 4926986 Source: GPS Datum: NAD 83 FOM: _____

Observer (s) Name: Emily Halsell Initials: EAH Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 1,840 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0601 Elv: Philomath Begin Survey Time: 0503 End Survey Time: 0716

Temperature at Sunrise: 46.0 ° Temperature at End of Survey: 47.0 ° C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0503	UL	0	Y	Y	Y	N	N	N	0	N	Begin Survey
0601	UL	0	Y	Y	Y	N	N	N	0	N	Sunrise
0716	UL	0	Y	Y	Y	N	N	N	0	N	End Survey

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

** ODFW DATABASE USE ONLY **

OREGON MARBLED MURRELET FOREST SURVEY FORM

Survey Visit to Protocol

Clear Form

Page 1 of 1

(Y or N, initials): Y JT

Total Detections: 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 5 Day 4 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18A Station Number: 5

Station Location - T 12 N or S, R 7 E or W, S 11, QQ (1/16) SE, of Q (1/4) SE

UTM zone: 10 E (x) coordinate: 460269 N (y) coordinate: 4931540 Source: GPS Datum: NAD 83 FOM: _____

Observer (s) Name: Emily Halsell Initials: EAH Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 1,254 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0559 Elv: Philomath Begin Survey Time: 0511 End Survey Time: 0716

Temperature at Sunrise: 46.0 ° Temperature at End of Survey: 48.0 ° C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 5 1 1	HI	3	Y	Y	Y	N	N	N	0	N	Begin Survey
0 6 0 2	HI	3	Y	Y	Y	N	N	N	0	N	Sunrise
0 7 1 6	HI	3	Y	Y	Y	N	N	N	0	N	End Survey

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤ 1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
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Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

** ODFW DATABASE USE ONLY **

OREGON MARBLED MURRELET FOREST SURVEY FORM

Survey Visit to Protocol Clear Form Page 1 of 1

(Y or N, initials): Y SM **Total Detections:** 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 5 Day 11 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18F Station Number: 2

Station Location - T 12 N or S, R 7 E or W, S 26, QQ (1/16) SE, of Q (1/4) NW

UTM zone: 10 E (x) coordinate: 0459345 N (y) coordinate: 4927451 Source: GPS Datum: NAD83 FOM: --

Observer (s) Name: Susan Salafsky Initials: SRS Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 1,800 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0550 Elv: Philomath Begin Survey Time: 0502 End Survey Time: 0708

Temperature at Sunrise: 44.0 ° Temperature at End of Survey: 45.0 ° C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 5 0 2	HI	3	Y	Y	Y	N	N	N	0	N	Start survey, wind gusts = 1
0 5 5 0	HI	3	Y	Y	Y	N	N	N	0	N	Sunrise, wind gusts < 2
0 7 0 8	HI	1	Y	Y	Y	N	N	N	1	N	End survey

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

** ODFW DATABASE USE ONLY **

OREGON MARBLED MURRELET FOREST SURVEY FORM

Survey Visit to Protocol Clear Form Page 1 of 1

(Y or N, initials): Y SM **Total Detections:** 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 5 Day 11 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18G Station Number: 4

Station Location - T 12 N or S, R 7 E or W, S 34, QQ (1/16) NE, of Q (1/4) NE

UTM zone: 10 E (x) coordinate: 0458623 N (y) coordinate: 4926575 Source: GPS Datum: NAD83 FOM: --

Observer (s) Name: NOELLE MOEN Initials: NAM Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 2,344 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0550 Elevation: CORVALLIS Begin Survey Time: 0500 End Survey Time: 0708

Temperature at Sunrise: 47.0 °F Temperature at End of Survey: 51.0 °F C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 5 0 0	HI	3	Y	Y	Y	N	N	N	0	N	BEGIN SURVEY, clouds
0 5 5 0	HI	3	Y	Y	Y	N	N	N	0	N	SUNRISE REPORT
0 7 0 8	HI	1	Y	Y	Y	N	N	N	0	N	END SURVEY, clouds lessen
0 5 2 9											

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

** ODFW DATABASE USE ONLY **

QC1: JLG 5/15/18

QC2: AN 5/15/18

OREGON MARBLED MURRELET FOREST SURVEY FORM

Survey Visit to Protocol

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(Y or N, initials): Y SM

Total Detections: 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 5 Day 15 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18B Station Number: 4

Station Location - T 12 N or S, R 7 E or W, S 13, QQ (1/16) SW, of Q (1/4) NW

UTM zone: 10 E (x) coordinate: 0460934 N (y) coordinate: 4930584 Source: GPS Datum: NAD83 FOM: --

Observer (s) Name: NOELLE MOEN Initials: NAM Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 850 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: N/A Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0546 Elevation: CORVALLIS Begin Survey Time: 0459 End Survey Time: 0705

Temperature at Sunrise: 49.0 ° Temperature at End of Survey: 51.0 ° C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 4 5 9	HI	3	Y	Y	Y	N	N	N	0	N	barred owl, bald eagle
0 5 4 6	HI	3	Y	Y	Y	N	N	N	0	N	BEGIN SURVEY, overcast
0 7 0 5	HI	3	Y	Y	Y	N	N	N	0	N	SUNRISE REPORT
											END SURVEY

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

** ODFW DATABASE USE ONLY **

OREGON MARBLED MURRELET FOREST SURVEY FORM

Survey Visit to Protocol Clear Form Page 1 of 1

(Y or N, initials): Y SM **Total Detections:** 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 5 Day 16 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18C Station Number: 1

Station Location - T 12 N or S, R 7 E or W, S 13, **QQ (1/16)** NE, of **Q (1/4)** SE

UTM zone: 10 E (x) coordinate: 0461776 N (y) coordinate: 4930346 Source: GPS Datum: NAD83 FOM: --

Observer (s) Name: Susan Salafsky Initials: SRS Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 675 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: N/A Units of Measure for **ALL** Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0545 **Elv**: Philomath **Begin Survey Time:** 0455 **End Survey Time:** 0702

Temperature at Sunrise: 51.0 **Uqwt eg**: USNO Temperature at End of Survey: 51.0 C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 4 5 5	HI	3	Y	Y	Y	N	N	N	0	N	520 2 STVA100-200m ENE
0 5 3 3	HI	3	Y	Y	Y	N	N	N	0	N	Intermittent gusts <1, overcast
0 5 4 5	HI	3	Y	Y	Y	N	N	N	0	N	Sunrise, intermittent gusts <1
0 7 0 2	HI	1	Y	Y	Y	N	N	N	1	N	End survey, light wind

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

** ODFW DATABASE USE ONLY **

OREGON MARBLED MURRELET FOREST SURVEY FORM

Survey Visit to Protocol

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(Y or N, initials): Y TC

Total Detections: 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 5 Day 21 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18D Station Number: 1

Station Location - T 12 N or S, R 06 E or W, S 18, QQ (1/16) NW, of Q (1/4) NW

UTM zone: 10 E (x) coordinate: 462204 N (y) coordinate: 4931190 Source: GPS Datum: NAD83 FOM: --

Observer (s) Name: Thomas Cooney Initials: TAC Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 1,120 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0540 Elevation: Philomath Begin Survey Time: 0454 End Survey Time: 0657

Temperature at Sunrise: 42.0 °F Temperature at End of Survey: 43.0 °F C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 4 5 4	UL	0	Y	Y	Y	N	N	N	1	N	Begin Survey
0 5 4 0	UL	0	Y	Y	Y	N	N	N	1	N	Sunrise
0 5 5 7	UL	0	Y	Y	Y	N	N	N	1	N	End Survey

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

** ODFW DATABASE USE ONLY **

OREGON MARBLED MURRELET FOREST SURVEY FORM

Survey Visit to Protocol Clear Form Page 1 of 1

(Y or N, initials): Y JT **Total Detections:** 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 5 Day 24 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18A Station Number: 2

Station Location - T 12 N or S, R 7 E or W, S 12, QQ (1/16) SW, of Q (1/4) SW

UTM zone: 10 E (x) coordinate: 460816 N (y) coordinate: 4931538 Source: GPS Datum: NAD83 FOM: --

Observer (s) Name: EMILY HALSELL Initials: EAH Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 1,320 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0537 **Elv:** PHILOMATH **Begin Survey Time:** 0452 **End Survey Time:** 0654

Temperature at Sunrise: 50.0 **USNO** **Temperature at End of Survey:** 51.0 C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 4 5 2	HI	2	Y	Y	Y	N	N	N	1	N	BEGIN SURVEY
0 5 3 7	HI	2	Y	Y	Y	N	N	N	1	N	SUNRISE
0 6 5 4	HI	2	Y	Y	Y	N	N	N	1	N	END OF SURVEY

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤1.25 canopy height, U = Unknown.

Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.

Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.

Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.

Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).

Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.

Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).

Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

** ODFW DATABASE USE ONLY **

OREGON MARBLED MURRELET FOREST SURVEY FORM

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(Y or N, initials): Y SM

Total Detections: 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 5 Day 31 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18G Station Number: 1

Station Location - T 12 N or S, R 7 E or W, S 27, QQ (1/16) NE, of Q (1/4) SE

UTM zone: 10 E (x) coordinate: 458693 N (y) coordinate: 4927233 Source: GPS Datum: NAD83 FOM: --

Observer (s) Name: EMILY HALSELL Initials: EAH Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 1,659 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0532 Elevation: PHILOMATH Begin Survey Time: 0447 End Survey Time: 0647

Temperature at Sunrise: 49.0 °F USNO Temperature at End of Survey: 50.0 °F C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 4 4 7	HI	3	Y	Y	Y	N	N	N	1	N	BEGIN SURVEY
0 5 3 2	HI	3	Y	Y	Y	N	N	N	1	N	SUNRISE
0 5 5 8	HI	3	Y	Y	Y	N	N	N	0	N	WEATHER UPDATE
0 6 4 7	HI	3	Y	Y	Y	N	N	N	0	N	END OF SURVEY

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤ 1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

** ODFW DATABASE USE ONLY **

OREGON MARBLED MURRELET FOREST SURVEY FORM

Survey Visit to Protocol

Clear Form

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(Y or N, initials): Y SM

Total Detections: 2

Species of Concern (Y or N, details on last pg.): Y or N

Month 6 Day 7 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18B Station Number: 1

Station Location - T 12 N or S, R 7 E or W, S 14, QQ (1/16) NE, of Q (1/4) NE

UTM zone: 10 E (x) coordinate: 460484 N (y) coordinate: 4931152 Source: GPS Datum: NAD83 FOM: --

Observer (s) Name: EMILY HALSELL Initials: EAH Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 1,180 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0529 Elv: PHILOMATH Begin Survey Time: 0443 End Survey Time: 0645

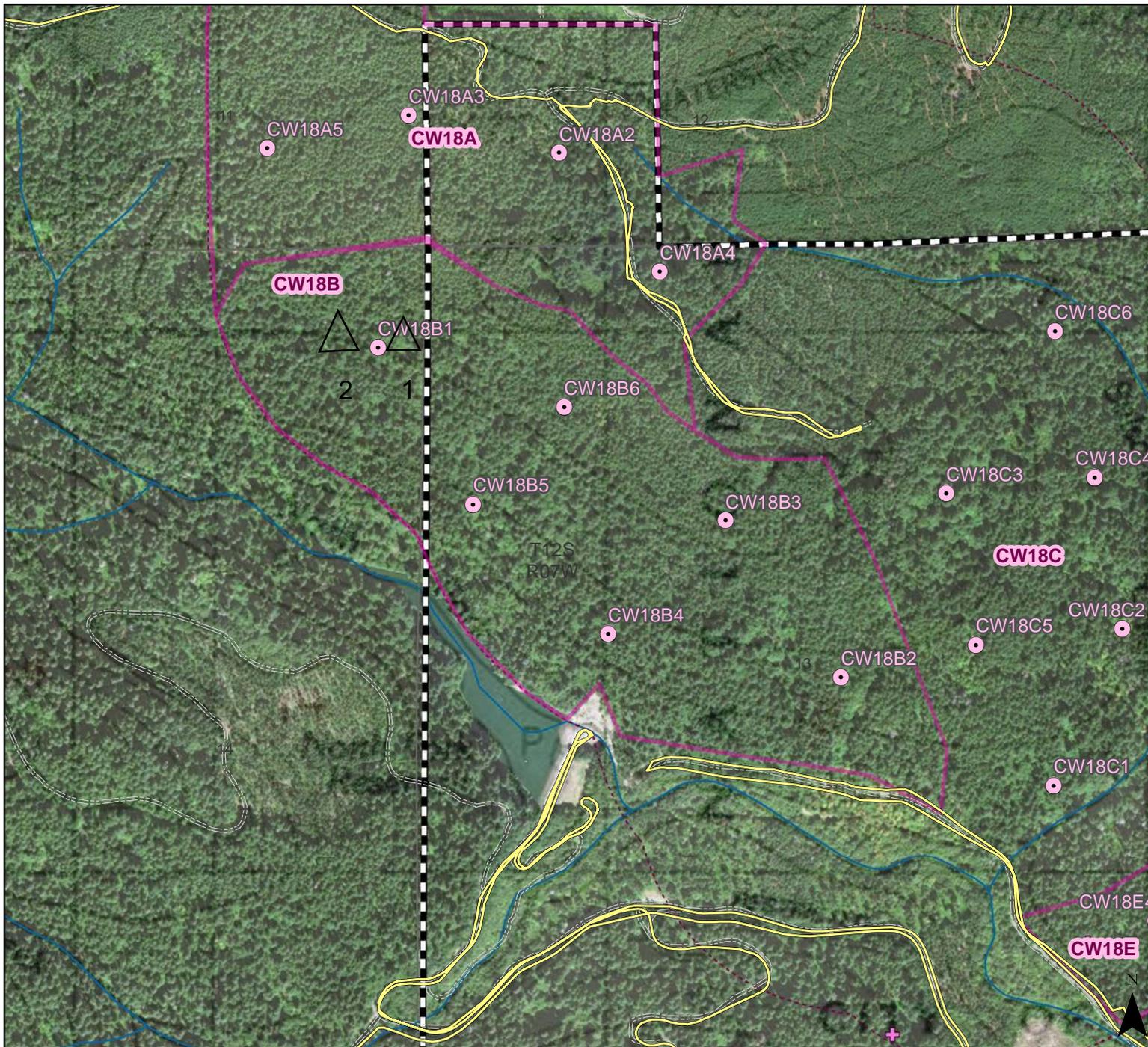
Temperature at Sunrise: 46.0 ° Temperature at End of Survey: 48.0 ° C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 4 4 3	MID	3	N	Y	Y	N	N	N	1	N	1.5 canopy vertical visibility
0 5 2 9	MID	3	N	Y	Y	N	N	N	1	N	BEGIN SURVEY
0 6 4 5	MID	3	N	Y	Y	N	N	N	0	N	SUNRISE
											END SURVEY

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

** ODFW DATABASE USE ONLY **



Legend

- Township
- Section
- Property Boundary
- 0.25-mi Buffer

Proposed Sites

- Proposed Site
- Surveyed 2013-2014

0 100 200 300 Meters
1:10,000
31 JAN 2018

DETECTION MAP
EMILY HALSELL
06/07/2018
STATION CW18B-1
MAP 1 OF 1

OREGON MARBLED MURRELET FOREST SURVEY FORM

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(Y or N, initials): Y N SM

Total Detections: 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 6 Day 13 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18B Station Number: 3

Station Location - T 12 N or S, R 7 E or W, S 13, QQ (1/16) SE, of Q (1/4) NW

UTM zone: 10 E (x) coordinate: 461131 N (y) coordinate: 4930901 Source: GPS Datum: NAD83 FOM: _____

Observer (s) Name: Sarah D. McCord Initials: SDM Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 1,320 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0528 Elv: Philomath Begin Survey Time: 0424 End Survey Time: 0643

Temperature at Sunrise: _____ Temperature at End of Survey: _____ C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 4 2 4	HI	3	Y	Y	Y	N	N	N	0	N	start survey
0 5 2 8	HI	3	Y	Y	Y	N	N	N	0	N	sunrise
0 6 2 3	HI	3	Y	Y	Y	N	N	N	1	N	light wind
0 6 2 9	HI	3	Y	Y	Y	L	N	N	1	N	light rain
0 6 4 3	HI	3	Y	Y	Y	L	N	N	1	N	end survey

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

** ODFW DATABASE USE ONLY **

OREGON MARBLED MURRELET FOREST SURVEY FORM

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(Y or N, initials): Y JT

Total Detections: 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 6 Day 18 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18D Station Number: 2

Station Location - T 12 N or S, R 7 E or W, S 13, QQ (1/16) SE, of Q (1/4) NE

UTM zone: 10 E (x) coordinate: 462111 N (y) coordinate: 4930879 Source: GPS Datum: NAD 83 FOM: _____

Observer (s) Name: Jacob Taylor Initials: JHT Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 1,018 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0528 Elv: Philomath Begin Survey Time: 0443 End Survey Time: 0644

Temperature at Sunrise: 54.0 ° Temperature at End of Survey: 56.0 ° C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 4 4 3	UL	0	Y	Y	Y	N	N	N	1	N	Begin Survey
0 5 2 8	UL	0	Y	Y	Y	N	N	N	1	N	Sunrise
0 5 4 3	HI	1	Y	Y	Y	N	N	N	1	N	CC inc. 1
0 6 4 4	HI	1	Y	Y	Y	N	N	N	1	N	End Survey

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤ 1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

** ODFW DATABASE USE ONLY **

OREGON MARBLED MURRELET FOREST SURVEY FORM

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(Y or N, initials): Y JT

Total Detections: 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 6 Day 19 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18H Station Number: 4

Station Location - T 12 N or S, R 7 E or W, S 35, QQ (1/16) NE, of Q (1/4) NW

UTM zone: 10 E (x) coordinate: 459410 N (y) coordinate: 4926348 Source: GPS Datum: NAD83 FOM: --

Observer (s) Name: EMILY HALSELL Initials: EAH Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 2,200 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0528 Elv: PHILOMATH Begin Survey Time: 0443 End Survey Time: 0643

Temperature at Sunrise: 58.0 ° Temperature at End of Survey: 60.0 ° C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 4 4 3	UL	0	Y	Y	Y	N	L	N	1	N	BEGIN SURVEY
0 5 2 8	UL	0	Y	Y	Y	N	L	N	1	N	SUNRISE
0 6 4 3	UL	0	Y	Y	Y	N	N	N	1	N	END SURVEY

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

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(Y or N, initials): Y JT

Total Detections: 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 6 Day 20 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18A Station Number: 3

Station Location - T 12 N or S, R 7 E or W, S 11, QQ (1/16) SE, of Q (1/4) SE

UTM zone: 10 E (x) coordinate: 460523 N (y) coordinate: 4931605 Source: GPS Datum: NAD83 FOM: --

Observer (s) Name: EMILY HALSELL Initials: EAH Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 1,350 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0528 Elevation: PHILOMATH Begin Survey Time: 0442 End Survey Time: 0643

Temperature at Sunrise: 63.0 °F USNO Temperature at End of Survey: 64.0 °F C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 4 4 2	UL	0	Y	Y	Y	N	N	N	0	N	BEGIN SURVEY
0 5 2 8	UL	0	Y	Y	Y	N	N	N	0	N	SUNRISE
0 6 4 3	UL	0	Y	Y	Y	N	N	N	0	N	End Survey

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

** ODFW DATABASE USE ONLY **

OREGON MARBLED MURRELET FOREST SURVEY FORM

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(Y or N, initials): Y JT

Total Detections: 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 6 Day 28 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18G Station Number: 2

Station Location - T 12 N or S, R 7 E or W, S 27, QQ (1/16) SE, of Q (1/4) SE

UTM zone: 10 E (x) coordinate: 458636 N (y) coordinate: 4926832 Source: GPS Datum: NAD83 FOM: --

Observer (s) Name: EMILY HALSELL Initials: EAH Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 1,900 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0531 **Elv**: PHILOMATH **Begin Survey Time:** 0444 **End Survey Time:** 0647

Temperature at Sunrise: 47.0 **USNO** **Temperature at End of Survey:** 49.0 C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 4 4 4	UL	0	Y	Y	Y	N	N	N	0	N	BEGIN SURVEY
0 5 3 1	UL	0	Y	Y	Y	N	N	N	0	N	SUNRISE
0 6 4 7	UL	0	Y	Y	Y	N	N	N	0	N	END SURVEY

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤ 1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

** ODFW DATABASE USE ONLY **

OREGON MARBLED MURRELET FOREST SURVEY FORM

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(Y or N, initials): Y JT

Total Detections: 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 7 Day 2 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18H Station Number: 5

Station Location - T 12 N or S, R 7 E or W, S 35, QQ (1/16) NE, of Q (1/4) NW

UTM zone: 10 E (x) coordinate: 459249 N (y) coordinate: 4926470 Source: GPS Datum: NAD83 FOM: --

Observer (s) Name: EMILY HALSELL Initials: EAH Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 2,080 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0533 Elv: PHILOMATH Begin Survey Time: 0448 End Survey Time: 0648

Temperature at Sunrise: 50.0 ° Temperature at End of Survey: 51.0 ° C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 4 4 8	HI	1	Y	Y	Y	N	N	N	0	N	BEGIN SURVEY
0 5 3 3	HI	1	Y	Y	Y	N	N	N	0	N	SUNRISE
0 6 4 8	HI	1	Y	Y	Y	N	N	N	0	N	END SURVEY

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤ 1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

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(Y or N, initials): Y SM **Total Detections: 0**

Species of Concern (Y or N, details on last pg.): Y or N

Month 7 Day 4 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18B Station Number: 6

Station Location - T 12 N or S, R 7 E or W, S 13, QQ (1/16) NW, of Q (1/4) NW

UTM zone: 10 E (x) coordinate: 0460829 N (y) coordinate: 4931057 Source: GPS Datum: NAD83 FOM: -

Observer (s) Name: COURTNEY OLLMANN Initials: CRO Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 1,240 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0534 **Elev:** CORVALLIS **Begin Survey Time:** 0449 **End Survey Time:** 0649

Temperature at Sunrise: 54.0 **USNO** **Temperature at End of Survey:** 56.0 C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 4 4 9	U	0	Y	Y	Y	N	N	-	0	N	BEGIN SURVEY
0 5 3 4	HI	1	Y	Y	Y	N	N	-	0	N	MID SURVEY
0 6 1 9	HI	1	Y	Y	Y	L	N	-	0	N	LIGHT RAIN
0 6 2 8	HI	1	Y	Y	Y	N	N	-	0	N	RAIN STOPPED
0 6 4 9	HI	1	Y	Y	Y	N	N	-	0	N	END SURVEY

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤ 1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

** ODFW DATABASE USE ONLY **

OREGON MARBLED MURRELET FOREST SURVEY FORM

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(Y or N, initials): Y SM **Total Detections:** 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 7 Day 5 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18E Station Number: 4

Station Location - T 12 N or S, R 7 E or W, S 13, QQ (1/16) NE, of Q (1/4) SE

UTM zone: 10 E (x) coordinate: 461917 N (y) coordinate: 4930106 Source: GPS Datum: NAD83 FOM: -

Observer (s) Name: COURTNEY OLLMANN Initials: CRO Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 720 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0535 **Elv:** CORVALLIS **Begin Survey Time:** 0450 **End Survey Time:** 0650

Temperature at Sunrise: 54.0 **USNO** **Temperature at End of Survey:** 54.0 C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 4 5 0	UL	0	Y	Y	Y	N	N	-	0	N	BEGIN SURVEY
0 5 0 0	HI	2	Y	Y	Y	N	N	-	0	N	CLOUDS ROLLING IN
0 5 0 4	HI	1	Y	Y	Y	N	N	-	0	N	CLOUDS ROLLING OUT
0 5 3 5	HI	1	Y	Y	Y	N	N	-	0	N	MID SURVEY
0 5 4 6	HI	0	Y	Y	Y	N	N	-	0	N	CLOUDS ROLLING OUT
0 6 5 0	HI	0	Y	Y	Y	N	N	-	0	N	END OF SURVEY

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

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OREGON MARBLED MURRELET FOREST SURVEY FORM

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(Y or N, initials): Y JR

Total Detections: 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 7 Day 5 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18F Station Number: 1

Station Location - T 12 N or S, R 7 E or W, S 26, QQ (1/16) SW, of Q (1/4) NW

UTM zone: 10 E (x) coordinate: 459246 N (y) coordinate: 4927571 Source: GPS Datum: NAD83 FOM: _____

Observer (s) Name: Jeff Reams Initials: JTR Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 1,587 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0535 Elv: Philomath Begin Survey Time: 0450 End Survey Time: 0650

Temperature at Sunrise: 52.0 ° Temperature at End of Survey: 50.0 ° C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 4 5 0	HI	2	Y	Y	Y	N	N	N	0	N	Start Survey
0 5 3 5	HI	2	Y	Y	Y	N	N	N	0	N	Sunrise
0 6 5 0	UL	0	Y	Y	Y	N	N	N	0	N	End Survey

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

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(Y or N, initials): Y SM

Total Detections: 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 7 Day 6 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18C Station Number: 5

Station Location - T 12 N or S, R 7 E or W, S 13, QQ (1/16) SW, of Q (1/4) NE

UTM zone: 10 E (x) coordinate: 461588 N (y) coordinate: 4930610 Source: GPS Datum: NAD83 FOM: _____

Observer (s) Name: COURTNEY OLLMANN Initials: CRO Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 960 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0536 **Elv:** CORVALLIS **Begin Survey Time:** 0451 **End Survey Time:** 0651

Temperature at Sunrise: 48.0 **USNO** **Temperature at End of Survey:** 50.0 C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 4 5 1	HI	1	Y	Y	Y	N	N	-	0	N	BEGIN SURVEY
0 5 3 6	HI	1	Y	Y	Y	N	N	-	0	N	MID SURVEY
0 6 5 1	HI	0	Y	Y	Y	N	N	-	0	N	END SURVEY

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤ 1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

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OREGON MARBLED MURRELET FOREST SURVEY FORM

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(Y or N, initials): Y JR **Total Detections:** 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 7 Day 6 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18D Station Number: 5

Station Location - T 12 N or S, R 6 E or W, S 18, QQ (1/16) NE, of Q (1/4) NW

UTM zone: 10 E (x) coordinate: 462548 N (y) coordinate: 4931181 Source: GPS Datum: NAD83 FOM: _____

Observer (s) Name: Jeff Reams Initials: JTR Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 1,320 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0536 Elv: Philomath Begin Survey Time: 0451 End Survey Time: 0651

Temperature at Sunrise: 51.0 ° Temperature at End of Survey: 51.0 ° C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 4 5 1	HI	3	Y	Y	Y	N	N	N	1	N	Start Survey
0 5 3 6	HI	3	Y	Y	Y	N	N	N	1	N	Sunrise
0 6 5 1	UL	1	Y	Y	Y	N	N	N	1	N	End Survey

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

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OREGON MARBLED MURRELET FOREST SURVEY FORM

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(Y or N, initials): Y JT

Total Detections: 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 7 Day 10 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18A Station Number: 1

Station Location - T 12 N or S, R 7 E or W, S 11, QQ (1/16) SE, of Q (1/4) SE

UTM zone: 10 E (x) coordinate: 460409 N (y) coordinate: 4931841 Source: GPS Datum: NAD83 FOM: -

Observer (s) Name: COURTNEY OLLMANN Initials: CRO Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 1,280 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0539 Elv: Philomath Begin Survey Time: 0454 End Survey Time: 0654

Temperature at Sunrise: 50.0 Temperature at End of Survey: 54.0 C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 4 5 4	HI	3	Y	Y	Y	N	N	-	0	N	BEGIN SURVEY
0 5 3 9	HI	3	Y	Y	Y	N	N	-	0	N	MID SURVEY
0 6 0 6	HI	2	Y	Y	Y	N	N	-	0	N	DECREASED CLOUD
0 6 4 3	HI	3	Y	Y	Y	N	N	-	0	N	INCREASED CLOUD
0 6 5 4	HI	3	Y	Y	Y	N	N	-	0	N	END SURVEY

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

** ODFW DATABASE USE ONLY **

OREGON MARBLED MURRELET FOREST SURVEY FORM

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(Y or N, initials): Y JT

Total Detections: 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 7 Day 10 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18G Station Number: 5

Station Location - T 12 N or S, R 7 E or W, S 27, QQ (1/16) SE, of Q (1/4) SE

UTM zone: 10 E (x) coordinate: 458551 N (y) coordinate: 4926720 Source: GPS Datum: NAD83 FOM: --

Observer (s) Name: EMILY HALSELL Initials: EAH Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 1,773 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0539 Elv: PHILOMATH Begin Survey Time: 0452 End Survey Time: 0655

Temperature at Sunrise: 54.0 ° Temperature at End of Survey: 55.0 ° C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 4 5 2	HI	3	Y	Y	Y	N	N	N	1	N	BEGIN SURVEY
0 5 3 9	HI	3	Y	Y	Y	N	N	N	1	N	SUNRISE
0 6 5 5	HI	3	Y	Y	Y	N	N	N	0	N	END SURVEY

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

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OREGON MARBLED MURRELET FOREST SURVEY FORM

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(Y or N, initials): Y JT

Total Detections: 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 7 Day 11 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18B Station Number: 3

Station Location - T 12 N or S, R 7 E or W, S 13, QQ (1/16) SE, of Q (1/4) NW

UTM zone: 10 E (x) coordinate: 461131 N (y) coordinate: 4930901 Source: GPS Datum: NAD83 FOM: -

Observer (s) Name: COURTNEY OLLMANN Initials: CRO Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 1,320 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0539 Elv: Philomath Begin Survey Time: 0454 End Survey Time: 0654

Temperature at Sunrise: 60.0 Temperature at End of Survey: 56.0 C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 4 5 4	UL	0	Y	Y	Y	N	N	-	0	N	BEGIN SURVEY
0 5 3 9	UL	0	Y	Y	Y	N	N	-	0	N	MID SURVEY
0 6 5 4	UL	0	Y	Y	Y	N	N	-	0	N	END

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤ 1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

** ODFW DATABASE USE ONLY **

OREGON MARBLED MURRELET FOREST SURVEY FORM

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(Y or N, initials): Y JT

Total Detections: 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 7 Day 27 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18C Station Number: 2

Station Location - T 12 N or S, R 7 E or W, S 13, QQ (1/16) SE, of Q (1/4) NE

UTM zone: 10 E (x) coordinate: 461854 N (y) coordinate: 4930602 Source: GPS Datum: NAD 83 FOM: _____

Observer (s) Name: Deklyn Wood Initials: DAW Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 840 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0555 Elv: Philomath Begin Survey Time: 0504 End Survey Time: 0711

Temperature at Sunrise: 59.0 ° Temperature at End of Survey: 59.0 ° C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 5 0 4	UL	0	Y	Y	Y	N	N	N	0	N	Start survey
0 5 5 5	UL	0	Y	Y	Y	N	N	N	0	N	Sunrise
0 7 1 1	UL	0	Y	Y	Y	N	N	N	0	N	End Survey

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

** ODFW DATABASE USE ONLY **

OREGON MARBLED MURRELET FOREST SURVEY FORM

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(Y or N, initials): Y JT

Total Detections: 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 7 Day 27 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18H Station Number: 6

Station Location - T 12 N or S, R 7 E or W, S 26, QQ (1/16) SE, of Q (1/4) SW

UTM zone: 10 E (x) coordinate: 459499 N (y) coordinate: 4926648 Source: GPS Datum: NAD 83 FOM: _____

Observer (s) Name: Jacob Taylor Initials: JHT Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 1,760 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0555 Elv: Philomath Begin Survey Time: 0508 End Survey Time: 0712

Temperature at Sunrise: 58.0 ° Temperature at End of Survey: 62.0 ° C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 5 0 8	UL	0	Y	Y	Y	N	N	N	0	N	Begin Survey
0 5 5 5	UL	0	Y	Y	Y	N	N	N	0	N	Sunrise
0 7 1 2	UL	0	Y	Y	Y	N	N	N	0	N	End Survey

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤ 1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

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OREGON MARBLED MURRELET FOREST SURVEY FORM

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(Y or N, initials): Y JT

Total Detections: 5

Species of Concern (Y or N, details on last pg.): Y or N

Month 7 Day 30 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18B Station Number: 1

Station Location - T 12 N or S, R 7 E or W, S 14, QQ (1/16) NE, of Q (1/4) NE

UTM zone: 10 E (x) coordinate: 460484 N (y) coordinate: 4931152 Source: GPS Datum: NAD83 FOM: _____

Observer (s) Name: Jacob Taylor Initials: JHT Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 1,160 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0558 Elv: Philomath Begin Survey Time: 0506 End Survey Time: 0715

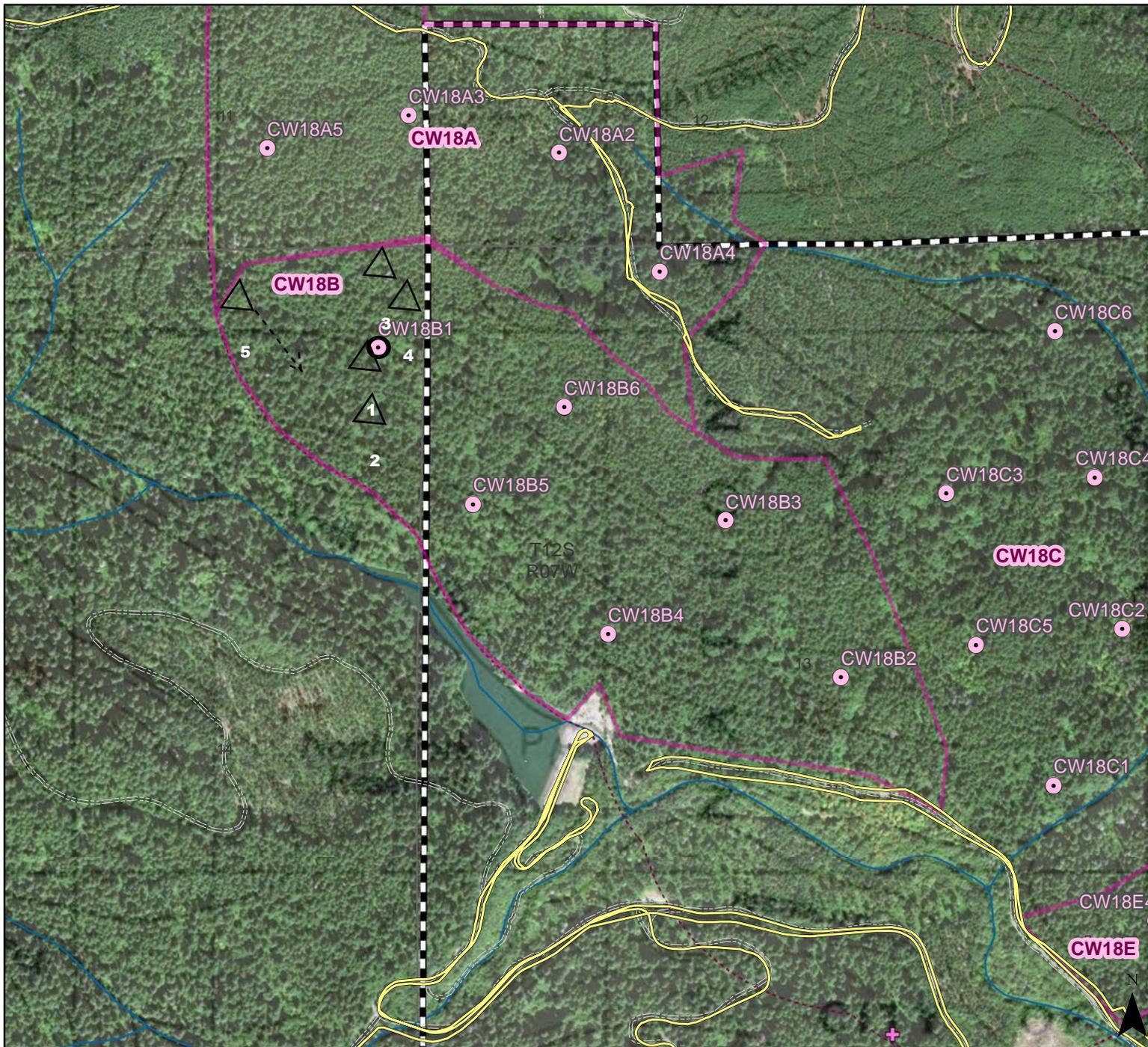
Temperature at Sunrise: 56.0 ° Temperature at End of Survey: 56.0 ° C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0 5 0 6	UL	0	Y	Y	Y	N	N	N	2	N	Begin Survey
0 5 5 8	UL	0	Y	Y	Y	N	N	N	2	N	Sunrise
0 7 1 5	UL	0	Y	Y	Y	N	N	N	1	N	End Survey

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
Wind: 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

Occurrence No. _____	Data Point No. _____	Sequence No. _____	Reference No. _____
Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
Protocol Review Initials _____	Review Date _____	Highest Biological Status _____	

** ODFW DATABASE USE ONLY **



Legend

- Township
- Section
- Property Boundary
- 0.25-mi Buffer

Proposed Sites

- Proposed Site
- Surveyed 2013-2014

0 100 200 300 Meters
1:10,000
31 JAN 2018

7/30/2018

CW18B-1

Jacob H.

Taylor

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OREGON MARBLED MURRELET FOREST SURVEY FORM

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(Y or N, initials): Y SM

Total Detections: 0

Species of Concern (Y or N, details on last pg.): Y or N

Month 8 Day 5 Year 2018

Area Name: Corvallis Watershed Site Name / Number: CW18B Station Number: 3

Station Location - T 12 N or S, R 7 E or W, S 13, QQ (1/16) SE, of Q (1/4) NW

UTM zone: 10 E (x) coordinate: 461131 N (y) coordinate: 4930901 Source: GPS Datum: NAD83 FOM: _____

Observer (s) Name: Sarah D. McCord Initials: SDM Affiliation: Turnstone Env. Phone: (503) 283 - 5338

Station Elevation: 1,320 ft Position on Slope: Bottom/plain, Lower 1/3, Mid 1/3, Upper 1/3, Ridgetop

Station Placement: Inside, Outside

Distance from Survey Site Boundary: _____ Units of Measure for ALL Horizontal Distances: m

Station Canopy Cover: 1 = 0 to 25%, 2 = 26 to 50%, 3 = 51 to 75%, 4 = 76 to 100%

ENVIRONMENTAL CONDITIONS:

Official Sunrise Time: 0605 Elv: Philomath Begin Survey Time: 0502 End Survey Time: 0720

Temperature at Sunrise: _____ Temperature at End of Survey: _____ C or F revised: 2 / 2000

TIME	VERTICAL VIEWING			HORIZ. VIS. TO 100 M	AUDIBILITY TO 200 M	PRECIPITATION			WIND	NOISE	NOTES
	CEILING	CLOUD COVER	VISIBILITY TO 2 CANOPY			RAIN	FOG	OTHER			
0502	UL	0	Y	Y	Y	N	N	N	1	N	start survey
0605	UL	0	Y	Y	Y	N	N	N	1	N	sunrise
0648	UL	0	Y	Y	Y	N	N	N	0	N	wind decrease
0720	UL	0	Y	Y	Y	N	N	N	0	N	end survey

Ceiling: UL = Unlimited (clear), HI = >2.0 canopy height, MID = >1.25 to ≤ 2.0 canopy height, LO = ≤ 1.25 canopy height, U = Unknown.
Cloud Cover: 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%.
Vertical Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Horizontal Visibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
Audibility: N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection).
Precipitation - Rain & Fog: N = None, L = Light, M = Moderate, H = Heavy. **Other:** H = Hail, S = Snow. Indicate intensity using same codes for rain & fog.
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Noise: N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, O = Other (explain in Notes).

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Quad. Code _____	Photo Code _____	General Location _____	
Data Entry Initials _____	Data Entry Date _____	Data QC Initials _____	Data QC Date _____
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