TABLE H-1

Rationale for Routing Alignment within Marbled Murrelet Occupied Stands Crossed by the Proposed Project

MSNO or Site ID a/	Project Component b/	PCGP MP c/	CHU	Jurisdiction	Land Allocation	Forest Stand Age d/	Rationale for Proposed Alignment
C3075	ROW, EAR MP 33.74 - 33.80 & 34.02	MP 33.77-33.84	None	Coos Bay BLM	CON	120	Current route at this location comes off of stable ridgetop alignment from the north.
C3042	ROW, EAR MP 34.02 & 34.31	MP 33.84-33.90	None	Coos Bay BLM	CON	120	Current route at this location avoids side slope construction by traversing slope contours at a perpendicular angle.
C3073	ROW, EAR MP 36.13, 36.64 - 37.15	MP 36.49-37.14	None	Coos Bay BLM	CON	120/ 150	Current route is co-located within existing BLM Road 28-10-29.0 (Elk Creek Road). Current route also avoids an identified landslide near MP 37.1.
C3090	ROW, EAR MP 36.64 - 37.15	MP 37.31-38.06	None	Coos Bay BLM	CON	70/80/150	Current route at this location avoids side slope construction by traversing slope contours at a perpendicular angle.
C3070	ROW, EAR MP 41.37 & 41.75	MP 41.89-41.97	OR-06-d/ None	Coos Bay BLM	LSR/Other	350/ 600	The pipeline alignment follows a stable ridgeline almost entirely through regenerating forest stands that are 30-40 years in age.2 Co-locating the alignment adjacent to the existing road (Weaver Rd., BLM 28-8-18) would require side hill construction, additional work area requirements and potential unstable conditions for long-term pipeline integrity. To minimize construction disturbance, the ridgeline alignment minimizes additional TEWAs. The work areas were limited to those needed to safely construct the pipeline and were located outside of mature forests.
C3092	ROW, AA--EAR MP 44.87 & 45.23	MP 45.39-45.47	None	Coos Bay BLM	Other	250	Current route at this location avoids side slope construction by traversing slope contours at a perpendicular angle.
R3026	ROW, EAR MP 47.07 - 47.66 & 48.07 - 48.42	MP 46.87-47.31	OR-06-d	Roseburg BLM	LSR	250/ 120	The pipeline alignment follows a stable ridgeline off of Weaver Ridge which minimized the length of steep slopes (greater than 50 percent) that are descended. The alignment also minimizes impact to Riparian Reserves. Within this LSR, the alignment traverses two regenerating forested areas. The youngest forest stand is less than 10 years old2 and is crossed for about 800 feet. The other is about 50 years old and is crossed for approximately

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							2,200 feet with more than 1,200 feet of this alignment co-located within an existing forest road (BLM Deep Creek Road, Rd., BLM 29-9-12.2). To further minimize impacts, TEWAs were reduced to those needed for safe pipeline construction. Further, UCSAs were located within the LSR to temporarily store stumps, slash and potential spoil generated during construction which will be redistributed on the right-of-way during restoration.
R3027	ROW, EAR MP 51.38 & 51.46	MP 51.45-51.65	None	Roseburg BLM	Other	250/ 110/ 120/60	Current route at this location targets ideal crossing location of the Tributaries to Middle Fork Coquille River (MPs 51.47 and 51.62) and a previously cleared staging area for a bore beneath Hwy 42.

a/ Master Site Number (MSNO) provided by BLM.
b/ Project Component: ROW indicates that a portion of the PCGP Project is within the occupied or presumed occupied stand and can include the construction right-of-way, temporary extra work areas, uncleared storage areas, permanent access road, temporary access road, or rock source/disposal sites. EAR is an existing access road that has been identified, by mile post (MP) to be used to access the construction right-of-way. "AA" before a project component means the occupied stand is only within the Action Area and not impacted by any project component directly.
c/ If direction from a milepost (MP) is provided, the occupied stand does not occur within the PCGP Construction Right-of-Way. However, if a range of MPs are provided, the PCGP Construction Right-of-Way occurs within the occupied stand.
d/ Age of forested stand was obtained from BLM Forest Operations Inventory GIS coverage. If not located within BLM-managed land, age of stand is unknown.

TABLE H-2

Effects (acres) to MAMU Nesting Habitat Within Occupied or Presumed Occupied Stand In the Proposed Terrestrial Analysis Area Affected From Construction of the Project within MAMU Habitat Zones 1 and 2

MSNO or Site ID a/	Project Location b/	Pacific Connector MP c/	Distance from Project to Stand (feet) d/	MAMU Zone	Jurisdiction	Land Allocation e/	Forest Stand Age f/	Habitat Removed or Modified (Y/N)	Overall Acres in the Occupied Stand g/	Suitable Habitat h/		Non-Suitable Habitat i/		Total Acres		Percent of Suitable Habitat Removed from Stand l/
										Removed j/	Modified k/	Removed j/	Modified k/	Removed j/	Modified k/	
Occupied Stands																
C1032	AA – ROW, AA--EAR MP 8.77 - 9.37[D]	E of MP 9.25	1,170	1	Coos Bay BLM	Other	120	N	19.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C3045	EAR MP 28.53[P]	NE of MP 29.25	0	1	Coos Bay BLM	Other	190	N	40.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C3051	EAR MP 28.53[P]	NE of MP 29.25	0	1	Coos Bay BLM	Other	190	N	24.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C3046	EAR MP 28.53[P]	NE of MP 29.25	0	1	Coos Bay BLM	Other	190	N	19.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C3074	EAR MP 32.55[G,D]	NE of MP 31.60	0	1	Coos Bay BLM	Other	100/120	N	25.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C3038	EAR MP 34.02[P]	SW of MP 30.7	0	1	Coos Bay BLM	Other	150	N	57.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C3039	AA ROW and AA – EAR MP 34.02[P]	SW of MP 31.82	1,050	1	Coos Bay BLM	Other	150/160	N	11.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C3043	AA – EAR MP 34.02[P]	SW of MP 31.82	930	1	Coos Bay BLM	Other	160	N	1.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C3061	AA – EAR MP 34.02[P]	SW of MP 33.56	1,100	1	Coos Bay BLM	CON	40	N	2.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C3075	ROW, EAR MP 33.74 - 33.80 & 34.02[P]	MP 33.77-33.84	0	1	Coos Bay BLM	CON	120	Y	175.3	1.1	0.0	0.5	0.0	1.6	0.0	0.6%
C3042	ROW, EAR MP 34.02 & 34.31[P]	MP 33.84-33.90	0	1	Coos Bay BLM	CON	120	Y	45.2	0.9	0.0	0.0	0.0	0.9	0.0	2.0%
C3054	EAR MP 34.02[P]	NE of MP 34.44	0	1	Coos Bay BLM	CON	120	N	95.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C3041	AA – EAR MP 34.02[P]	SW of MP 34.10	1,055	1	Coos Bay BLM	Other	120	N	9.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C3086	AA – EAR MP 35.33 & 35.34 - 35.80[P]	SW of MP 34.70	845	1	Coos Bay BLM	Other	60/110	N	9.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C3022	AA – EAR MP 35.33 & 35.34 - 35.80[P]	SW of MP 35.80	540	1	Coos Bay BLM	Other	140	N	22.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C3020	AA – EAR MP 35.33 & 35.34 - 35.80[P]	SW of MP 35.80	100	1	Coos Bay BLM	CON	120	N	27.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C3021	EAR MP 35.33, 35.34 - 35.80 & 38.87[P]	SW of MP 35.80	0	1	Coos Bay BLM	CON	80/120	N	149.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C3060	AA – EAR MP 35.33 & 35.34 - 35.80[P]	SW of MP 35.80	1,210	1	Coos Bay BLM	CON	160/120	N	2.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
B06*	ROW, AA--EAR MP 35.33 & 35.34 - 35.8[P]	MP 35.13-35.82	0	1	Coos Bay BLM	CON	120	Y	132.7	1.9	1.4	0.7	0.1	2.6	1.4	1.4%
C3073	ROW, EAR MP 36.13, 36.64 - 37.15[G]	MP 36.49-37.14	0	1	Coos Bay BLM	CON	120/150	Y	176.3	1.8	0.0	2.6	0.0	4.4	0.0	1.0%
B_2008?	AA – ROW	NE of MP 36.13	2,416	1	Coos Bay BLM	CON	120	N	?	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C3090	ROW	MP 37.31-38.06	0	1	Coos Bay BLM	CON	70/80/150	Y	321.2	7.1	3.6	2.9	1.3	10.0	4.8	2.2%
GS04*	ROW, AA--EAR MP 38.34 - 38.87, 38.87[P]	SW/NE of MP 38.85	0	1	Coos Bay BLM	Other	70	Y	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0%
C3082	AA – EAR MP 42.74 - 42.86[P]	NE of MP 39.50	0	1	Coos Bay BLM	Other	450	N	24.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C3069	EAR MP 42.74 - 42.86[P]	NE of MP 39.50	500	1	Coos Bay BLM	Other/LSR	450/170	N	178.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C3068	EAR MP 42.74 - 42.86[P]	NE of MP 41.50	0	1	Coos Bay BLM	LSR/CHU	350	N	95.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C3070	ROW, EAR MP 41.37 & 41.75[P]	MP 41.89-41.97	0	1	Coos Bay BLM	LSR/CHU/ Other	350/600	Y	73.9	0.6	0.0	0.3	0.0	0.9	0.0	0.8%
C3091	AA – ROW, AA EAR MP 42.03 - 42.5[P]	N of MP 42.37	400	1	Coos Bay BLM	LSR/CHU	350	N	55.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C3092	ROW, AA-EAR MP 44.87 & 45.23[G]	MP 45.39-45.47	0	1	Coos Bay BLM	Other	250	Y	57.7	1.0	0.6	0.0	0.0	1.0	0.6	1.7%
C3067	AA – EAR MP 42.74 - 42.86[P]	N of MP 46.10	480	1	Coos Bay BLM	LSR/CHU	350	N	18.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R3020	AA – EAR 46.51	S of MP 48.26	195	1	Roseburg BLM	Other	170/70/ 250/30	N	464.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R3026	ROW, EAR MP 47.07 - 47.66 & 48.07 - 48.42[G]	MP 46.87-47.31	0	1	Roseburg BLM	LSR/CHU	250/120	Y	197.0	4.6	8.5	0.1	0.2	4.7	8.7	2.3%
R3027	ROW, EAR MP 51.38 & 51.46[D,P]	MP 51.45-51.65	0	1	Roseburg BLM	Other	250/110/ 120/60	Y	134.5	3.2	0.0	0.2	0.0	3.4	0.0	2.4%
R3024	EAR 55.81	S of MP 55.84	0	2	Roseburg BLM	Other	250/140	N	248.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R3021	AA - ROW	S of MP 60.32	735	2	Roseburg BLM	Other	150	N	47.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE H-2

Effects (acres) to MAMU Nesting Habitat Within Occupied or Presumed Occupied Stand In the Proposed Terrestrial Analysis Area Affected From Construction of the Project within MAMU Habitat Zones 1 and 2

MSNO or Site ID a/	Project Location b/	Pacific Connector MP c/	Distance from Project to Stand (feet) d/	MAMU Zone	Jurisdiction	Land Allocation e/	Forest Stand Age f/	Habitat Removed or Modified (Y/N)	Overall Acres in the Occupied Stand g/	Suitable Habitat h/		Non-Suitable Habitat i/		Total Acres		Percent of Suitable Habitat Removed from Stand l/
										Removed j/	Modified k/	Removed j/	Modified k/	Removed j/	Modified k/	
Presumed Occupied Stands – Surveyed																
GS01	AA – ROW, AA EAR MP 7.62 & 7.90[D,G]	NE of MP 7.82	130	1	Private	None	Unknown	N	1.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GS02	AA – ROW, AA--EAR MP 16.78 - 17.12, 17.12 - 17.40[G,D]	E of MP 16.95	210	1	Coos Bay BLM	Other	50	N	0.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GS03	ROW, EAR MP 26.95[G,D]	MP 26.97-27.02	0-300	1	Coos Bay BLM	Other	40	Y	4.2	0.5	0.0	0.0	0.0	0.5	0.0	11.9%
B02*	ROW, AA--EAR MP 27.52 - 28.15[G,D]	MP 27.12-27.48	0	1	Coos Bay BLM	Other	250	Y	59.7	4.1	0.0	0.0	0.0	4.1	0.0	6.9%
B03*	EAR MP 32.10, AA – ROW, AA EAR MP 31.46 - 31.69[G]	NE of MP 31.55	300	1	Coos Bay BLM	Other	120	N	27.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
B04*	ROW, EAR MP 32.10 & 32.55[G,D]	MP 31.97-32.33	0	1	Coos Bay BLM	Other	120	Y	89.1	6.1	0.0	0.1	0.0	6.1	0.0	6.8%
B05	ROW, AA--EAR MP 34.02[P,D,G]	MP 33.91-34.21	0	1	Coos Bay BLM	Other	80	Y	18.9	3.7	0.0	0.1	0.0	3.7	0.0	19.6%
B07	ROW, EAR MP 35.81 & 35.81 - 36.13[P,G]	MP 35.90-36.17	0	1	Coos Bay BLM	CON	120	Y	14.3	0.3	0.0	0.1	0.0	0.4	0.0	2.1%
New 2008*	AA – ROW, AA - EAR MP 38.34-38.87	N of MP 38.20	260	1	Coos Bay BLM	Other	150	N	71.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
New 2008	AA – ROW, AA - EAR MP 38.87	S of MP 39.94	2,690	1	Coos Bay BLM	Other	150/160	N	99.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
B09	ROW, EAR MP 41.75[P]	MP 41.97-42.01	0	1	Coos Bay BLM	LSR/CHU	40	Y	2.0	0.4	0.0	0.1	0.0	0.5	0.0	20.0%
GS05	AA – ROW, EAR MP 43.29 - 43.35[P]	E of MP 43.05	135	1	Coos Bay BLM	LSR	350	N	2.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A
B12	ROW, EAR MP 52.16[D,G]	MP 51.76-52.29; scattered	0	1	Roseburg BLM	Other	120/250	Y	43.3	4.5	0.0	0.3	0.0	4.8	0.0	10.4%
B13	ROW, EAR MP 53.21 - 53.59 & 54.2[G]	MP 53.13-54.44	0	2	Roseburg BLM	Other	140	Y	122.4	2.2	1.5	0.5	0.0	2.7	1.5	1.8%
B14	ROW, AA--EAR MP 60.58, 61.89 - 62.08[D,G]	MP 60.86-61.67	0	2	Roseburg BLM	CON	120	Y	204.9	13.1	4.4	0.0	0.0	13.1	4.4	6.4%
Presumed Occupied Stands - Not Surveyed																
G05	AA – ROW, AA--EAR MP 10.12[P]	E of MP 10.01	80	1	Private	None	Unknown	N	0.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
G06	AA – ROW, AA EAR MP 10.39[P,G]	SW of MP 10.26	220	1	Private	None	Unknown	N	0.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
G07	AA – ROW, AA--EAR MP 10.59[P]	SE of MP 10.56	160	1	Private	None	Unknown	N	1.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
G10	AA – ROW, AA--EAR MP 11.96[P]	NW of MP 11.93	320	1	Private	None	Unknown	N	1.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
G11	AA – ROW, AA--EAR MP 11.96[P]	SE of MP 11.93	100	1	Private	None	Unknown	N	0.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
G16	ROW, AA--EAR MP 12.79 - 12.94[P,G,D]	MP 12.27-12.30; MP 12.46-12.47	0	1	Private	None	Unknown	Y	5.2	0.3	0.0	0.1	0.0	0.4	0.0	5.8%
G24	AA – ROW, AA--EAR MP 16.25[G]	W of MP 16.10	200	1	Private	None	Unknown	N	0.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
G31	ROW, AA--EAR MP 18.61[G]	MP 18.87-18.93; NE of MP 19.05	0-360	1	Private	None	Unknown	Y	1.5	0.0	0.0	0.2	0.0	0.2	0.0	0%
G32	AA – ROW, AA--EAR MP 19.83 - 21.6[G]	N of MP 21.24	1,130	1	Private	None	Unknown	N	1.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A
G33	ROW, EAR MP 20.73, AA--EAR MP 19.83 - 21.6 & 22.19[G]	MP 20.64-20.92; scattered N and S	0-510	1	Private	None	Unknown	Y	75.3	0.0	0.0	2.3	0.0	2.3	0.0	0%
G34	ROW, AA--EAR MP 19.83 - 21.60 & 22.19[G,D]	MP 21.82-21.99; scattered N and S	0-595	1	Private	None	Unknown	Y	16.2	0.0	0.0	1.7	0.0	1.7	0.0	0%
G35	ROW, AA--EAR MP 22.19 & 22.39[G,D,P]	MP 22.17-22.35	0-580	1	Private	None	Unknown	Y	19.0	0.0	0.0	1.3	0.0	1.3	0.0	0%
G37	AA – ROW, AA--EAR MP 23.09[G,P]	NE of MP 23.00	840	1	Private	None	Unknown	N	0.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
G38	ROW, EAR MP 23.09[GP]	MP 23.08-23.18	0	1	Private	None	Unknown	Y	3.9	0.9	0.0	0.0	0.0	1.0	0.0	23.1%
G41	AA – ROW, EAR MP 26.95 & 27.08[G,D]	NE of MP 27.51	750-985	1	Private	None	Unknown	N	5.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A
G42	AA – ROW, AA--EAR MP 28.53[G]	NE of MP 28.47	260	1	Private	None	Unknown	N	0.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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MSNO or Site ID a/	Project Location b/	Pacific Connector MP c/	Distance from Project to Stand (feet) d/	MAMU Zone	Jurisdiction	Land Allocation e/	Forest Stand Age f/	Habitat Removed or Modified (Y/N)	Overall Acres in the Occupied Stand g/	Suitable Habitat h/		Non-Suitable Habitat i/		Total Acres		Percent of Suitable Habitat Removed from Stand l/
										Removed j/	Modified k/	Removed j/	Modified k/	Removed j/	Modified k/	
G44	ROW, AA--EAR MP 29.20 & 29.47 & 29.27 - 29.46[G,P]	MP 29.17-29.19; MP 29.48-19.51; scattered S	0-590	1	Private	None	Unknown	Y	2.4	0.1	0.0	0.3	0.0	0.4	0.0	4.2%
G45	AA – ROW, EAR MP 29.59[G,P]	SW of MP 29.54	105	1	Private	None	Unknown	N	1.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
G46	ROW, AA--EAR MP 29.59[G,P]	NE of MP 29.54; S of MP 29.89	0-335	1	Private	None	Unknown	Y	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0%
G47	ROW	MP 29.89-29.92	0	1	Private	None	Unknown	Y	0.2	0.2	0.0	0.0	0.0	0.2	0.0	100.0%
G48	AA – ROW	SW of MP 30.03	225	1	Private	None	Unknown	N	0.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A
G49	AA – ROW	W of MP 30.48	1,045	1	Private	None	Unknown	N	0.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A
G50	ROW, EAR MP 30.48 - 31.15[G,D]	MP 30.48-31.09; scattered	0-940	1	Private	None	Unknown	Y	72.3	3.9	0.1	0.0	0.0	3.9	0.1	5.4%
G51	AA – ROW, AA--EAR MP 30.48 - 31.15[G,D]	E of MP 30.35	295-995	1	Native American	None	Unknown	N	46.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
G53	ROW, AA--EAR MP 34.69[D,G]	SW of MP 34.62	130	1	Native American	None	Unknown	N	3.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
New 2008	AA – ROW, AA – EAR MP	S of MP 36.73	4,425	1	Coquille Forest	None	Unknown	N		N/A	N/A	N/A	N/A	N/A	N/A	N/A
New 2008	AA – ROW, AA – EAR MP	S of MP 36.73	3,935	1	Coquille Forest	None	Unknown	N		N/A	N/A	N/A	N/A	N/A	N/A	N/A
New 2008	AA – ROW, AA – EAR MP	S of MP 37.46	4,100	1	Coquille Forest	None	Unknown	N		N/A	N/A	N/A	N/A	N/A	N/A	N/A
G55	ROW, EAR MP 40.17 - 41.28[P]	N/S of MP 40.36	70	1	Private	None	Unknown	Y	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0%
G56	AA – ROW, AA--EAR MP 40.68[P]	S of MP 40.83	100	1	Private	None	Unknown	N	4.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
G58	ROW, AA--EAR MP 44.19 & 44.29[b]	MP 43.94-44.07	0	1	Private	None	Unknown	Y	5.2	0.0	0.0	0.7	1.0	0.7	1.0	0%
P05	ROW, AA--EAR MP 29.20 & 29.47 & 29.27 - 29.46[G,P]	MP 29.27-29.45	0	1	Private	None	Unknown	Y	10.1	0.0	0.0	0.9	0.2	0.9	0.2	0%
P06A	AA – ROW	N of MP 30.28	600	1	Private	None	Unknown	N	12.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
P06B	AA – ROW	E of MP 30.48	710	1	Native American	None	Unknown	N	4.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
P07	AA – ROW, AA--EAR MP 33.74 - 33.80 & 34.02[P]	W of MP 33.74	390	1	Native American	None	Unknown	N	24.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NEW 2008	AA – ROW	S of MP 59.27	1,129	2	Roseburg BLM/ Private	CON	250/ Unknown	N	5.96	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NEW 2008	AA – ROW, AA-EAR MP 59.62	SE of MP 59.43	1,737	2	Roseburg BLM/ Private	Other	40	N	25.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NEW 2008	AA – ROW, AA – MP 62.52-63.62	NE of MP 63.34	3,862	2	Private/Roseburg BLM	Other	130/ Unknown	N	41.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A

a/ Master Site Number (MSNO) provided by BLM. Unit ID (i.e., B03) provided by Rogers & Associates and Siskiyou BioSurveyors, LLC.
Unit IDs: Habitat areas numbered B01, B02 are BLM; Habitat areas numbered P01, P02 are Private; Potential/Gray Habitat numbered G01, G02 are Private.
An Asterisk (*) indicates which survey areas documented MAMU presence during 2007 surveys.

b/ Project Location: ROW indicates that a portion of the Pacific Connector pipeline is within the occupied or presumed occupied stand and can include the construction right-of-way, TEWAs, UCSAs, PARs, TARs , or rock source/disposal sites. EAR is an existing access road that has been identified, by MP to be used to access the construction right-of-way. "AA" before a project location means the occupied stand is only within the action area and not impacted by that project component directly.

c/ If direction from a milepost (MP) is provided, the occupied stand does not occur within the Pacific Connector Construction Right-of-Way. However, if a range of MPs are provided, the Pacific Connector Construction Right-of-Way occurs within the occupied stand.

d/ Distance from the Project is measured from the edge of the occupied or presumed occupied stand to the Pacific Connector pipeline boundary or EAR (existing access road) if that is the only project component within the vicinity of an occupied or presumed occupied stand. If a range is provided, that indicates that the survey area consists of more than one polygon or area.

e/ Land Allocation: LSR = Northwest Forest Plan (NWFP) late-successional reserves (LSR); CHU = Marbled Murrelet Critical Habitat Unit OR-06-d; Other = NWFP land use allocations except for LSR or on Private or Native American lands = no CHU.

f/ Age of forested stand was obtained from BLM Forest Operations Inventory GIS coverage. If not located within BLM-managed land, age of stand is unknown.

g/ Includes acres in and outside of the identified terrestrial action area.

h/ Suitable Habitat includes the following: 1) forest stands that were determined suitable MAMU habitat from LIDAR coverage, 2005 summer aerial photography, and ground reconnaissance, 2) habitat with high potential to provide suitable habitat for MAMU (as determined by LIDAR and aerial photography) but were denied survey access and not ground-truthed, 3) delineated MAMU occupied stands, and 4) potential habitat modeled by Pacific Northwest Research Station – expert opinion and ecological niche factor analysis (Raphael et al. 2006).

i/ Non-Suitable Habitat: areas including clearcut forest, lakes, rivers, rock outcroppings, roads, residences, industry that is not be capable of becoming suitable habitat within 25 years.

j/ Project components considered in calculation of habitat "Removed": Pacific Connector construction right-of-way, TEWA, aboveground facilities, permanent and temporary access roads (PAR, TAR), pipe storage yards.

k/ Project components considered in calculation of habitat "Modified": Pacific Connector UCSAs described in Section 3.3.3.2 of the Project Description and would not be cleared of trees during construction. These areas would be used to store forest slash, stumps and dead and downed log materials that would be removed and scattered across the right-of-way after construction during restoration and are considered as temporary insignificant habitat modifications.

l/ Percent of suitable habitat removed from stand is calculated from acres of suitable habitat removed from the total stand value (Occupied Stands or Presumed Occupied Stands).

TABLE H-3

Effects (acres) to Northern Spotted Owl (NSO) Nesting, Roosting, and Foraging (NRF) Habitat by Land Use Allocation and Land Ownership from Construction of the Proposed Action within the Range of the NSO

Physiographic Province	Land Owner a/	Land Allocation b/	Suitable Habitat c/		Dispersal Only Habitat d/		*Total Dispersal Habitat e/*		Capable Habitat f/		Noncapable Habitat g/		Total Acres j/	
			Removed h/	Modified i/	Removed h/	Modified i/	*Removed* h/	*Modified* i/	Removed h/	Modified i/	Removed h/	Modified i/	Removed h/	Modified i/
Coast Range	BLM - Coos Bay	CHU & LSR (overlap)	0.99	0.00	11.23	0.90	*12.22*	*0.90*	2.11	0.17	1.39	0.02	15.72	1.09
		CHU only (OR-60)	15.50	4.48	23.03	5.54	*38.53*	*9.93*	11.43	1.84	10.15	0.02	60.11	11.88
		LSR only (RO 261)	0.09	0.00	0.89	0.00	*0.98*	*0.00*	0.45	0.00	0.03	0.00	1.46	0.00
		Other Allocations	18.31	0.00	42.17	3.10	*60.48*	*3.10*	14.15	0.07	6.29	0.14	80.92	3.31
	Coos Bay Subtotal		34.89	4.48	77.32	9.54	112.21	13.93	28.14	2.08	17.86	0.18	158.21	16.28
	BLM - Roseburg	CHU & LSR (overlap)	0.00	0.00	0.00	0.00	*0.00*	*0.00*	0.00	0.00	0.00	0.00	0.00	0.00
		CHU only (none)	0.00	0.00	0.00	0.00	*0.00*	*0.00*	0.00	0.00	0.00	0.00	0.00	0.00
		LSR only (RO 261)	2.31	5.11	8.73	10.00	*11.04*	*15.11*	3.01	1.86	2.27	0.53	16.32	17.50
		Other Allocations	8.44	0.00	13.21	0.15	*21.65*	*0.15*	3.68	0.00	4.31	0.00	29.64	0.15
	Roseburg Subtotal		10.75	5.11	21.94	10.15	32.69	15.26	6.69	1.86	6.58	0.53	45.96	17.65
	Other	None	29.2	3.01	174.57	15.86	203.77	18.87	225.52	26.22	262.82	1.47	692.11	46.56
	Other Subtotal		29.20	3.01	174.57	15.86	203.77	18.87	225.52	26.22	262.82	1.47	692.11	46.56
Coast Range Total		CHU & LSR (overlap)	0.99	0.00	11.23	0.90	12.22	0.90	2.11	0.17	1.39	0.02	15.72	1.09
		CHU only (OR-60)	15.50	4.48	23.03	5.54	38.53	9.93	11.43	1.84	10.15	0.02	60.11	11.88
		LSR only (RO 261)	2.40	5.11	9.62	10.00	12.02	15.11	3.46	1.86	2.30	0.53	17.78	17.50
		Other Allocations	26.75	0	55.38	3.25	82.13	3.25	17.83	0.07	10.6	0.14	110.56	3.46
		None	29.2	3.01	174.57	15.86	203.77	18.87	225.52	26.22	262.82	1.47	692.11	46.56
		Overall	74.84	12.60	273.83	35.55	348.67	48.06	260.35	30.16	287.26	2.18	896.28	80.49
Klamath Mountains	BLM - Roseburg	CHU & LSR (overlap)	18.00	10.87	21.80	5.14	*39.80*	*16.01*	1.68	0.41	2.40	0.09	43.88	16.51

TABLE H-3

Effects (acres) to Northern Spotted Owl (NSO) Nesting, Roosting, and Foraging (NRF) Habitat by Land Use Allocation and Land Ownership from Construction of the Proposed Action within the Range of the NSO

Physiographic Province	Land Owner a/	Land Allocation b/	Suitable Habitat c/		Dispersal Only Habitat d/		*Total Dispersal Habitat e/*		Capable Habitat f/		Noncapable Habitat g/		Total Acres j/	
			Removed h/	Modified i/	Removed h/	Modified i/	*Removed* h/	*Modified* i/	Removed h/	Modified i/	Removed h/	Modified i/	Removed h/	Modified i/
		CHU only (OR-32)	0.00	0.00	0.00	0.00	*0.00*	*0.00*	0.00	0.00	0.00	0.00	0.00	0.00
		LSR only (RO 223/ RO 261)	0.00	0.10	2.50	0.82	*2.50*	*0.92*	0.22	0.03	0.55	0.00	3.27	0.95
		Other Allocations	48.45	46.10	44.41	41.99	*92.86*	*88.09*	37.24	19.71	19.48	4.20	149.58	112.00
	Roseburg Subtotal		66.45	57.07	68.71	47.95	135.16	105.02	39.14	20.15	22.43	4.29	196.73	129.46
	BLM - Medford	CHU & LSR (overlap)	0.00	0.00	0.00	0.00	*0.00*	*0.00*	0.00	0.00	0.00	0.00	0.00	0.00
		CHU only (OR-32/OR-33)	0.00	0.00	0.00	0.00	*0.00*	*0.00*	0.00	0.00	0.00	0.00	0.00	0.00
		LSR only (RO 223)	0.00	0.00	0.00	0.00	*0.00*	*0.00*	0.00	0.00	0.00	0.00	0.00	0.00
		Other Allocations	15.94	7.50	33.77	10.18	*49.71*	*17.68*	4.31	1.61	3.41	0.02	57.43	19.31
	Medford Subtotal		15.94	7.50	33.77	10.18	49.71	17.68	4.31	1.61	3.41	0.02	57.43	19.31
	Umpqua NF	CHU & LSR (overlap)	21.04	18.36	28.60	3.18	*49.64*	*21.54*	0.74	0.43	5.11	0.00	55.49	21.97
		CHU only (OR-32/OR-33)	8.27	12.09	7.14	3.03	*15.41*	*15.12*	0.57	0.09	0.24	0.07	16.22	15.28
		LSR only (RO 223)	8.23	0.00	5.84	0.00	*14.07*	*0.00*	0.19	0.00	3.61	0.00	17.87	0.00
		Other Allocations	32.16	5.33	44.20	3.36	*76.36*	*8.69*	3.37	0.21	14.25	0.28	93.98	9.18
	Umpqua N.F. Subtotal		69.70	35.78	85.78	9.57	155.48	45.35	4.87	0.73	23.21	0.35	183.56	46.43
	Other	None	93.98	74.41	189.71	154.4	283.69	228.81	156.25	76.23	377.75	40.62	817.69	345.66
	Other Subtotal		93.98	74.41	189.71	154.40	283.69	228.81	156.25	76.23	377.75	40.62	817.69	345.66

TABLE H-3

Effects (acres) to Northern Spotted Owl (NSO) Nesting, Roosting, and Foraging (NRF) Habitat by Land Use Allocation and Land Ownership from Construction of the Proposed Action within the Range of the NSO

Physiographic Province	Land Owner a/	Land Allocation b/	Suitable Habitat c/		Dispersal Only Habitat d/		*Total Dispersal Habitat e/*		Capable Habitat f/		Noncapable Habitat g/		Total Acres j/	
			Removed h/	Modified i/	Removed h/	Modified i/	*Removed* h/	*Modified* i/	Removed h/	Modified i/	Removed h/	Modified i/	Removed h/	Modified i/
Klamath Mountains Total		CHU & LSR (overlap)	39.04	29.23	50.40	8.32	89.44	37.55	2.42	0.84	7.51	0.09	99.37	38.48
		CHU only (OR-32/OR-33)	8.27	12.09	7.14	3.03	15.41	15.12	0.57	0.09	0.24	0.07	16.22	15.28
		LSR only (RO 223)	8.23	0.10	8.34	0.82	16.57	0.92	0.41	0.03	4.16	0.00	21.14	0.95
		Other Allocations	96.55	58.93	122.38	55.53	218.93	114.46	44.92	21.53	37.14	4.5	300.99	140.49
		None	93.98	74.41	189.71	154.4	283.69	228.81	156.25	76.23	377.75	40.62	817.69	345.66
		Overall	246.07	174.76	377.97	222.10	624.04	396.86	204.57	98.72	426.80	45.28	1255.41	540.86
West Cascades	BLM - Medford	CHU & LSR (overlap)	0.00	0.77	0.00	0.06	*0.00*	*0.83*	0.00	0.01	0.00	0.02	0.00	0.86
		CHU only (OR-37)	1.98	0.02	8.49	0.17	*10.47*	*0.19*	17.60	0.27	1.26	0.00	29.33	0.46
		LSR only (RO 227)	0.00	0.00	0.00	0.00	*0.00*	*0.00*	0.00	0.00	0.00	0.00	0.00	0.00
		Other Allocations	14.81	4.55	62.82	10.39	*77.63*	*14.94*	16.94	1.85	59.86	3.75	154.43	20.54
	Medford Subtotal		16.79	5.34	71.31	10.62	88.10	15.96	34.54	2.13	61.12	3.77	183.76	21.86
	Rogue River - Siskiyou NF	CHU & LSR (overlap)	40.23	21.61	77.32	31.58	*117.55*	*53.19*	49.92	15.13	35.97	3.17	203.44	71.49
		CHU only (OR-37)	0.00	0.00	0.00	0.00	*0.00*	*0.00*	0.00	0.00	0.00	0.00	0.00	0.00
		LSR only (RO 227)	0.00	0.00	0.00	0.00	*0.00*	*0.00*	0.00	0.00	0.00	0.00	0.00	0.00
		Other Allocations	0.00	0.00	0.00	0.00	*0.00*	*0.00*	0.00	0.00	0.00	0.00	0.00	0.00
	Rogue River Subtotal		40.23	21.61	77.32	31.58	117.55	53.19	49.92	15.13	35.97	3.17	203.44	71.49
	Other	None	7.66	3.22	86.47	13.55	94.13	16.77	69.29	6.73	158.85	2.43	322.27	25.93
	Other Subtotal		7.66	3.22	86.47	13.55	94.13	16.77	69.29	6.73	158.85	2.43	322.27	25.93

TABLE H-3

Effects (acres) to Northern Spotted Owl (NSO) Nesting, Roosting, and Foraging (NRF) Habitat by Land Use Allocation and Land Ownership from Construction of the Proposed Action within the Range of the NSO

Physiographic Province	Land Owner a/	Land Allocation b/	Suitable Habitat c/		Dispersal Only Habitat d/		*Total Dispersal Habitat e/*		Capable Habitat f/		Noncapable Habitat g/		Total Acres j/	
			Removed h/	Modified i/	Removed h/	Modified i/	*Removed* h/	*Modified* i/	Removed h/	Modified i/	Removed h/	Modified i/	Removed h/	Modified i/
West Cascades Total		CHU & LSR (overlap)	40.23	22.38	77.32	31.64	117.55	54.02	49.92	15.14	35.97	3.19	203.44	72.35
		CHU only (OR-37)	1.98	0.02	8.49	0.17	10.47	0.19	17.6	0.27	1.26	0	29.33	0.46
		LSR only (RO 227)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Other Allocations	14.81	4.55	62.82	10.39	77.63	14.94	16.94	1.85	59.86	3.75	154.43	20.54
		None	7.66	3.22	86.47	13.55	94.13	16.77	69.29	6.73	158.85	2.43	322.27	25.93
		Overall	64.68	30.17	235.10	55.75	299.78	85.92	153.75	23.99	255.94	9.37	709.47	119.28
East Cascades	BLM - Lakeview	CHU & LSR (overlap)	0.00	0.00	0.00	0.00	*0.00*	*0.00*	0.00	0.00	0.00	0.00	0.00	0.00
		CHU only (OR-37)	0.65	0.00	5.62	0.76	*6.27*	*0.76*	5.35	0.53	0.43	0.01	12.05	1.30
		LSR only (none)	0.00	0.00	0.00	0.00	*0.00*	*0.00*	0.00	0.00	0.00	0.00	0.00	0.00
		Other Allocations	1.31	0.00	0.58	0.00	*1.89*	*0.00*	1.20	0.00	0.00	0.00	3.09	0.00
	Lakeview Subtotal		1.96	0.00	6.20	0.76	8.16	0.76	6.55	0.53	0.43	0.01	15.14	1.30
	Rogue River – Siskiyou NF	CHU & LSR (overlap)	0.96	0.18	1.36	0.38	*2.32*	*0.56*	0.00	0.00	0.00	0.00	2.32	0.56
		CHU only (OR-37)	0.00	0.00	0.00	0.00	*0.00*	*0.00*	0.00	0.00	0.00	0.00	0.00	0.00
		LSR only (RO 227)	0.00	0.00	0.00	0.00	*0.00*	*0.00*	0.00	0.00	0.00	0.00	0.00	0.00
		Other Allocations	0.00	0.00	0.00	0.00	*0.00*	*0.00*	0.00	0.00	0.00	0.00	0.00	0.00
	Rogue River Subtotal		0.96	0.18	1.36	0.38	2.32	0.56	0.00	0.00	0.00	0.00	2.32	0.56
	Fremont-Winema NF	CHU & LSR (overlap)	0.00	0.00	0.00	0.00	*0.00*	*0.00*	0.00	0.00	0.00	0.00	0.00	0.00
		CHU only (OR-37)	6.57	3.74	8.05	3.63	*14.62*	*7.37*	3.63	0.32	1.06	0.03	19.31	7.72

TABLE H-3

Effects (acres) to Northern Spotted Owl (NSO) Nesting, Roosting, and Foraging (NRF) Habitat by Land Use Allocation and Land Ownership from Construction of the Proposed Action within the Range of the NSO

Physiographic Province	Land Owner a/	Land Allocation b/	Suitable Habitat c/		Dispersal Only Habitat d/		*Total Dispersal Habitat e/*		Capable Habitat f/		Noncapable Habitat g/		Total Acres j/	
			Removed h/	Modified i/	Removed h/	Modified i/	*Removed h/*	*Modified i/*	Removed h/	Modified i/	Removed h/	Modified i/	Removed h/	Modified i/
		LSR only (none)	0.00	0.00	0.00	0.00	*0.00*	*0.00*	0.00	0.00	0.00	0.00	0.00	0.00
		Other Allocations	14.68	2.67	30.10	5.09	*44.78*	*7.76*	13.46	1.48	2.01	0.06	60.25	9.30
	Winema Subtotal		21.25	6.41	38.15	8.72	59.40	15.13	17.09	1.80	3.07	0.09	79.56	17.02
	Other	None	9.76	0.00	36.56	3.49	46.32	3.49	110.23	2.32	62.03	0.09	218.58	5.90
	Other Subtotal		9.76	0.00	36.56	3.49	46.32	3.49	110.23	2.32	62.03	0.09	218.58	5.90
East Cascades Total		CHU & LSR (overlap)	0.96	0.18	1.36	0.38	2.32	0.56	0.00	0.00	0.00	0.00	2.32	0.56
		CHU only (OR-37)	7.22	3.74	13.67	4.39	20.89	8.13	8.98	0.85	1.49	0.04	31.36	9.02
		LSR only (RO 227)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Other Allocations	15.99	2.67	30.68	5.09	46.67	7.76	14.66	1.48	2.01	0.06	63.34	9.3
		None	9.76	0	36.56	3.49	46.32	3.49	110.23	2.32	62.03	0.09	218.58	5.9
		Overall	33.93	6.59	82.27	13.35	116.20	19.94	133.87	4.65	65.53	0.19	315.60	24.78
OVERALL TOTAL		CHU & LSR (overlap)	81.22	51.79	140.31	41.24	*221.53*	*93.03*	54.45	16.15	44.87	3.3	320.85	112.48
		CHU only	32.97	20.33	52.33	13.13	*85.3*	*33.37*	38.58	3.05	13.14	0.13	137.02	36.64
		LSR only	10.63	5.21	17.96	10.82	*28.59*	*16.03*	3.87	1.89	6.46	0.53	38.92	18.45
		Other Allocations	154.1	66.15	271.26	74.26	*425.36*	*140.41*	94.35	24.93	109.61	8.45	629.32	173.79
		None	140.6	80.64	487.31	187.3	*627.91*	*267.94*	561.29	111.5	861.45	44.61	2050.65	424.05
		OVERALL	419.52	224.12	969.17	326.75	*1388.69*	*550.78*	752.54	157.52	1035.53	57.02	3176.76	765.41

a/ Land Owner: Coast Range Other = Bureau of Indian Affairs, State, Private; Klamath Mountains Province Other = State, Private; West Cascades Other = State, State Forest, Private; East Cascades Other = State, Private.

b/ Land Allocation: CHU = federally designated critical habitat; LSR = NWFP late successional reserves; CHU & LSR (overlap) = area that both land allocations occur; CHU Only = area that only CHU occurs; LSR Only = area that only LSR occurs; within BLM and NFS lands Other Allocations = other land allocations (i.e., Matrix, Connectivity, etc.); within other land owners, none = no CHU

c/ Suitable Habitat: Forest stands used by NSO for nesting, roosting, and foraging (conifer dominated, 80+ years, multi-storied, sufficient snags and LWD, canopy closure > 60 percent)

d/ Dispersal Only Habitat (only includes dispersal habitat not located in suitable habitat): support owl movement across landscape but lack structural characteristics to support nesting (conifer and mixed mature conifer-hardwood, canopy cover ≥ 40 percent, average dbh ≥ 11 inches).

e/ Total Dispersal Habitat (includes dispersal habitat that coincides with suitable habitat): support owl movement across landscape but lack structural characteristics to support nesting (conifer and

TABLE H-3

Effects (acres) to Northern Spotted Owl (NSO) Nesting, Roosting, and Foraging (NRF) Habitat by Land Use Allocation and Land Ownership from Construction of the Proposed Action within the Range of the NSO

Physiographic Province	Land Owner a/	Land Allocation b/	Suitable Habitat c/		Dispersal Only Habitat d/		*Total Dispersal Habitat e/*		Capable Habitat f/		Noncapable Habitat g/		Total Acres j/	
			Removed h/	Modified i/	Removed h/	Modified i/	*Removed* h/	*Modified* i/	Removed h/	Modified i/	Removed h/	Modified i/	Removed h/	Modified i/

mixed mature conifer-hardwood, canopy cover ≥ 40 percent, average dbh ≥ 11 inches). The acres within this column are not included in the Total Acres since they are included in Suitable and Dispersal Only.

f/ Capable Habitat: not currently spotted owl habitat (see # 3 and #4) but have the potential to become habitat in the future, including regenerating forest and recent clearcuts.

g/ Noncapable Habitat: areas such as lakes, rivers, rock outcroppings, roads, elevations above 4,500 feet.

h/ Project components considered in calculation of habitat "Removed": Pacific Connector construction right-of-way, temporary extra work areas, aboveground facilities, permanent and temporary access roads (PAR, TAR), pipe storage yards.

i/ Project components considered in calculation of habitat "Modified": Pacific Connector uncleared storage areas (UCSAs) described in Section 3.3.3.2 of the Project Description and would not be cleared of trees during construction. These areas would be used to store forest slash, stumps and dead and downed log materials that would be removed and scattered across the right-of-way after construction during restoration and are considered as temporary insignificant habitat modifications.

j/ Total Acres includes only the removed and modified columns within Suitable NRF, Dispersal Only, Capable, and Non-Capable Habitat.

TABLE H-4

Summary of Suitable NSO Nesting, Roosting, and Foraging (NRF) a/ Habitat Condition Pre- and Post-Action for Known and Predicted Owls Within the Project Analysis Area

Project Location b/	MSNO or Site ID	Site Name	Owl Status c/	Date ID	NSO Group ID	Distance from Centerline, EAR, or Rock Source (feet) d/	Nest Patch (<90%NRF=27.9ac) e/			Core Area (<50% NRF = below threshold) f/					Home Range (<40% NRF = below threshold) g/					Habitat Condition h/	Project Disturbance (General Timing) i/	
							Pre-Action	Acres Removed	Post-Action	Pre-Action	Pre-Action (%)	Acres Removed	Post-Action	Post-Action (%)	Pre-Action	Pre-Action (%)	Acres Removed	Post-Action	Post-Action (%)		Year 1	Year 2
Coast Range Physiographic Province																						
19.25-22.30	P815G	Predicted	P	2008	CR-A	3,264	0.3	0.0	0.3	223.2	44.4	0.0	223.2	44.4	1967.9	43.6	0.0	1967.9	43.5	2		
20.32-23.59	P816G	Predicted	P	2008	CR-A	1,575	26.8	0.0	26.8	222.2	44.2	0.0	222.2	44.2	1591.1	35.2	5.3	1585.8	35.1	4		
22.29-25.78	P813G	Predicted	P - S	2008	CR-A	2,101	28.0	0.0	28.0	307.3	61.2	0.0	307.3	61.2	1861.2	41.2	12.0	1849.1	40.9	1		
23.40-25.78	P802G	Predicted	P	2008	CR-A	2,738	30.7	0.0	30.7	454.5	90.4	0.0	454.5	90.4	2578.3	57.1	8.7	2569.6	56.8	1		
32.35-35.80	2182O	Elk Loop	K	no data	CR-B	2,080	25.4	0.0	25.4	375.1	74.8	5.6	369.5	73.5	2304.6	51.1	8.0	2296.6	50.8	1		
EAR 35.33&35.34-35.80[P]; EAR 38.87[P]	2180B	Bear Pen	K	no data	CR-B	511	16.3	0.0	16.3	279.6	55.6	0.0	279.6	55.6	1906.3	42.1	0.0	1906.3	42.1	1		
36.24-39.63	P804G*	Predicted	P - S	2008	CR-C	0	23.5	1.2	22.3	309.0	62.2	6.5	302.6	60.2	1768.8	39.3	7.7	1761.1	38.9	3		
38.90-42.05	2189O	Upper Sandy Creek	K	no data	CR-C	3,120	21.6	0.0	21.6	215.0	42.8	0.0	215.0	42.8	1647.7	36.5	1.3	1646.4	36.4	4		
42.23-45.90	2188A	Upper Rock Creek	K	2000	CR-D	3,245	27.1	0.0	27.1	243.1	48.4	0.0	243.1	48.4	1622.5	36.2	0.6	1621.9	35.9	4		
EAR 42.74-42.86[P]	2181O	Cawrses Road	K	1992	CR-D	1,225	24.5	0.0	24.5	255.2	50.8	0.0	255.2	50.8	1701.7	37.6	0.0	1701.7	37.6	3		
EAR 42.74-42.86[P]	2183O	Lower Camas Creek	K	no data	CR-D	955	26.3	0.0	26.3	218.5	43.5	0.0	218.5	43.5	1687.4	37.3	0.0	1687.4	37.3	4		
45.22-48.27	P037G	Predicted	P - S	2008	CR-D	3,079	25.0	0.0	25.0	292.7	58.3	0.0	292.7	58.3	2042.8	45.1	11.5	2031.3	44.9	1		
45.45-48.41	2099A	Deep Creek	K	2007	CR-D	2,765	22.3	0.0	22.3	178.3	35.5	0.0	178.3	35.5	1690.5	37.5	12.0	1678.5	37.1	4		
EAR 45.85-45.92[P]	4639O	Wildcat Creek	K	1999	CR-D	380	25.6	0.0	25.6	246.0	48.9	0.0	246.0	48.9	2145.1	47.4	0.0	2145.1	47.4	2		
EAR 45.85-45.92[P]	2190A	Weaver Ridge	K	1988	CR-D	2,432	26.6	0.0	26.6	351.1	69.9	0.0	351.1	69.9	2902.0	64.2	0.0	2902.0	64.2	1		
EAR 45.85-45.92[P]	P073G	Predicted	P	2008	CR-D	6,280	29.7	0.0	29.7	356.5	70.9	0.0	356.5	70.9	2672.9	59.1	0.0	2672.9	59.1	1		
EAR 46.51[P]	2186O	Signal Tree	K	1987	CR-E	935	23.0	0.0	23.0	232.5	46.3	0.0	232.5	46.3	1985.1	43.9	0.0	1985.1	43.9	2		
Klamath Mountains Physiographic Province																						
52.63-53.83	2748O	Lower Berry Creek	K	2006	KM-A	5,485	24.6	0.0	24.6	345.5	68.8	0.0	345.5	68.8	1557.3	45.8	0.3	1557.0	45.8	1		
53.98-55.21	2199B	JWT	K	2007	KM-A	1,200	26.5	0.0	26.5	201.4	40.1	0.0	201.4	40.1	1333.4	39.3	1.4	1332.0	39.2	4		
62.72-65.67	Pacific Connector 064.0	Kent Creek	'07 - PR	2007	KM-E	70	15.5	0.0	15.5	132.5	26.7	2.1	130.4	25.9	854.5	25.2	6.4	848.1	25.0	4		
79.68-79.96	P032G	Predicted	P	2007	KM-F	5,700	24.7	0.0	24.7	350.9	69.8	0.0	350.9	69.8	2084.2	61.4	0.0	2084.2	61.3	1		
80.21-81.65	2036O	Birkenstock	K	2007	KM-B	5,260	21.5	0.0	21.5	265.9	52.9	0.0	265.9	52.9	1229.7	36.2	6.6	1223.1	36.0	3		
EAR 81.15	P030G	Predicted	P	2008	KM-B	917	27.2	0.0	27.2	211.8	42.1	0.0	211.8	42.1	1421.5	41.8	0.0	1421.5	41.8	2		
80.38-83.53	Pacific Connector 081.4	South Myrtle	'08 – P,N	2008	KM-B	775*	29.5	0.0	29.5	274.9	54.7	12.9	262.0	52.1	1586.5	46.7	20.5	1539.8	45.3	1		
81.73-85.17	361O	Wood Creek	K	no data	KM-B	2,135	22.6	0.0	22.6	334.8	67.5	2.5	332.4	66.1	2037.1	60.6	20.2	2016.9	59.4	1		
82.29-83.90	2091A	Stinger Gulch	K	2007	KM-B	5,280	21.4	0.0	21.4	288.8	57.5	0.0	288.8	57.5	2145.8	63.4	3.6	2142.1	63.0	1		
82.92-86.31	Pacific	Wood Creek	'07 -	2007	KM-B	665	20.8	0.0	20.8	329.7	65.6	9.3	320.4	63.8	2081.6	61.3	20.5	2061.1	60.7	1		

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							Pre-Action	Acres Removed	Post-Action	Pre-Action	Pre-Action (%)	Acres Removed	Post-Action	Post-Action (%)	Pre-Action	Pre-Action (%)	Acres Removed	Post-Action	Post-Action (%)		Year 1	Year 2
	Connector 084.1		PR																			
85.52-88.38	2093A	Fate Creek	K	2007	KM-B	1,570	22.8	0.0	22.8	158.5	31.7	1.0	157.5	31.3	1266.3	37.4	9.4	1256.9	37.0	4		
87.89-90.39	4614O	Bland Bailey	K	2007	KM-B	4,115	27.3	0.0	27.3	317.4	63.2	0.0	317.4	63.2	1323.5	39.2	7.4	1316.1	38.7	3		
90.01-92.70	4538O	Ash Creek	K	2007	KM-B	1,500	28.5	0.0	28.5	297.5	59.9	5.6	291.9	58.1	1450.0	42.8	17.8	1432.2	42.2	1		
92.11-94.35	Pacific Connector 091.0	St. John's Creek	'07 - PR	2007	KM-B	1,735	12.4	0.0	12.4	209.7	41.8	3.1	206.6	41.1	1930.8	56.9	27.4	1903.4	56.0	2		
94.40-96.64	4052A	Three Stouts	K	2007	KM-C	3,340	25.1	0.0	25.1	286.0	56.9	0.0	286.0	56.9	1411.7	42.0	5.2	1406.5	41.4	1		
95.30-96.89	3909O	No Doubt Stout	K	2007	KM-C	3,740	23.0	0.0	23.0	344.6	68.6	0.0	344.6	68.6	1536.9	45.7	4.8	1532.2	45.1	1		
96.55-99.88	4519O	Ebony Stout	K	2007	KM-C	4,250	23.0	0.0	23.0	335.6	66.8	0.0	335.6	66.8	2389.0	71.0	17.0	2372.0	69.8	1		
97.05-98.58	P035G	Predicted	P	2008	KM-C	4,025	28.6	0.0	28.6	390.2	77.7	0.0	390.2	77.7	2320.2	68.3	7.8	2312.4	68.1	1		
97.87-99.57	UMP0405	Hatchet Creek	K	1992	KM-C	4,510	29.7	0.0	29.7	461.6	91.9	0.0	461.6	91.9	2575.7	76.2	8.3	2567.4	75.6	1		
99.56-102.19	UMP0420	Hatchet Creek South	K	1992	KM-C	2,345	28.2	0.0	28.2	405.2	80.7	1.9	403.3	80.3	2510.2	73.9	24.2	2486.0	73.2	1		
EAR 102.3; EAR 104.24 G	P481G	Predicted	P	2008	KM-C	0	23.7	0.0	23.7	299.2	59.5	0.0	299.2	59.5	1565.7	46.1	0.0	1565.7	46.1	1		
EAR 102.3; EAR 104.24 G	P466G	Predicted	P	2008	KM-C	0	22.9	0.0	22.9	241.4	48.0	0.0	241.4	48.0	1992.4	58.6	0.0	1992.4	58.6	2		
100.79-103.61	Pacific Connector 100.8	Green Butte	'07 - RS	2007	KM-C	4	23.7	0.5	23.1	364.3	73.9	6.4	357.9	71.2	2139.6	63.2	19.2	2120.4	62.4	1		
101.45-104.82	P459G	Predicted	P	2008	KM-C	4,790	21.3	0.0	21.3	315.1	62.7	0.0	315.1	62.7	2073.9	61.3	23.5	2050.4	60.3	1		
EAR 102.3 G	P052G	Predicted	P	2008	KM-C	260	24.7	0.0	24.7	337.6	67.2	0.0	337.6	67.2	2478.8	73.0	0.0	2478.8	73.0	1		
102.67-104.56	UMP0418	Devil's Flat 2	K	1989	KM-C	2,740	27.0	0.0	27.0	343.0	68.3	0.0	343.0	68.3	2154.4	63.5	13.1	2141.3	63.0	1		
103.30-106.27	UMP0408	Beaver Creek	K	1999	KM-C	2,070	27.3	0.0	27.3	356.9	71.2	11.5	345.4	68.7	2144.6	63.3	21.8	2122.8	62.5	1		
104.48-107.05	P484G	Predicted	P - S	2008	KM-C	1,328	28.2	0.0	28.2	376.0	75.1	2.3	373.7	74.4	2401.2	70.8	17.4	2383.8	70.2	1		
105.75-107.78	UMP0407	East Fork Cow Creek	K	1993	KM-C	4,590	23.3	0.0	23.3	383.7	76.4	0.0	383.7	76.4	2653.1	78.4	6.9	2646.2	77.9	1		
106.06-108.30	UMP0401	Drew Creek	K	1993	KM-C	4,180	27.3	0.0	27.3	395.0	78.6	0.0	395.0	78.6	2618.4	77.6	6.4	2612.0	76.9	1		
106.88-109.70	UMP0499	Upper East Cow Creek (Pacific Connector 107.3)	K, '07-PR/R-2	1993	KM-C	2,740	27.3	0.0	27.3	412.2	82.0	0.0	412.2	82.0	2301.0	68.4	2.3	2298.7	67.7	1		
108.76-111.64	Pacific Connector 109.7	Peavine (Pacific Connector 109.7 Richter Mtn.)	'07 - PR	2007	KM-C	0	27.9	2.2	25.7	365.3	73.1	9.6	355.7	70.8	1793.3	53.0	18.5	1774.7	52.2	1		
EAR 111.66-	P460G	Predicted	P	2008	KM-C	12	29.6	0.0	29.6	403.2	80.3	0.0	403.2	80.3	2313.4	68.1	0.0	2313.4	68.1	1		

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Project Location b/	MSNO or Site ID	Site Name	Owl Status c/	Date ID	NSO Group ID	Distance from Centerline, EAR, or Rock Source (feet) d/	Nest Patch (<90%NRF=27.9ac) e/			Core Area (<50% NRF = below threshold) f/					Home Range (<40% NRF = below threshold) g/					Habitat Condition h/	Project Disturbance (General Timing) i/	
							Pre-Action	Acres Removed	Post-Action	Pre-Action	Pre-Action (%)	Acres Removed	Post-Action	Post-Action (%)	Pre-Action	Pre-Action (%)	Acres Removed	Post-Action	Post-Action (%)		Year 1	Year 2
111.79[D,G]																						
111.10-113.81	UMP0409	Long Prairie (Pacific Connector 111.7 Dead Horse)	K, '07 - PR	2007	KM-C	1,780	26.5	0.0	26.5	276.4	55.0	7.2	269.2	53.6	1653.7	48.7	18.2	1635.5	48.1	1		
111.15-113.36	UMP0403	Snowshoe Springs	K	1992	KM-C	3,350	26.1	0.0	26.1	346.6	69.0	0.0	346.6	69.0	1803.4	53.1	17.9	1785.5	52.6	1		
111.99-113.66	UMP0410	West Fork Trail Cr.	K	1990	KM-C	4,400	23.8	0.0	23.8	283.4	56.4	0.0	283.4	56.4	1872.1	55.1	11.3	1860.8	54.8	1		
113.41-116.21	P22G	Predicted	P - S	2008	KM-C	1,820	21.4	0.0	21.4	234.0	46.6	0.0	234.0	46.6	1551.6	45.8	7.6	1544.0	45.4	2		
115.82-118.06	P23G	Predicted	P	2008	KM-C	3,500	24.1	0.0	24.1	277.9	55.3	0.0	277.9	55.3	1507.6	44.6	10.0	1497.7	44.1	1		
Rock Source MP 119.51	4027A	Paradise Creek	K	no data	KM-D	5,760	18.1	0.0	18.1	288.2	57.3	0.0	288.2	57.3	1789.6	52.7	0.0	1789.6	52.7	1		
119.23-121.37	4381O	Canyon Creek	K	no data	KM-D	5,020	14.1	0.0	14.1	396.6	78.9	0.0	396.6	78.9	2220.4	65.6	5.9	2214.5	65.2	1		
West Cascades Physiographic Province																						
125.09-127.25	4074O	Dry Indian (Pacific Connector 125.8 Indian Cr. East)	K, '07-PR	2007	CASC-A	1,500	27.0	0.0	27.0	196.2	39.0	0.0	196.2	39.0	702.9	24.3	5.6	697.2	24.1	4		
133.71-135.61	Pacific Connector 133.1	Obenchain Mtn. North	'07&'08 – PR-2, N	2007	CASC-B	3,280*	11.9	0.0	11.9	114.1	22.7	0.0	114.1	22.7	750.3	25.9	2.6	747.7	25.8	4		
132.84-135.31	3381A	Round About	K	no data	CASC-B	3,330	24.0	0.0	24.0	328.6	65.4	0.0	328.6	65.4	832.3	28.8	2.5	829.8	28.7	3		
133.39-136.08	Pacific Connector 134.7	West Flank Obenchain	'07 – PR	2007	CASC-B	155	11.3	0.0	11.3	120.0	23.9	2.1	117.9	23.4	872.8	30.2	4.0	868.8	30.0	4		
134.13-134.78	2627B	Obenmac	K	no data	CASC-B	4,930	25.9	0.0	25.9	176.2	35.1	0.0	176.2	35.1	681.9	23.6	0.7	681.2	23.5	4		
135.49-138.05	P163G*	Predicted	P - S	2008	CASC-B	435	15.5	0.0	15.5	185.0	37.3	4.5	180.5	35.9	827.2	28.7	5.8	821.4	28.4	4		
151.78-153.91	3932A	Heppsie Mountain (152.2 Heppsie Mtn. East)	K, '07 - PR	2007	CASC-C	2,980	25.2	0.0	25.2	233.5	46.5	0.0	233.5	46.5	1087.0	37.5	2.9	1084.1	37.4	4		
153.68-156.24	RRS2026	none	K	no data	CASC-C	3,920	24.0	0.0	24.0	250.5	49.8	0.0	250.5	49.8	1536.6	53.1	11.8	1524.9	52.7	2		
154.29-157.01	Pacific Connector 155.2	Grizzly Creek	'07-PR	2007	CASC-C	855	30.7	0.00	30.7	314.1	62.8	0.4	313.7	62.7	1459.5	49.4	12.5	1447.0	48.0	1		
155.01-	RRS2057	none	K	no	CASC-	6,140	12.2	0.0	12.2	129.9	25.9	0.0	129.9	25.9	1093.1	37.8	0.0	1093.1	37.8	4		

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							Pre-Action	Acres Removed	Post-Action	Pre-Action	Pre-Action (%)	Acres Removed	Post-Action	Post-Action (%)	Pre-Action	Pre-Action (%)	Acres Removed	Post-Action	Post-Action (%)		Year 1	Year 2
155.72				data	C																	
154.84-156.76	RRS2028	none	K	no data	CASC-C	3,230	15.6	0.0	15.6	274.9	54.7	0.0	274.9	54.7	1349.6	46.6	5.6	1344.0	46.4	1		
157.06-158.95	4334	Robinson Butte	K	2007	CASC-D	4,010	27.7	0.0	27.7	357.1	71.0	0.0	357.1	71.0	1594.1	55.1	9.9	1584.2	54.7	1		
157.99-160.72	RRS9030	none	K	no data	CASC-D	2,430	7.4	0.0	7.4	280.2	55.8	0.9	279.3	55.6	1439.5	49.7	9.1	1430.4	49.4	1		
158.16-161.02	RRS0624	Robinson Prairie	K	2006	CASC-D	1,360	12.9	0.0	12.9	171.3	34.1	3.3	168.0	33.4	1379.0	47.6	7.5	1371.5	47.4	2		
159.93-160.26	RRS2045	none	K	no data	CASC-D	5,870	26.4	0.0	26.4	292.2	58.1	0.0	292.2	58.1	1417.1	49.0	1.3	1415.8	48.9	1		
160.04-162.72	Pacific Connector 160.7	Big Elk	'07 - PR	2007	CASC-D	0	23.0	0.6	22.4	227.0	45.2	1.8	225.2	44.8	1046.1	36.2	3.1	1043.1	36.0	4		
161.95-164.57	RRS2040	none	K	no data	CASC-D	875	19.3	0.0	19.3	304.4	61.1	0.0	304.4	60.6	1706.6	59.2	7.0	1699.6	58.7	1		
162.87-165.17	RRS2067	none	K	no data	CASC-D	825	17.8	0.0	17.8	342.8	68.4	5.6	337.2	67.1	1514.4	52.4	6.6	1507.8	52.1	1		
EAR 164.29-165.93[G]	RRS2039	none	K	no data	CASC-D	853	26.5	0.0	26.5	239.5	47.7	0.0	239.5	47.7	947.2	32.7	0.0	947.2	32.7	4		
East Cascades Physiographic Province																						
167.58-169.48	2263	Ichabod Quarry South	K	2007	CASC-E	3,082	20.8	0.0	20.8	340.6	67.8	0.0	340.6	67.8	1553.1	53.6	7.5	1545.6	53.4	1		
169.09-170.72	1785	Burton Butte	K	2002	CASC-E	4,224	30.9	0.0	30.9	400.7	79.8	0.0	400.7	79.8	1185.3	40.9	3.0	1182.3	40.8	1		
172.46-174.53	P917G	Predicted	P - S	2008	CASC-F	1,790	27.0	0.0	27.0	259.3	52.3	0.0	259.3	51.6	897.8	31.6	0.0	897.8	31.0	3		
174.33-175.97	2390O	Spencer Creek	K	1991	CASC-F	4,580	11.6	0.0	11.6	302.8	60.3	0.0	302.8	60.3	995.1	34.5	2.2	992.9	34.3	3		

a/ Total available suitable nesting, roosting, and foraging habitat was calculated and considered on both federal and non-federal lands.
b/ Range of mileposts (MP) represents the extent of each owl's home range that is crossed by the Pacific Connector; if an owl site occurs only within the action area of an identified existing access road (EAR), MP identifier of that EAR is provided and road type is identified by superscript: P=paved, G=Gravel, D=Dirt.
c/ Owl type: K = known (provided by BLM Districts or U.S. Forests within the project area), P = predicted (provided by the FWS and reviewed by BLM and NFS biologists), P - S = predicted site within 2007/2008 call effective survey area, and '07 or '08 = owl(s) located during 2007 and/or 2008 NSO surveys for the Pacific Connector Project – PR=Pair, RS=Resident Single, and R-2=2 fledglings, N=Nest.
d/ Distance is measured from 1) the known nest location (K) to the centerline, 2) the known nest location (K) to the access road if only the home range intersects an existing access road – "EAR" in Project Location column, 3) from the edge of a nest patch ('07, '08, and P) to the centerline (exception nest located – N), or 4) from the edge of a nest patch ('07, '08, and P) to the access road if only the home range intersects an existing access road. An asterisk after the distance value indicates that measurement is from the nest location if a nest (N) was located during NSO surveys in 2007 or 2008 ('07, '08).
e/ Nest patch: generally 31 acres occur within a nest patch. Acres provided (pre-action, acres removed, and post-action) are suitable nesting, roosting, and foraging (NRF) NSO habitat as determined through BioMapper raw data analyses. Cells Highlighted in Red indicate that the Pacific Connector Project crosses that habitat component; however, in some cases no NRF removed.
f/ Core area: generally 502 acres occur within a core area. Acres provided (pre-action, acres removed, and post-action) are suitable nesting, roosting, and foraging (NRF) NSO habitat as determined through BioMapper raw data analyses. Cells Highlighted in Red indicate that the Pacific Connector Project crosses that habitat component; however, in some cases no NRF removed.
g/ Home range: generally 4,525 acres, 3,398 acres, and 2,895 acres occur within the Oregon Coast Range, Klamath Mountains, and Cascades NSO home ranges, consecutively. Acres provided (pre-action, acres removed, and post-action) are suitable nesting, roosting, and foraging (NRF) NSO habitat as determined through BioMapper raw data analyses. At least one component of the project (i.e., construction right-of-way, rock source/ disposal site, or existing access road) crosses the home range.
h/ Habitat Condition (both pre- and post-action): 1 = Home Range >40% NRF and Core Area >50% NRF; 2 = Home Range > 40% NRF and Core Area < 50% NRF; 3 = Home Range <40% NRF and Core Area > 50% NRF; 4 = Home Range < 40% NRF and Core Area < 50% NRF.
i/ Project Disturbance Timing is general– more specific information provided in Table 3 of Appendix Q in the Draft Biological Assessment. A "B" or "H" superscript indicates where trench blasting and/or helicopter use for timber removal and pipe delivery is proposed.

TALBE H-5

Rationale for Routing Alignment within Northern Spotted Owl Nest Patches Crossed by the Proposed Project

Project Location (nest patch) a/	MSNO or Site ID	Site Name	Jurisdiction (owl site)	Land Allocation(s)	Rationale for Proposed Alignment	Potential for Avoidance
Coast Range Physiographic Province						
37.76-37.95	P804G	Predicted	Coos Bay BLM	Other	Current route at this location follows stable ridgetop alignment and targets the co-location of BLM Road 28-10-9.4 (Weaver Sitkum Tie Rd) to the east at MP 38.33.	No – No reroute around the predicted NSO nest patch site is being considered at this time. Surveys in 2007 documented unknown NSO northeast of P804G nest patch, but not enough data available to determine status. Surveys in 2008 have documented one unknown NSO during night surveys.
Klamath Mountain Physiographic Province						
102.11-102.28	Pacific Connector 100.8	Green Butte	UMP NF	CHU OR-32	Narrow ridge line alignment provides stable location to construct and operate a high pressure, large diameter natural gas pipeline that ensures pipeline integrity. This alignment also avoids numerous headwaters and crossings of streams.	No - Alignment cannot be altered; it is topographically confined. TEWA 102.19-N could be adjusted to avoid impacts; however, TEWA provides critical staging area at alignment/road intersection in an area where TEWAs have been limited because of LSRs. Surveys in 2007 identified a resident single. No documentations at this site in 2008.
108.76-111.64	Pacific Connector 109.7	Peavine (Pacific Connector 109.7 Richter Mtn.)	UMP NF	Matrix	The original proposed route was northeast of the current proposed alignment along the southwest edge of the plateau near Long Prairie. However, early project consultation with the Cow Creek Band of Umpqua Indians (CCBUI) interests and the USFS indicated that this route crossed a tribal sacred area. Various alternatives were studied and the only feasible alignment identified was the current proposed route. Recent consultation (April 2008) with the tribe discussed the current proposed route being in conflict with the NSO (Peavine) and the USFS Peavine Quarry as well as having other additional effects (E. Fork Cow Creek, steep terrain, etc) and readdressed the original route along Long Prairie. The tribe was vehemently opposed to any consideration of realigning to the original proposed route.	No - Avoidance of Pacific Connector 109.7 is not feasible. Long Prairie is considered sacred by CCBUI. CCBUI/NF cannot define limits of sacred area of Long Prairie; therefore, other reasonable alternatives to the east cannot be studied or considered. Proposed turn-around (100'x100') on existing access road within nest patch could be eliminated. Surveys in 2007 documented a pair of NSO, but a nest tree was not identified. The nest patch defined is based off of best location. No owls detected during 2008 surveys.

TALBE H-5

Rationale for Routing Alignment within Northern Spotted Owl Nest Patches Crossed by the Proposed Project

Project Location (nest patch) a/	MSNO or Site ID	Site Name	Jurisdiction (owl site)	Land Allocation(s)	Rationale for Proposed Alignment	Potential for Avoidance
West Cascades Physiographic Province						
161.23-161.38	Pacific Connector 160.7	Big Elk	RRS	LSR/ CHU OR-37	The proposed alignment of the Rogue River Siskiyou National Forest was developed in consultation with the USFS. The USFS proposed an alternative to Pacific Connector original proposed May 2006 alignment that followed primarily existing roads. Pacific Connector met with the USFS in Sept. 2006 and explained the project construction requirements and that for the most part the FS proposed alignment was feasible, except in areas of tight radius road curves. The FS proposed alternative was approximately 3 miles longer increasing overall disturbance and would significantly increase the road corridor width that are from 20-30 feet wide to 95 feet because of Pacific Connector's construction requirements and would significantly alter the visual characteristics of these forest roads. After this meeting, the USFS developed another alternative that more closely followed Pacific Connector Original May 2006 route which utilized existing roads, clearcuts, and previous thinnings to minimize impacts to spotted owl habitat. This alternative also was aligned to avoid or minimize impacts to riparian reserves. Pacific Connector accepted this alternative and made further adjustments to the alignment to minimize side slope construction and extra work area requirements along the Original May 2006 Route between about MPs 155.1 to 159.6. Pacific Connector also made an adjustment to the Original May 2006 Alignment between MPs 168 and 168.9 (on the Fremont-Winema National Forest) to avoid a wetland (Riparian Reserve) identified during the project's wetland and waterbody surveys. This adjustment utilized an existing forest road and regenerating clear cut area to minimize impacts to mature forests.	Possible - An adjustment of the proposed route to the north to avoid the nest patch may be possible but requires further field reconnaissance. Surveys in 2007 documented a pair of NSO, but a nest tree was not identified. The nest patch defined is based off of best location. No owls detected during 2008 surveys.

a/ Range of mileposts (MP) represents the extent of each owl's home range that is crossed by the Pacific Connector.

TABLE H-6
Special Status Marine Mammal and Terrestrial Wildlife Species that May Occur Near the Project

Common Name and/or Scientific Name	Status a/				Expected Habitat	Documented or Suspected Occurrence b/				Effect of Impact	Impact Reasoning
	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
Mammals											
Pacific shrew *Sorex pacificus cascadensis*				S	Humid forests, marshes, and thickets. Often near riparian vegetation. In early successional and mature coniferous forests. Requires downed logs, brushy thickets, or ground debris for cover and feeding.	Coos Douglas Jackson Klamath		RRS-D UMP-D	No documentations within project area; known to occur in the Cascade mountains.	MIIH	Modification of habitat , potential for injury, death and disturbance
Preble's shrew *Sorex preblei*	SOC				Near streams in arid to semi-arid shrub/grass and high elevation coniferous forests. Also in openings in coniferous forests, sagebrush, frequents sagebrush thickets, willow or aspen stands in moist parts of the Great Basin.	Klamath			No documentations within project area; known to occur in northern portion of Klamath County.	NI	Not present near Project
Brazilian free-tailed bat *Tadarida Brasiliensis*			BT		Generally reside in buildings.	Douglas Jackson Klamath	CB-D LV-S MD-D RO-D	RRS-S	One possible detection 5 mi. north of pipeline at Willow Prairie. Known to occur at VA Dom in White City, near some staging areas.	MIIH	Modification of habitat , disturbance, potential for injury, death if roosting in fell tree/snag
Hoary bat *Lasiurus cinereus*			BT		Usually are associated with montane boreal forests, although during spring and autumn migrations have been located in arid shrub-steppe; forage over water, roads, and forest openings. Roost in live trees.		CB-D LV-D MD-D RO-D	RRS-D	Detected at Big Elk Guard Station, T37S R04E Sec 16	MIIH	Modification of habitat , disturbance, potential for injury, death if roosting in fell tree

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	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
Pallid bat *Antrozous pallidus*	SOC	SV	BA	S	Arid regions, open forest types, desert vegetation types. Uses cliff faces, caves, mines, or buildings for roosts.	Coos Douglas Jackson Klamath	CB-S LV-D MD-D RO-D	RRS F-W-D	PV (T28S,R7W,S31; 1993): 1.6 miles NE of MP 55.92; PV (T28S,R6W,S20; 1994): 2.8 miles N of MP 64.75; PV (T28S,R6W,S32; 1983): 1.3 miles N of MP 64.75; PV (T29S,R6W,S3; 1994): 0.5 miles NW of MP 68.15; PV (T29S,R6W,S2; 1994): 0.1 miles N of MP68.99. Winema NF boundary to Malin. Detected at Big Elk Guard Station, T37S R04E Sec 16	MIIH	Modification of foraging habitat disturbance to foraging bats;potential for injury, death if roosting in fell tree or snag, or in rock outcrops removed for pipe passage
Townsend's big-eared bat *Corynorhinus townsendii*		SC	BS		Forested regions of the Cascade Mountains. Roosts in buildings, caves, mines, and bridges.	Coos Douglas Jackson Klamath	CB-D LV-D MD-D RO-D	RRS-D	Ben Irving Reservoir/RB (T29S,R7W,S17, 18, 19, 20; 1993): 1.2 miles S of MP 57.13; PV (T29S,R7W,S5; 1983): hibernaculum / Tenmile Mountain Cave approximately 0.9 miles NW of MP 58.13; PV (T29S,R6W,S2; 1994): 0.1 miles N of MP68.99; MD (T34S,R2E,S5; 1976): historic breeding site in large basalt cave 2.5 miles NE of MP 126.3; MD (T34S,R2E,S31; 1994): breeding site 2.2 miles E of MP 133.05.	MIIH	Could cause disturbance to foraging bats
Silver-haired bat *Lasionycteris noctivagans*	SOC	SU	BT		Forested areas, especially older Douglas-fir/ western hemlock forests. Also in	Coos Douglas Jackson Klamath	CB-D LV-D MD-D RO-D	UMP-D RRS-D	Detected or captured at T37S R04E Sec 4, 14, and 16	MIIH	Modification of habitat , disturbance, potential for

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Common Name and/or Scientific Name	Status a/				Expected Habitat	Documented or Suspected Occurrence b/				Effect of Impact	Impact Reasoning
	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
					ponderosa pine forests. Forages over ponds and streams in the woods, finds a day roost under a flap of loose bark.						injury, death if roosting in fell tree or snag
California myotis *Myotis californicus*			BT		Occupy a variety of habitats including shrub-steppe, shrub desert, ponderosa pine forest, juniper, sagebrush, and Douglas fir.	Coos Douglas Jackson Klamath	CB-D LV-D MD-D RO-D	RRS-D	Detected or captured at T37S R04E Sec 4, 14, and 16	MIIH	Modification of habitat , disturbance, potential for injury, death if roosting in fell tree or snag
Small-footed myotis *Myotis ciliolabrum*	SOC	SU	BT		Cliffs and rocky canyons in arid grasslands and desert scrub, also in ponderosa pine and mixed conifer forests. Roosts and retreats in rock crevices, under boulders, and beneath bark. Hibernates in mines and caves.	Douglas Klamath	LV-D MD-S			MIIH	Modification of habitat , disturbance, potential for injury, death if roosting in fell tree or snag
Long-eared myotis *Myotis evotis*	SOC	SU	BT		Forested habitats, especially forested edges including juniper woodlands, open areas in ponderosa pine woodlands, Douglas-fir, spruce, true fir, and subalpine forests as well as willow and alder forests along streams. Arid shrublands with roosting sites.	Coos Douglas Jackson Klamath	CB-D LV-D MD-D RO-D	UMP-D RRS-D	PV (2004): 2.8, 3.3 miles W of MP 33.77; CB (T28,R11,S36; 2004): 1.4 miles SW of MP 33.77; PV (T28S,R10W,S22; 2003): 0.8 miles N of MP 37.94; CB (T29S,R10W,S13; 1998): 2.15 miles SW of MP 43.94. Detected or captured at T37S R04E Sec 4, 14, and 16	MIIH	Modification of habitat , disturbance, potential for injury, death if roosting in fell tree or snag

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Special Status Marine Mammal and Terrestrial Wildlife Species that May Occur Near the Project

Common Name and/or Scientific Name	Status a/				Expected Habitat	Documented or Suspected Occurrence b/				Effect of Impact	Impact Reasoning
	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
Fringed myotis *Myotis thysanodes*	SOC	SV	BA		Wide range of habitats, prefers forested or riparian areas. Within flying distance of forested areas.	Coos Douglas Jackson Klamath	CB-D LV-D MD-D RO-D	UMP-D RRS-D	CB (T28,R11,S35; 2004): 1.7 miles SW of MP 33.77; PV (T28S,R10W,S22; 2003): 0.3 miles NE of MP 38.54; F-W (T37S,R5E,S34; 2002): 1.6 miles NE of MP 170.0. Captured at T36S R04E Sec 27	MIIH	Modification of habitat , disturbance, potential for injury, death if roosting in fell tree or snag
Long-legged myotis *Myotis volans*	SOC	SU	BT		Coniferous forests, including Douglas-fir, true fir, Sitka spruce, lodgepole pine, and ponderosa pine forests. Roosts in cliff faces, abandoned buildings, caves, mines.	Coos Douglas Jackson Klamath	CB-D LV-D MD-D RO-D	UMP-D RRS-D	PV (2004): 3.3 miles W of MP 33.77; CB (T28,R11,S35; 2004): 1.7 miles SW of MP 33.77; PV (T28S,R7W,S31; 1993): 1.3 miles NE of MP 55.92; RO (T29S,R7W,S15; 1994): 1.8 miles S of MP 58.53; PV (T29S,R6W,S2; 1994): 0.1 miles N of MP68.99. Detected or captured at T37S R04E Sec 4, 14, and 16	MIIH	Modification of habitat , disturbance, potential for injury, death if roosting in fell tree or snag
Yuma myotis *Myotis yumanensis*	SOC		BT		Riparian, desert scrub, moist woodlands, open forests. In western Oregon frequents woodlands.	Coos Douglas Jackson Klamath	CB-D LV-D MD-D RO-D	UMP-D RRS-D	CB (T28S,R11W,S11; 1998): 0.6 mile NE of MP 29.84; PV/CB (T28,R10,S31; 1997): 1.7 miles SW of MP 35.8; CB (T29,R10,S6; 1997): 2.8 miles SW of 35.8; CB (T29S,R10W,S13; 1998): 2.15 miles SW of MP 43.94; RB (T29S,R7W,S20; 1994): 2.2 miles S of MP 57.43; PV (T29S,R6W,S3; 1994): 0.5 miles NW of MP 68.15; PV (T29S,R6W,S2;	MIIH	Modification of habitat , disturbance, potential for injury, death if roosting in fell tree or snag

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Common Name and/or Scientific Name	Status a/				Expected Habitat	Documented or Suspected Occurrence b/				Effect of Impact	Impact Reasoning
	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
									1994): 0.1 miles N of MP68.99; Detected or captured at T37S R04E Sec 4, 14, and 16		
Spotted bat *Euderma maculatum*			BA	S	Wide variety of habitat types ranging from ponderosa pine forests to desert water holes. Nest in cliff crevices.	Klamath	LV-D			MIIH	Modification of habitat , disturbance, potential for injury, death if roosting in fell tree or snag
White-tailed jackrabbit *Lepus townsendii*		SU			Open regions such as sagebrush deserts and grasslands and open areas in coniferous forests and alpine meadows.	Klamath				MIIH	Could cause disturbance
Pygmy rabbit *Brachylagus idahoensis*	SOC	SV	BA	S	Tall dense clumps of sagebrush, also in greasewood. Deep, friable soils for burrows.	Klamath historic only	LV-S			NI	No current known sites in Klamath County
Western gray squirrel *Sciurus griseus*		SU	BT		Deciduous or broadleaf evergreen woodlands dominated by oaks sometimes mixed with pines. Also in riparian areas and mixed forests of tanoak, maple, madrone, and conifers. Sometimes in urban parks.	Coos Douglas Jackson Klamath	CB-D LV-D MD-D RO-D	UMP-D RRS-D F-W-D	Keno Area	MIIH	Modification of habitat , disturbance, potential for injury, death if in fell tree or snag
Gold Beach pocket gopher *Thomomys mazama helleri*[3]			BA		Open grassy meadows, wet pastures in mountain forests.	Coos	CB-S			MIIH	Could cause disturbance, modification of habitat
Pistol River pocket gopher *Thomomys bottae detumidus*			BA		Moist meadows, pastures, grasslands, riparian areas. Requires deep soils.	Coos	CB-S			MIIH	Could cause disturbance, modification of habitat
White footed vole *Arborimus albipes*	SOC	SU	BT		Riparian areas, coniferous forests, small clearings.	Coos Douglas Jackson	CB-D RO-D	RRS-S		MIIH	Modification of habitat , disturbance,

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	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
											potential for injury, or death
Red tree vole *Arborimus longicaudus*	SOC		BT	SM	Dense, moist, coniferous forests with Douglas-fir component.	Coos Douglas Jackson	CB-D MD-D RO-D	UMP-D RRS-D	CB (T28S,R10W,S28; 1996): 105ft N of MP 37.06; RO (T29S,R4W,S27): RTV site (100m of nest tree) within ROW and NE of MP 82.93-83.02; UMP (T32S,R2W,S8): within ROW at MP 107.59; UMP (T32S,R2W,S8): 348ft. SW of MP 107.68; UMP (T32S,R2W,S16): 474ft. SW of MP 108.51; UMP (T32S,R2W,S21): 88ft. W of MP109.21 in TEWA; BLM (T33S,R1W,S7): 186ft. W of MP 115.8. Not found on RRS in vicinity of project.	MIIH	Modification of habitat , disturbance, potential for injury, death if in fell tree or snag
Ringtail *Bassariscus astutus*		SU	BT		Woodlands containing tanoak near rocky areas and rivers. In coniferous forests, especially riparian areas.	Coos Douglas Jackson Klamath	CB-D LV-S MD-D RO-D	UMP-D RRS-D	RO (T29S,R9W,S15; 1995): 0.88 miles SW of MP 46.4; PV (T29S,R5W,S4; 1986): 0.4 miles S of MP 73.75.	MIIH	Modification of habitat and disturbance
American marten *Martes americana*		SV	BT		Forested habitats, wander through openings. Prefer mature forests with closed canopies, sometimes in openings.	Coos Douglas Jackson Klamath	CB-D LV-D MD-D RO-S	UMP-D RRS-D	CB (T27S,R11W,S29; 1991): 0.6 miles NE of MP 24.98; PV (1991): 1.4 miles NE of MP 26.04; PV (1991): 0.1 mile from MP 29.9; ROR (T37S,R5E,S20; 1978): 2.0 miles NE of MP 167.15; ROR (T37S,R5E,S31; 1980): 0,5 miles SW of MP 1677.15; F-W	MIIH	Modification of habitat and disturbance,

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Special Status Marine Mammal and Terrestrial Wildlife Species that May Occur Near the Project

Common Name and/or Scientific Name	Status a/				Expected Habitat	Documented or Suspected Occurrence b/				Effect of Impact	Impact Reasoning
	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
									(T37S,R5E,S27; 1991): 2.0 miles NE of MP 168.3; F-W (T37S,R5E,S34; 1997): 0.9 miles NE of MP 169.08; F-W (37S,R5E,S35; 1991): 1.5 miles NE of MP 170.94; BLM (T38S,R5E,S15; 1999): 1.2 miles SW of MP 171.2; LV (T38S,R5E,S21; 1999): 2.6 miles SW of MP 173.07; LV (T38S,R5E,S34; 1999): 2.6 miles SW of MP 174.65; LV (T38S,R5E,S36; 2000): 1.5 miles SW of MP 174.65; LV (T39S,R5E,S1; 1999): 2.5 miles SW of MP 176.5.		
Pacific fisher *Martes pennanti pacifica*	C SOC-Klamath	SC		S	Mature-closed canopy coniferous forests with some deciduous component. Frequently along riparian corridors. Sometimes in clearcuts.	Coos Douglas Jackson Klamath	CB-S LV-S MD-D	RRS-D UMP-D F-W-D	CB (t26S,R12W,S9; 1991): 1.4mi E of MP 10.37; Buck Lake (T38S,R5E,S14; 1978): 0.4mi SW of MP 172.58	MIIH	Modification of habitat and disturbance
Columbian white-tailed deer *Odocoileus virginianus leucurus*		SV	BS		Restricted to a few islands in the Columbia River, white-oak woodlands near Roseburg.	Douglas	RO-D			NI	Not present near proposed action
Elephant seal *Mirounga angustirostris*	MMPA				Breeds on offshore island beaches and a few remote locations on the mainland; rest of the year live offshore. Northernmost breeding site on the Pacific coast is Shell Island, which is also the largest marine mammal haulout area on Oregon Coast.				LNG ship transit route	MIIH	Disturbance from ship traffic

TABLE H-6

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	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
Harbor porpoise *Phocoena phocoena*	MMPA				Ranges from Alaska to California; considered abundant in waters off Washington and western Canada.				LNG ship transit route	MIIH	Disturbance from ship traffic
Harbor seal *Phoca vitulina*	MMPA				Range from Alaska to Baja Mexico; can often be seen in near shore coastal waters, bays, estuaries, and on sandy beaches and mudflats.				LNG ship transit route LNG Terminal	MIIH	Disturbance from ship traffic and/or construction
California sea lion *Zalophus californianus*	MMPA				Range from Canada to Baja Mexico; main haulout sites in Oregon include Shell Island in the Simpson Reef. Forage within Coos Bay and use dredge material islands as haul-out sites.				LNG ship transit route LNG terminal	MIIH	Disturbance from ship traffic and/or construction
Birds											
Clark's grebe *Aechmophorus clarkii*			BT		Breeds in inland lakes with emergent vegetation such as cattails and tules. Requires open water for foraging. Winters along the seacoast and on major rivers.	Coos Douglas Jackson Klamath	CB-S LV-D	RRS-D	Fish Lake T37S R04E Sec 2 and 3	MIIH	Disturbance
Red-necked grebe *Podiceps grisegena*		SC		S	Breeds in lakes and pond, mostly in forested areas. In waters grown to hardstem bulrush intermixed with open water over 5 feet.	Coos Douglas Jackson Klamath		F-W-D		MIIH	Disturbance
Horned grebe *Podiceps auritus*		SP		S	Open water surrounded with emergent vegetation.	Coos Douglas Jackson Klamath		F-W-D RRS-D	Not near pipeline on RRS	MIIH	Disturbance
Western grebe *Aechmophorus occidentalis*			BT		Nests in tule-fringed lakes and marshes of eastern Oregon. Winters along the coast, commonly in bays and estuaries. Also found on major rivers during the winter.	Coos Jackson Klamath	CB-D LV-D MD-D	RRS-D	Fish Lake T37S R04E Sec 2 and 3	MIIH	Disturbance

TABLE H-6

Special Status Marine Mammal and Terrestrial Wildlife Species that May Occur Near the Project

Common Name and/or Scientific Name	Status a/				Expected Habitat	Documented or Suspected Occurrence b/				Effect of Impact	Impact Reasoning
	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
Fork-tailed storm petrel *Oceanodroma furcata*		SV	BA		Nests on offshore islands with developed soils. Forages over open ocean. Burrows located in grassy areas without trees or shrubs.	Coos	CB-S			MIIH	Disturbance
American white pelican *Pelecanus erythrorhynchos*		SV	BA		Inland lakes and marshes during breeding season. Nest on predator free islands. May occur on most bodies of water during nonbreeding.	Jackson Klamath	LV-D	UMP-D RRS-D	Fish Lake T37S R04E Sec 2 and 3	MIIH	Disturbance
Western least bittern *Ixobrychus exilis hesperis*	SOC	SP		S	Breeds in freshwater cattail and bulrush marshes east of the Cascades.	Klamath		F-W-D		MIIH	Disturbance
Snowy egret *Egretta thula*		SV			Marshy areas, especially in Coos Bay in the winter. Cattail and bulrush marshes in breeding seasons.	Klamath			Documented foraging near Coos Bay.	MIIH	Disturbance
White-faced ibis *Plegadis chihi*	SOC				Breeds in interior water freshwater marshes. Nests among emergent hardstream bulrush. Feeds in marshes, meadows, edges of bonds, pastures, and irrigated alfalfa fields.	Klamath				MIIH	Disturbance
Greater sandhill crane *Grus canadensis tabida*		SV	BT		Nest in marshes and wet meadows or in drier grasslands and pastures.	Jackson Klamath	LV-D MD-D	UMP-D RRS-D F-W-D	RRS (T36S,R4E,S30; 1990): 2.7 miles NE of MP 157.53. F-W (T38S, R6E, S11/12) T37S R04E Sec 20. T37S R05E Sec 30.	MIIH	Disturbance
Lesser sandhill crane *Grus canadensis canadensis*			BT		Spring and fall migrant in the Malheur-Harney Basin utilizing wetland, grass meadow, marsh, grain fields	Jackson	CB-S LV-D			MIIH	Disturbance
Canadian sandhill crane *Grus canadensis rowani*			BT		Spring and fall migrant in western (Willamette Valley) Oregon, utilize Sauvie Island and Ridgefield NWR, WA	Jackson	LV-D			NI	

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	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
Trumpeter swan *Cygnus buccinator*			BA		Nests on the shores of large inland lakes and marshes.	Klamath	CB-S LV-D			MIIH	Disturbance
Aleutian Canada Goose *Branta canadadnsis leucopareia*		SE	BS		Migrates along the entire Oregon coast to California wintering grounds, also winters in Oregon. Forage on pastures. During migration, may be seen in the Willamette Valley or Goat Rock (Oregon Islands National Wildlife Refuge). Some winter exclusively in the Semidi Islands, near Pacific City. In the spring, several thousand congregate in the Langlois area of southern coastal Oregon.	Coos	CB-D			MIIH	Disturbance
Dusky Canada goose *Branta canadensis occidentalis*			BS		Breeds in freshwater marsh with tall shrub cover. Terrestrial habitats include cropland, hedgerow and grasslands.	Coos Douglas	CB-S			MIIH	Disturbance
Tule goose *Anser albifrons elgasi*			BS		Winters in California, migrates from Alaska through Oregon utilizing marshes and wetland habitats	Klamath	CB-S LV-S			MIIH	Disturbance
Harlequin duck *Histrionicus histrionicus*	SOC	SU	BA	S	Breeds along low-gradient slower-flowing reaches of mountain streams in forested areas. Uses swift waters and rapids during other seasons.	Coos Douglas Klamath	RO-D	UMP-D F-W-D		MIIH	Modification of habitat and disturbance,
Barrow's goldeneye *Bucephala islandica*		SU			Nest in cavities around edges of high mountain lakes.	Douglas Jackson Klamath		UMP-S RRS-S		MIIH	Disturbance

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	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
Bufflehead *Bucephala albeola*		SU	BA	S	Near mountain lakes surrounded by open woodlands containing snags. Nests in aspen, ponderosa pine, or Douglas-fir.	Coos Douglas Jackson Klamath	LV-D	F-W-D RRS-D UMP-D	Fish Lake T37S R04E Sec 2 and 3	MIIH	Disturbance ; Not known to breed along the pipeline.
Yellow rail *Coturnicops noveboracensis*	SOC	SC	BS	S	Freshwater and coastal estuary marshes. Requires areas with shallow water and vegetative cover.	Klamath	LV-D	F-W-D UMP-S		NI	Not documented near pipeline route
Black oystercatcher *Haematopus bachmani*			BT		Intertidal environment. Nests either on offshore islands or rocky shorelines, cliffs.	Coos	CB-S			MIIH	Disturbance
Upland sandpiper *Bartramia longicauda*		SC	BS	S	Nests in partially flooded meadows and grasslands, often with a fringe of trees in the middle of sagebrush communities.	Klamath	CB-D			MIIH	Modification of habitat and disturbance,
Long-billed curlew *Numenius americanus*			BT		Nest in open grasslands, prairies, and meadows, often near scattered shrubs and usually near water or wet meadows.	Klamath	LV-D			MIIH	Modification of habitat and disturbance,
Forster's tern *Sterna forsteri*			BT		Breeds on lakes and marshes, mud or sand flats near water.	Klamath	LV-D			MIIH	Disturbance
Black tern *Chlidonias niger*	SOC		BT		Nests in or on emergent vegetation in alkaline lakes and freshwater marshes or in marshy areas along rivers of ponds. Forages near nest.	Jackson Klamath	LV-D MD-D			MIIH	Disturbance
Rhinoceros auklet *Cerorhinca monocerata*			BA		Offshore islands, coast headlands with well developed soils. Forages oceanwide.	Coos Douglas	CB-S			MIIH	Disturbance
Cassin's auklet *Ptychoramphus aleuticus*			BA		Breeds on offshore islands. Forages in the marine environment.	Coos	CB-S			MIIH	Disturbance

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	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
Tufted puffin *Fratercula cirrhata*			BA		Burrows on slopes or turf-covered headlands of offshore islands and coastal bluffs. May nest in rock crevices. Forage in the marine environment.	Coos	CB-S			MIIH	Disturbance
White-tailed kite *Elanus leucurus*			BA		Lower-elevation grasslands, agricultural areas, meadows, oak and riparian woodlands, marshes, and wetlands. Requires trees or tall shrubs for nesting.	Coos Douglas Jackson	CB-D MD-D RO-D			MIIH	Disturbance
Northern goshawk *Accipiter gentilis*	SOC	SC	BS		Coniferous forests, sometimes in quaking aspen groves on desert mountain ranges. Prefer large patches of late-successional forests with large trees and canopy closure.	Coos Douglas Jackson Klamath	CB-D LV-D MD-D RO-D	UMP-D RRS-D F-W-D	CB (1998): 0.6 mile NE of MP 29.84; MD (T32S,R1W,S33; 2001): 2.3 miles E of MP 114.31; MD (T35S,R1E,S3; 1996): 1.1 miles W of MP 134.1; MD (T35S,R1E,S23; 1997): 0.7 miles SW of MP 136.94; PV (T35S,R2E,S30; 1995): 0.3 miles SW of MP 138.79; MD (T35S,R2E,S21; 1997): 1.4 miles NE of MP 139.7; MD (T36S,R2E,S11; 1999): 2.3 miles E of MP 143.68; PV (T36S,R2E,S12; 1998): 2.3 miles NE of MP 145.65; MD (T36S,R2E,S12; 1996): 2.8, 2.9 miles NE of MP 145.65; MD (T36S,R2E,S25; 1998): 1.3 miles NE of MP 148.93.; F-W (T38S,R5E,S9; 1993-1996): 0.5-1.1 miles SW of MP 170.06; PV	MIIH	Modification of habitat and disturbance. Nest tree could be felled

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	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
									(T38S,R5E,S10; 1996): 0.5 miles SW of MP 170.36; F-W (T37S,R5E,S32; 1995): 0.2 miles NE of MP 168.35; F-W (T37S,R5E,S33; 1995): 0.6 miles NE of MP 168.35; F-W (T37S,R5E,S28; 1994): 0.9 miles NE of MP 168.35; F-W (T38S,R5E,S7; 1993): 1.6 miles SW of MP 168.88; F-W (T38S,R5E,S8; 1994-2006): 1.1-2.0 miles SW of MP 169.56; LV (T38S,R5E,S17; 1998): 2.3 miles SW of MP 169.56; LV (T38S,R5E,S20; 1998): 2.9 miles SW of MP 169.56; LV (T38S,R5E,S21; 1996): 2.7 miles SW of MP 171.20; F-W (T37S,R5E,S36; 1992-1997): 2.2 miles NE of MP 171.44; F-W (T38S,R5E,S1; 1995): 1.6-1.9 miles NE of MP 171.44; F-W (T38S,R5E,S11; 1995,1998): 0.1 and 0.3 miles NE of MP 171.93; Buck Lake/PV (T38S,R5E,S14; 1995): 0.4 miles SW of MP 172.69; Buck Lake/PV (T38S,R5E,S23; 1999): 0.9 miles SW of MP 173.07; F-W		

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	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
									(T38S,R5E,S35; 1998): 1.5 miles SW of MP 174.65; LV (T38S,R5E,S35; 1993): 2.3 miles SW of MP 174.65; LV (T38S,R5E,S25; 1998): 0.4,0.6 miles SW of MP 174.65; LV (T38S,R6E,S29; 2005): 0.4, 1.2 miles NE of MP 175.96; LV (T38S,R5E,S36; 1994): 1.4 miles SW of MP 176.69; LV (T38S,R6E,S33; 1996-2003): several records 0.6 miles - 1.3 miles NE of MP 178.12; LV (T39S,R6E,S5; 1999): 0.7 miles SW of MP 177.39; PV (T38S,R6E,S34; 1996): 0.9 miles NE of MP 178.45; PV (T39S,R6E,S3; 1994): 0.6 miles NE of MP 179.06; LV (T39S,R6E,S17; 1994,1997): 2.3 miles and 2.4 miles SW of MP 179.39; LV (T40S,R11E,S7; 1994): 2.8 miles N of MP 215.90.		
Swainson's hawk *Buteo swainsoni*		SV	BT		Grasslands, sagebrush flats, juniper woodlands, larger meadows, grasslands with forested mountains. Requires a tree for nesting.	Jackson	CB-S LV-D MD-D			MIIH	Modification of habitat and disturbance,

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	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
Ferruginous hawk *Buteo regalis*	SOC	SC	BS		Forages over open country (grasslands, desert steppe, juniper woodlands). Requires ledges on cliffs, juniper woodlands or riparian woodlands for nesting..	Jackson Klamath	LV-D MD-D			MIIH	Modification of habitat and disturbance,
Merlin *Falco columbarius*			BA		Nest in open coniferous woodlands, forests, and savannahs. Forage over a variety of habitats such as marshes, prairies, and woodland openings. Usually close to water.	Coos Jackson Klamath	LV-S	UMP-D RRS-D	Documented perched near Coos Bay. RRS - Documented sightings in the vicinity of the pipeline but no nest records on file	MIIH	Modification of habitat and disturbance,
American peregrine falcon *Falco peregrinus anatum*			BS	S	Nests usually in cliffs overlooking fairly open areas with an ample food supply, such as along coasts, lakes, and marshes.	Coos Douglas Jackson Klamath	CB-D LV-D MD-D RO-D	RRS-D UMP-D	Nest sites: CB (T28S,R10W,S19; 2003): 0.8 miles NE of MP 33.88; UMP (T32S,R2W,S35; 2003): 0.2 miles SW of MP 112.64; PV (T33S,R2W,S36; 2003): 2.2 miles SW of MP 119.54; PV (T36S,R3E,S30; 2003): 1.8 miles N of MP 152.15. Several documentations within Coos Bay area – foraging, flying, roosting.	MIIH	Disturbance
Arctic peregrine falcon *Falco peregrinus tundrius*			BS		Migratory habitat on coast – cliffs or bluffs near large bodies of water or open fields for hunting.	Coos Douglas	CB-D MD-S			NI	
Greater Sage Grouse *Centrocercus urophasianus*	SOC	SV	BS	S	Big sagebrush, preferring areas where big sagebrush covers 15-50%. Leks in open areas.	Klamath	LV-S			MIIH	Modification of habitat and disturbance,

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	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
Mountain quail *Oreortyx pictus*	SOC	SU (Klamath)	BT		High in the mountains, prefers open forests and woodlands with ample undergrowth of brushy vegetation. Also inhabits thickets of chaparral and riparian woodland, meadow edges in forests, and brushy regrowth.	Coos Douglas Jackson Klamath	CB-D LV-D MD-D	UMP-D RRS-D F-W-D	PV (1993): 1.5 miles E of MP13.61; PV (1997): 1.8 miles NE of MP 28.86; CB (1998): 2.0. 2.1, 2.4 miles NE of MP 28.86; CB (1999): 1.1 miles NE of MP 32.35; CB (T28S,R10W,S28; 1996): 0.03 miles W of MP 37.16; MD (T34S,R1W,S17; 1994): 2.0 miles SW of MP 121.85; LV (T38S,R5E,S15; 2005): 1.0, 1.1 miles SW of MP 172.53; LV (T38S,R5E,S36; 2000): 1.5 miles SW of MP 175.89; LV (T39S,R6E,S5; 2000): 0.7 miles SW of MP 177.61; PV (T39S,R6E,S24; 2005): 0.3 miles SW of MP 182.52; PV (T40S,R7E,S6; 2000): 2.4 miles S of MP 184.3; PV (T40S,R8E,S7; 2003): 1.8 miles SW of MP 192.59; LV (T40S,R8E,S17; 2002): 2.9 miles S of MP 192.59.	MIIH	Modification of habitat , disturbance; ground nests could be impacted,
Banded-tailed pigeon *Columba fasciata*	SOC				Coniferous or mixed-deciduous forests. Forests and woodlands containing oaks. In western Oregon, use dense coniferous forests.	Coos Douglas Jackson		UMP-D RRS-D	PV (1997): 1.8 miles NE of MP 28.86; CB (1998): 2.0, 2.1, 2.2, 2.5 miles NE of MP 28.86; CB (T28,R11,S35; 1994): 1.6 miles SW of MP 33.77; CB (T28,R10,S9; 1995): 2.9 mile NE of MP	MIIH	Modification of habitat , disturbance, potential for injury, or death if nest in trees when fell

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	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
									34.45; CB (T28S,R9W,S19; 1993): 2.09 miles NE of MP 39.56.		
Yellow-billed cuckoo *Coccyzus americanus occidentalis*	C	SC			60+ acres of thick closed-canopy riparian forests with an understory of dense brush usually composed of various species of willows and cottonwoods.	Klamath				NI	No current locations in Klamath County; no habitat left in county
Great gray owl *Strix nebulosa*		SV	BT/SM	SM	Forage over open areas. Found in mixed coniferous, ponderosa pine, and lodgepole pine forests. Often in old-growth forests on north-facing slopes.	Douglas Jackson Klamath	CB-S LV-D MD-D RO-D	UMP-D RRS-D F-W-D	RO (T29S,R3W,S29; 2003): 1.7, 1.8 miles NE of MP 86.53; RO (T29S,R3W,S21: 1999, 2003): 2.3, 2.4 miles NE of MP 86.53; UMP (T31S,R2W,S32; 1992): 0.7 miles NE of MP 104.54; UMP (T31S,R2W,S32; 1983) 0.6 miles of MP 105.24; UMP (T32S,R2W,S22; 1997, 1998, 2000): 0.8 miles N of MP 111.25; MD (T33S,R2W,S15; 1999-2005): 2.7 miles SW of MP 116.29; MD (T33S,R1W,S7; 2002): 0.1 miles N of MP 116.65; MD (T33S,R2W,S23; 1998, 2003, 2004, 2005): 1.9, 2.1, 2.3 miles SW of MP 116.34; MD (T33S,R1W,S18; 2002): 0.21 miles NE of MP 117.09; PV (T33S,R2W,S26; 2002): 2.8 miles W of MP 119.02; MD	MIIH	Disturbance Potential harvest of habitat; potential for injury, death if roosting/ nesting in fell tree or snag

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									(T33S,R2W,S35; 2004): 2.5 miles SW of MP 119.54; PV (T34S,R1W,S6; 1995): 1.9 miles SW of MP 121.25; MD (T34S,R2W,S1; 1995): 2.8 miles SW of MP 121.25; MD (T35S,R1E,S3; 2000): 0.3, 0.5, 1.0 mile W of MP 133.66; MD (T35S,R1E,S3; 2000, 2001, 2003, 2004, 2005): 0.65 miles W of MP 134; MD (T35S,R1E,S1; 1996-2004): 0.8, 0.9, 1.4 miles E of MP 134.43; MD (T35S,R1E,S12; 2000): 1.2 miles SE of MP 134.43; PV (T35S,R1E,S24; 1998): 0.1 miles W of MP 137.17; MD (T35S,R1E,S23; 1999, 2000): 0.8 miles SW of MP 137.41; PV (T35S,R1E,S23; 1999, 2000): 0.4 miles SW of MP 137.41; MD (T35S,R1E,S13; 1996-2005): 0.3mi-0.9 miles NE of MP 136.58; MD (T35S,R1E,S13; 1997, 1998, 1999, 2003, 2004): 0.8 miles NE of MP 136.83; PV (T35S,R1E,S13; 1998): 0.6 miles NE of MP 136.83; MD (T35S,R2E,S18;		

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	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
									2001, 2003): 1.3 miles NE of MP 136.83; MD/PV (T35S,R1E,S13; 1997): 0.2 miles NE of MP 136.97; PV (T35S,R2E,S18; 2000,2001): 1.1, 1.4, and 1.5 miles NE of MP 138.44; MD (T35S,R2E,S18; 2005): 1.0 miles NE of MP 138.44; MD (T35S,R2E,S17; 2001): 1.5 miles NE of MP 138.44; MD (T35S,R2E,S19; 1999): 0.8 miles NE of MP 138.44; MD (T35S,R2E,S21; 1997): 1.6 miles NE of MP 139.7; MD (T35S,R2E,S23; 1995): 2.8 miles NE of MP 140.45; MD (T35S,R2E,S27; 1998): 1.6 miles NE of MP 140.45; MD (T36S,R2E,S13; 1996-2005): 2.5, 2.7 miles NE of MP 146.51; PV (T36S,R2E,S30; 1999): 2.3 miles W of MP 147.46; MD (T37S,R2E,S1; 1992): 0.3 miles S of MP 150.07; MD (T37S,R2E,S23; 1997): 2.9 miles SW of MP 150.95; MD (T37S,R3E,S18; 1997): 1.9 miles S of MP 152.41; MD (T36S,R3E,S29; 2004-2006): 2.0, 2.2		

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	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
									miles N of MP 153.24; MD (T37S,R3E,S8; 1998): 0.7 miles S of MP 153.35; MD (T37S,R3E,S17; 1998): 1.6-2.3 miles S of MP 153.24; MD (T37S,R3E,S20; 1998): 2.7-2.9 miles S of MP 153.24; RRS (T37S,R3E,S25; 1997): 2.0 miles SW of MP 159.95; RRS (T37S,R3E,S21; 1998): 2.3 miles SW of MP 154.73; RRS (T36S,R4E,S30; 1998): 2.8 miles N of MP 158.76; F-W (T38S,R5E,S7; 1998): 1.9, 2.1 miles SW of MP 168.78; LV (T38S,R6E,S19; 1998): 0.6 miles NE of MP 174.12; LV (T38S,R5E,S35; 1997): 2.2 miles SW of MP 174.65; LV (T38S,R5E,S25; 2004): 0.8 miles SW of MP 174.65; LV (T38S,R6E,S29; 2005): 0.6 miles NE of MP 175.57; LV (T39S,R6E,S7; 1994, 1997): 2.0, 2.3 miles SW of MP 177.39.		
Flammulated owl *Otus flammeolus*		SC	BS	S	Open forests with ponderosa pine. Roosts in large trees adjacent to grasslands.	Douglas Jackson Klamath	LV-D MD-D	UMP-D RRS-D	MD (T33S,R1W,S31; 2002): 1.9 miles W of MP 121.25; MD (T34S,R1W,S1; 2003): 0.7 miles NE of MP 124.32; MD (T35S,R2E,S27; 1996): 1.7 miles NE of MP 140.45; PV	MIIH	Modification of habitat , disturbance, potential for injury, death if roosting/nesting in fell tree or

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	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
									(T36S,R2E,S2; 1994): 2.6 miles E of MP 141.89; MD (T37S,R3E,S5; 1997): 0.3 miles S of MP 153.35.		snag
Northern pygmy owl *Glaucidium gnoma*			BT	S	Occupies dense, moist forests (Douglas-fir, western hemlock, western red cedar) riparian woodlands, and drier woodlands (ponderosa pines). In chaparral in southwestern Oregon. Hunts within open areas in the forest.[1]	Douglas Jackson	MD-D	UMP-D RRS-D F-W-D	PV (1997): 1.8 miles NE of MP 28.86; BLM (1996): 2.5 miles NE of MP 28.86; PV (1993): 1.6 miles W of MP 33.77; CB (T29,R10,S6; 1998): 2.3 miles SW of 35.8; CB (T29,R10,S7; 1998, 2000): 2.9 miles SW of 35.8; CB (T29S,R9W,S7; 1994): 0.85 miles SW of MP 43.49; MD (T32S,R1W,S19; 2000): 2.8 miles NE of MP 111.88; MD (T32S,R1W,S31; 2000): 1.2 miles NE of MP 114.17; MD (T33S,R2W,S1; 2000): 0.5 miles W of MP 114.71; MD (T33S,R1W,S33; 1998): 0.6 miles E of MP 120.83; MD (T35S,R2E,S30; 1995): 0.5 miles SW of MP 139.4; MD (T35S,R2E,S27; 1996): 1.5 miles NE of MP 140.45; MD (T36S,R2E,S13; 1998): 2.5 miles NE of MP 146.51; MD (T37S,R3E,S19; 1998): 2.9 miles S of MP 152.41; MD (T36S,R3E,S32; 1997): 0.7 miles N of	MIIH	Modification of habitat , disturbance, potential for injury, death if roosting/nesting in fell tree or snag

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Common Name and/or Scientific Name	Status a/				Expected Habitat	Documented or Suspected Occurrence b/				Effect of Impact	Impact Reasoning
	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
									MP 153.55; MD (T37S,R3E,S5; 1997): 0.3 miles S of MP 153.35; LV (T39S,R5E,S1; 1999): 1.8 miles SW of MP 176.50; LV (T38S,R6E,S21; 1998): 2.0 miles NE of MP 176.69.		
Boreal owl *Aegolius funereus*		SU			High elevation forest communities, often dominated by Englemann spruce and subalpine fir. Nests in coniferous and deciduous forests and alder thickets. Hunts over open meadows at forests' edge.	Jackson Klamath		RRS-D	No records near the project	NI	
Western burrowing owl *Athene cunicularia hypugea*	SOC	SC	BS		Open deserts, grasslands, fields, pastures, and sagebrush steppe.	Klamath	CB-D			MIIH	Disturbance
Common nighthawk *Chordeile minor*		SC	BS		Forage over a variety of habitats. Nest in open areas.	Coos Douglas Jackson Klamath	CB-D LV-D MD-D RO-D	UMP-D RRS-D F-W-D	CB (T27S,R11W,S35; 1998): 2.0, 2.1, 2.2, 2.5 miles NE of MP 28.86.	MIIH	Modification of habitat , disturbance, potential for injury, or death
Acorn woodpecker *Melanerpes formicivorus*	SOC		BT		White oak communities, other coniferous and broad-leaved trees usually present.	Coos Douglas Jackson Klamath	CB-D LV-D MD-D RO-D	UMP-D RRS-D		MIIH	Modification of habitat , disturbance, potential for injury, death if roosting/nesting in fell tree or snag

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Special Status Marine Mammal and Terrestrial Wildlife Species that May Occur Near the Project

Common Name and/or Scientific Name	Status a/				Expected Habitat	Documented or Suspected Occurrence b/				Effect of Impact	Impact Reasoning
	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
White-headed woodpecker *Picoides albolarvatus*	SOC	SC	BS		Ponderosa pine or pine-mixed conifer forests. Requires large trees for foraging and snags for nesting.	Douglas Jackson Klamath	LV-D MD-D	UMP-D RRS-D F-W-D	LV (T38S,R5E,S35; 1999): 2.1 miles SW of MP 174.65. RRS – T38S R04E Sec 11. Suitable habitat along pipeline in T37S R04 Sec 25 and 5E Sec 30 and 31.	MIIH	Modification of habitat , disturbance, potential for injury, death if roosting/nesting in fell tree or snag
Lewis' woodpecker *Melanerpes lewis*	SOC	SC	BS		Open forests, lower elevations. Nests in white oak woodlands, ponderosa pine woodlands, mixed oak-pine woodlands, and cotton woodland riparian woodlands in eastern Oregon.	Coos Douglas Jackson Klamath	CB-D LV-D MD-D RO-D	UMP-D RRS-D	PV (T36S,R2E,S7; 1995): 1.1 miles SW of MP 142.54.	MIIH	Modification of habitat , disturbance, potential for injury, death if roosting/nesting in fell tree or snag
Williamson's sapsucker *Sphyrapicus thyroiseus*			BT		Mature, higher elevation coniferous forests for nesting and feeling. Ponderosa pine forests but also uses lodgepole pine, red fir, grand fir, subalpine spruce, Douglas-fir, and aspen forests.	Jackson	LV-D MD-D	UMP-D RRS-D	RRS – Breeding records T37S R04 Sec 25 and 5E Sec 30 and 31.	MIIH	Modification of habitat , disturbance, potential for injury, death if roosting/nesting in fell tree or snag
Black-backed woodpecker *Picoides arcticus*		SC	BS		Lodgepole pine or ponderosa pine forests mixed with other species.	Douglas Jackson Klamath	LV-D MD-D	UMP-D RRS-D	LV (T38S,R5E,S23; 2000): 0.9 miles SW of MP 174.19. RRS – Breeding record T38S R04E Sec 5.	MIIH	Modification of habitat , disturbance, potential for injury, death if roosting/nesting in fell tree or snag
Pileated woodpecker *Droycopus pileatus*			BT		Uses both coniferous and deciduous trees, but most common in old-growth Douglas-fir forests in western Oregon and old-growth ponderosa pine-	Douglas Jackson Klamath	CB-D LV-D MD-D RO-D	UMP-D RRS-D F-W-D	Numerous locations within 3 miles of the proposed pipeline on BLM, USFS, and Private.	MIIH	Modification of habitat , disturbance, potential for injury, death if

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	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
					mixed conifer forests in eastern Oregon.						roosting/nesting in fell tree or snag
Olive-sided flycatcher *Contopus cooperi*	SOC	SV	BT		Coniferous forests with uneven canopy. Prefers open forests but occupies a variety of forest types.	Coos Douglas Jackson Klamath	CB-D LV-D MD-D RO-D	UMP-D RRS-D F-W-D	PV (T27S,R11W,S34; 1997): 1.8 miles NE of MP 28.86; CB (T27S,R11W,S35; 1998): 2.0, 2.4, 2.5 miles NE of MP 28.86; PV (1992): 3.0 miles W of MP 33.77; LV (TT38S,R5E,S26; 1994): 1.9 miles SW of MP 174.65; LV (T38S,R5E,S34; 1994): 2.8 miles SW of MP 174.65. RRS – T37S R04 Sec 25 and 5E Sec 30 and 31. T37S R04E Sec 20	MIIH	Modification of habitat , disturbance, potential for injury, death if nesting
Gray flycatcher *Empidonax wrightii*				S	Open ponderosa pine forests, pinion pine and juniper, sagebrush.	Jackson		UMP-D F-W-D RRS-D		MIIH	Modification of habitat , disturbance, potential for injury, death if nesting
Willow flycatcher *Empidonax traillii adastus*	SOC	SU	BT		Willows at the edges of streams flowing through meadows and marshes. Also breeds in thickets along edges of forest clearings and brushy vegetation near water.	Jackson Klamath	CB-D RO-D MD-D LV-D	UMP-D RRS-D	PV (T27S,R11W,S34; 1997): 1.8 miles NE of MP 28.86; CB (T27S,R11W,S35; 1998): 2.2, 2.4 miles NE of MP 28.86; LV (T38S,R5E,S34; 1994): 2.5 miles SW of MP 174.65; LV (T38S,R5E,S35; 1994): 2.0, 2.1 miles SW of MP 174.65.	MIIH	Modification of habitat , disturbance, potential for injury, death if nesting
Little willow flycatcher *Empidonax traillii brewsteri*		SV	BT		Willows at the edges of streams flowing through meadows and marshes. Also breeds in thickets along edges of forest clearings and brushy vegetation near water.	Coos Douglas Jackson	CB-D MD-D RO-D			MIIH	Modification of habitat , disturbance, potential for injury, death if nesting

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	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
Streaked horned lark *Eremophila alpestris strigata*	C	SC	BS		Expanses of thinly vegetated land, including fields, prairies, dunes, upper beaches, airports, and similar areas with low/sparse grassy vegetation.	Douglas Jackson	CB-D MD-N			MIIH	Modification of habitat, disturbance
Purple martin *Progne subis*	SOC	SC	BS		Nest trees with holes in trees and nest boxes with open areas for foraging. May use open forests of woodlands.	Coos Douglas Jackson Klamath	CB-D MD-S RO-D		Haynes Inlet and Coos Bay (arrive in April); Catching Slough (nest boxes; 1985).	MIIH	Modification of habitat
Bank swallow *Riparia riparia*			BT		Open habitat types like grasslands, desert scrub, agricultural areas, and pastures. Areas close to water are preferred. Digs nest tunnels in dirt embankments.	Douglas Jackson	CB-D LV-D MD-D			MIIH	Disturbance
Slender-billed nuthatch *Sitta carolinensis aculeata*[3]			BT		Western Oregon lowlands including oak and mixed forests, nut orchards, suburban Willamette Valley.	Douglas Jackson Klamath	CB-S RO-D			MIIH	Modification of habitat , disturbance, potential for injury, death if roosting/ nesting in fell tree or snag
Pygmy nuthatch *Sitta pygmaea*			BT		Mature ponderosa pine woodlands with less than 70% canopy closure	Douglas Jackson Klamath	LV-D MD-D	RRS-D F-W-D		MIIH	Modification of habitat , disturbance, potential for injury, death if roosting/ nesting in fell tree or snag
Western bluebird *Sialia mexicana*		SV	BT		Variety of habitat types with nest holes or nest boxes. In western Oregon, breed in clear-cuts with riparian woodlands and open oak-ponderosa pine woodlands; In eastern Oregon, agricultural	Coos Douglas Jackson Klamath	CB-D LV-D MD-D RO-D	UMP-D RRS-D	CB (T27S,R11W,S35; 1998): 2.4 miles NE of MP 28.86.	MIIH	Modification of habitat , disturbance, potential for injury, death if nesting in fell tree or snag

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Common Name and/or Scientific Name	Status a/				Expected Habitat	Documented or Suspected Occurrence b/				Effect of Impact	Impact Reasoning
	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
					areas, open ponderosa pine, Douglas-fir and juniper woodlands.						
Yellow-breasted chat *Icteria virens*	SOC	SC	BT		Brushy areas in riparian woodlands along streams. Also uses tangles of brush in deciduous of mixed deciduous-coniferous woodlands.	Coos Douglas Jackson Klamath	LV-D MD-D RO-D	UMP-D RRS-D		MIIH	Modification of habitat , disturbance, potential for injury, death if nesting
Grasshopper sparrow *Ammodramus savannarum*		SV/SP			Short grasslands with few scattered shrubs, Prefer bunchgrass grasslands on the north slopes of hills with scattered shrubs or use cultivated grasslands and pastures.	Douglas Jackson				MIIH	Modification of habitat , disturbance, potential for injury, death if nesting
Oregon vesper sparrow *Pooecetes gramineus affinis*[3]	SOC	SC	BS		Grassy foothills west of Cascades in the Umpqua and Rogue valleys.	Coos Douglas Jackson	CB-D RO-D	UMP-D RRS-D	RRS – Found in meadows and young clearcuts along pipeline route. No records maintained.	MIIH	Disturbance ; potential for loss of ground nests
Black-throated sparrow *Amphispiza bilineata*		SP	BT		Nest at the interface of valleys and hills with desert shrubs with a grass understory.	Klamath	LV-D MD-S	UMP-D RRS-D	LV (T40S,R10E,S4; 2005): 2.7 miles NE of MP 207.96;	MIIH	Disturbance
Sage Sparrow *Amphispiza belli*			BT		Sagebrush valleys and other desert shrub communities or grasslands.	Klamath	LV-D		Mostly located within southeastern Oregon.	MIIH	Disturbance
Western meadowlark *Sturnella neglecta*		SC	BT		Open grasslands, grassy hillsides, pastures, meadows, sagebrush plateaus with a grass understory, and sometimes open woodlands.	Coos Douglas Jackson Klamath	CB-D LV-D MD-D		LV (T40S,R10E,S4; 2005): several accounts 2.5 miles NE of MP 207.96; LV (T40S,R10E,S5; 2000): several accounts 2.6 miles NE of MP 207.96.	MIIH	Disturbance ; ground nests could be destroyed
Tricolored blackbird *Agelaius tricolor*	SOC	SP	BA	S	Breeds in freshwater marshes with emergent vegetation or thickets of shrubs. May breed in Himalayan blackberry near wetlands.	Jackson Klamath	LV-D	F-W-S RRS-S	ST (T39S,R8E,S26; 1980): 1.0 miles SE of MP 196.17: PV (T41S,R12E,S15; 2000): 1.8 miles W of MP 229.39.	MIIH	Disturbance
Reptiles											
Northwestern	SOC		BS	S	Rivers, creeks, small	Coos	CB-D	F-W-D	Ross Slough	MIIH	Modification

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	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
pond turtle *Actinemys marmorata marmorata (formerly Emys marmorata marmorata)*		SC			lakes, ponds, marshes, irrigation ditches, and reservoirs. Nests on sandy banks near water.	Douglas Jackson Klamath	LV-D MD-D RO-D	RRS-D UMP-D	(T26S,R12W,S6; 1993): 1.2 miles W of MP 9.25; Jerusalem Creek/CB (T27S,R11W,S31; 1993): 0.8 miles W of MP 26.64; Middle Fork Coquille River (T29S,R8W,S7, 17, 18; 1994): 0.3 miles NW and 0.4 miles SE of MP 49.97; PV (T28S,R7W,S31; 1993): 1.4 miles NE of MP 55.92; Olalla Creek (T29S,R7W,S4; 1995): 0.2 miles NW of MP 59.5; Ben Irving Reservoir/RO (T29S,R7W,S17, 18, 19, 20; 1993): 1.2 miles S of MP 57.13; South Umpqua River (T28S,R6W,S21, 29, 33; 1995); East Willis Creek (T29SR6W,S15;1995): 1.2 miles SW of MP 67.47; South Umpqua River (T29SR5W,S7 and T29S,R6W,S11; 1998): 0.2 miles S of MP 68.99 and 0.7 miles SE of MP 70.43; South Umpqua River (T30S,R3W,S26, 28, 33; 1997): 1.23 miles W and 0.9 miles NE of MP 94.55; UMP (T31S,R2W,S28; 1993): 1.8 miles NE of MP 105.24; UMP (T32S,R2W,S29: 1989): 1.5 miles SW		of habitat , disturbance, potential for injury

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	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
									of MP 109.68; Rogue River/PV (T34S,R1W,S3): MP 122.67; BLM (T37S,R2E,S5; 1993): 2.7 miles SW of MP 148.2; Klamath River (T39S,R8E,S31; 1991): 0.9 miles SW of MP 191.31; Klamath River (T39S,R8E,S34, 35; 1991): 0.8 miles SE of MP 195.02; ST/Klamath River (T39S,R9E,S18, 19; 1991): 0.3 miles S of and at MP 199.5.		
Northern sagebrush lizard *Sceloporus graciosus graciosus*	SOC		BT		Sagebrush habitats, also in chaparral, juniper woodlands, and coniferous forests.	Klamath	CB-S LV-D			MIIH	Modification of habitat , disturbance, potential for injury, or death
California mountain kingsnake *Lampropeltis zonata*	SOC	SV	BT		Pine forests, oak woodland, and chaparral valleys. In, under, or near rotting logs in open wooded areas near streams.	Coos Douglas Jackson	CB-S LV-D MD-D RO-D		MD (T35S,R2E,S33; 1997): 0.7 miles E of MP 140.75.	MIIH	Modification of habitat , disturbance, potential for injury, or death
Common kingsnake *Lampropeltis getula*	SOC	SV	BT	S	Thick vegetation along waterbodies, but ranges into farmland, chaparral, and deciduous and mixed coniferous woodlands in the Rogue and Umpqua river valleys.	Douglas Jackson Klamath	CB-S LV-D MD-D RO-D	RRS-S UMP-S	MD (T35S,R2E,S32; 1991): 0.5 miles E of MP 141.58.	MIIH	Modification of habitat , disturbance, potential for injury, or death
Sharptail snake *Contia tenuis*			BT		Moist areas in coniferous forest, deciduous woodlands, chaparral, grasslands, and grassy areas at forest edges. Occurs under logs, rocks, fallen branches, or talus.	Coos Douglas Jackson Klamath	CB-D LV-D MD-D RO-D			MIIH	Modification of habitat , disturbance, potential for injury, or death
Western rattlesnake		SV			Habitats range from deserts and chaparral to	Coos Douglas			MD (T32S,R1W,S29; 1998): 1.6 miles NE	MIIH	Modification of habitat ,

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	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
Crotalus viridis					open forests. Usually near rocks, cliffs, or downed logs.	Jackson Klamath			of MP 114.17; PV (T36S,R2E,S26; 1997): 0.3 miles NE of MP 148.93.		potential for injury, or death
Amphibians											
Blotched tiger salamander *Ambystoma tigrinum melanostictum*[3]		SU			Ponds, lakes, reservoirs, cattle ponds, temporary pools, and streams in deserts, sagebrush, grassland, meadows, and forests	Klamath				MIIH	Disturbance Potential modification of habitat
Oregon slender salamander *Batrachoseps wrighti*[3]	SOC	SU		S	Under bark or moss in mature and second-growth Douglas-fir forests. Also under rocks or logs in stands of moist hardwood forests within coniferous forests.	Douglas			Outside of known range	NI	
Del Norte salamander *Plethodon elongatus*	SOC	SV	BT	S	Moist, rocky areas within forests. Occasionally in decaying logs and under forest floor litter.	Coos Douglas Jackson	CB-D MD-D RO-D	RRS-D	Outside of known range	NI	
Siskiyou Mountains salamander *Plethodon stormi*	SOC	SV	BS/SM	S/SM	Loose rock rubble or talus on north-facing slopes or in dense wooded areas.	Jackson	MD-D	RRS-D	Outside of known range	NI	
Southern torrent salamander *Rhyacotriton variegatus*	SOC	SV		S	Shallow, cold waters of perennial, high-gradient streams within humid coniferous forests. Adults occupy splash zones or areas with overflowing water. Larvae found in cobble or gravel beds flushed with water.	Coos Douglas		UMP-D	PV (T26S,R12W,S20; 1995): 1.5 miles E of MP 13.48; CB (T28S,R12W,S13; 1992): 2.7 miles SW of MP 28.05; CB (T28S,R11W,S11; 1998): 0.8 mile NE of MP 30.17; CB (T28S,R10W,S25; 1998): 0.53 miles NE of MP 39.65.	MIIH	Modification of habitat , potential for injury, or death
Clouded salamander *Aneides ferreus*		SU	BT		Forest dweller found in moist areas, under logs and other debris.	Coos Douglas Jackson Klamath	CB-D MD-D RO-D	UMP-D	CB (T28S,R10W,S5; 2003): 2.8 miles NE of MP 32.35; CB (T28,R11,S35; 1994): 1.9 miles SW of MP 33.77; CB (T29,R11,S2; 2000): 3.4 miles SW of MP	MIIH	Modification of habitat , potential for injury, or death Outside of known range

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	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
									35.8; CB (T29,R10,S6; 1998): 2.3 miles SW of 35.8; CB (T29S,R10W,S2; 1996): 1.3 miles SW of MP 40.33; CB (T28S,R9W,S29; 1992): 1.7 miles NE of MP 41.55; UMP (T31S,R3W,S33; 1994): 2.7 miles W of MP 103.12; MD (T35S,R1E,S35; 1995): 2.5 miles SW of MP 137.74.		
Black salamander *Aneides flavipunctatus*		SP	BA	S	Near streams, in talus slopes or under rocks and logs. Inhabits open woodlands, and mixed coniferous and mixed-coniferous-deciduous forests.	Jackson	MD-D	RRS-D	Outside of known range	NI	
California slender salamander *Batrachoseps attenuatus*		SP	BA	S	Lower-elevation forests along the southern coast, including hardwood, redwood, and other coniferous forests. Also in open areas with scattered trees. Under rocks, logs, or other objects on the ground.	Coos Jackson	CB-D	RRS-D	Outside of known range	NI	
Western toad *Bufo boreas*		SV	BT		Wide variety of habitats (deserts, chaparral grasslands, woodland, and forests) from sea level to above timberline.	Coos Douglas Jackson Klamath	CB-D LV-D MD-D	UMP-D F-W-D RRS-D	Trail Creek/PV (T33S,R1W,S33; 1982): 0.2 miles NE of MP 120.6; MD (T34S,R2W,S1; 1996): 2.9 miles SW of MP 121.25; F-W (T38S,R5E,S1; 1995): 1.4 miles NE of MP 171.44; LV/PV (T38S,R6E,S34, 35; 1994): 1.0 miles NE of MP 178.52.	MIIH	disturbance, Modification of habitat , potential for injury, or death
Tailed frog *Ascaphus truei*	SOC	SV	BT		Cold, fast flowing permanent streams,	Coos Douglas	CB-D MD-D	UMP-D RRS-D	CB (T28,R11,S35; 1994): 1.7, 1.9 miles	MIIH	Modification of habitat ,

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					usually in forests. Sometimes in streams flowing through non-forested regions.	Jackson Klamath	RO-D		SW of MP 33.77; CB (T28,R11,S36; 1994): 1.4 miles SW of MP 33.77; PV (T28,R10,S19; 1993): 0.3 mile NE of MP 34.45; CB (T29,R10,S6; 1997): 2.8 miles SW of 35.8; PV (T29,R10,S6; 2001): 2.7 miles SW of 35.8; CB (T29,R10,S7; 1998, 2000): 2.9 miles SW of 35.8: PV (T20S,R10W,S2; 2001): 2 miles S of MP 40.33; CB (T29S,R9W,S5; 1994): 0.35 miles NW of MP 44.73; CB (T29S,R9W,S9; 1995): 0.5 miles S of MP 45.39		potential for injury, or death
Foothill yellow-legged frog *Rana boylii*	SOC	SV	BA	S	Permanent slow-flowing streams in a variety of habitat types such as grassland, chaparral, coniferous or deciduous forests, and woodlands. Missing from much of their historic habitat.	Coos Douglas Jackson Klamath	CB-D MD-D RO-D	RRS-D UMP-D	CB (T29S,R10W,S2; 1995): 1.8 miles SW of MP 40.33; Coffee Creek/PV (T30S,R2W,S19, 30; 1998): 1.9 miles NE of MP 94.78; Trail Creek/PV (T33S,R1W,S17; 1998): 1.1 miles E of MP 117.24); Indian Creek/MD (T34S,R1W,S23): 1.4 miles SW of MP 127.31.	MIIH	Modification of habitat , potential for injury, or death
Cascades frog *Rana cascadae*	SOC	SV	BT		Lakes, ponds, and small streams that run through meadows. Ranges from 2,600 ft to treeline.	Douglas Jackson Klamath	LV-D MD-D RO-D	UMP-D RRS-D	MD (T34S,R2W,S1; 1996): 2.7, 2.9 miles SW of MP 121.25; PV (T39S,R6E,S6; 1994): 1.3 miles SW of MP 177.39.	MIIH	Modification of habitat , potential for injury, or death
Northern leopard		SC		S	Marshes, wet meadows,	Jackson			Outside of known	NI	

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frog *Rana pipeins*					vegetated irrigation canals, ponds, and reservoirs. Prefers quiet or slow flowing waters.	Klamath			range		
Northern red-legged frog *Rana aurora aurora*[3]	SOC	SU	BT		Streams, ponds, and marshes in wooded areas	Coos Douglas Jackson Klamath	CB-D MD-S RO-D	UMP-D	CB (T27S,R12W,S2&S12 ; 1990, 1992): 1.8 miles NE of MP 19.88; CB (T27S,R11W,S8; 1992): 2.0 miles NE of MP 24.34; CB (T28S,R12W,S13; 1992): 2.7 miles SW of MP 28.05; PV (T31S,R2W,S34; 1991): 2.1 miles NE of MP 105.63; UMP (T32S,R1W,S19; 1991): 2.6 miles NE of MP 111.83.	MIIH	Modification of habitat , potential for injury, or death
Oregon spotted frog *Rana pretiosa*	C	SC	BS	S	Margins of lakes, marshes, and pools in streams with aquatic vegetation. Higher elevations from the crest and east slope of Cascade Mountains.	Jackson Klamath	LV-D MD-D	F-W-D RRS-D UMP-S	F-W/PV/West side of Buck Lake (1997): N and S of MP 172.1; LV (T38S,R5E,S23; 1997): 0.6-1.2 mi SW of MP 173.45.	NI	
Invertebrates d/											
Evening fieldslug *Deroceras hesperium*			BS/SM	SM	Associated with wet meadows in forested habitats in a varetiy of low vegetation, litter, debris; rocks.	Jackson Klamath	LV-D MD-D	F-W-D RRS-D		NI	
Cockerell's striated disc (snail) *Discus shimekii cockerelli*	SOC				Cool moist areas in litter, under rocks/dead wood	Klamath			Not located during surveys	NI	
Great Basin ramshorn *Helisoma newberryi newberryi*			BS		Larger lakes, slow rivers, larger spring sources, spring-fed creeks; burrow in soft mud.	Klamath	LV-D		Not located during surveys	NI	

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Common Name and/or Scientific Name	Status a/				Expected Habitat	Documented or Suspected Occurrence b/				Effect of Impact	Impact Reasoning
	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
Oregon shoulderband *Helminthoglypta hertleini*			BS		Rocky areas, including talus deposits and outcrops generally within 98 feet of herbaceous vegetation and deciduous leaf litter; woody debris used as refugia.	Douglas Jackson	CB-S MD-D RO-D	RRS-D UMP-D	RO (T29S,R7W,S9; 1999): 0.9 miles SE of MP 58.53; PV/RO (T29S,R7W,S3; 2006): 0.4 miles and 0.6 miles SE of MP 59.70; RO (T29S,R7W,S11; 1999-2006): many locations > 0.9 miles SE of MP 60.35; several documentation >500ft.	MIIH	Disturbance Potential modification of habitat
Tillamook westernslug *Hesperarion mariae*			BS		Moist, mature forested habitats or coastal "fog" zone near the ocean; decaying wood.	Douglas	CB-S		Not located during surveys	NI	
Oregon megomphix *Megomphix hemphilli*			BT		Mature or late-seral, moist conifer/hardwood forests, usually in hardwood leaf litter and decaying nonconiferous plant matter (i.e., bigleaf maple).	Coos Douglas	CB-D MD-D RO-D		RO (T29S,R7W,S9; 1999): 0.5 miles SE of MP 58.6; several documentation >500ft.	MIIH	Modification of habitat , potential for injury, or death
Chace's sideband *Monadenia chaceana*			BS/SM	SM	Late-successional forest and open talus or rocky areas; associated with large woody debris in mesic, forested habitats; otherwise, moist, shaded rock surfaces.	Douglas Jackson	LV-S MD-D RO-D	F-W-S RRS-D UMP-D	RO (T29S,R5W,S25; 2006): 2.8 miles SW of MP 81.31; RRS (T37S,R4E,S16; 1999): 0.6 miles N of MP 161.45; F-W: ~0.3 miles SW of MP 166.89 (T37S,R5E,S31); four documentations >500 ft from PCGP on BLM and NFS lands.	MIIH	Modification of habitat , potential for injury, or death
Green sideband *Monadenia fidelis beryllica*			BS		Generally inhabit deciduous stands (including alder) and brush in wet, relatively undisturbed forest; low elevation; low coastal scrub.	Coos	CB-S RO-D		Not located during surveys	NI	
Traveling sideband			BS		Dry basal talus and rock outcrops; oak/maple	Jackson	MD-D		Found several times: Pipeline SA-93, SA-	MIIH	Sites not mitigated

TABLE H-6
Special Status Marine Mammal and Terrestrial Wildlife Species that May Occur Near the Project

Common Name and/or Scientific Name	Status a/				Expected Habitat	Documented or Suspected Occurrence b/				Effect of Impact	Impact Reasoning
	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
Monadenia fidelis celeuthia					overstory; along spring run in rock and moist vegetation and moss; mixed conifer-hardwood forest.				779, SA-705, SA-880		Modification of habitat , potential for injury, or death
Modoc sideband *Monadenia fidelis ssp. Nov.*			BS		Talus and wetted rocky areas on lakeshore; mixed pine-Douglas fir forest or open grasslands; associated with seeps and springs in talus deposits.	Klamath	LV-D		Not located during surveys	NI	
Pristine springsnail *Pristinicola hemphlli*			BT		Small, undisturbed cold springs or seeps with slow to moderate flow; coarse gravel//cobble substrate; semiarid sage scrub habitats or dense Douglas fir forests at low-medium elevation.		RO-S		Not located during surveys	NI	
Crater Lake tightcoil *Pristiloma arcticum crateris*			BS/SM	SM	Mature conifer forests; perennially wet areas among rushes, mosses, and other surface vegetation or under rocks and woody debris within 30 feet of open water in wetlands, springs, sepps, and riparian areas.	Douglas Jackson	LV-S MD-N RO-D	F-W-D RRS-D UMP-D	Not located during surveys	NI	
Broadwhorl tightcoil *Pristiloma johnsoni*			BT		Moist with coastal influence; abundant ground cover; conifer or hardwood overstory.	Douglas?	CB-S RO-S			NI	
Klamath taildropper *Prophysaon sp. Nov.*			BS		Moist open areas (floodplains and spring margins) in ponderosa pine forest; elevation varies.	Douglas Jackson Klamath	CB-S RO-S	UMP-D RRS-D	Not located during surveys	NI	
Spotted tail-dropper *Prophysaon vanattae pardalis*			BS		Moist, mature forested habitats; coastal “fog” zone near ocean; significant deciduous tree or shrub component present.	Coos	CB-D RO-S		Not located during surveys	NI	
Siskiyou hesperian *Vespericola*			BS		Terrestrial	Jackson	MD-D		Found several times: Pipeline SA-888, SA-	MIIH	Modification of habitat ,

TABLE H-6
Special Status Marine Mammal and Terrestrial Wildlife Species that May Occur Near the Project

Common Name and/or Scientific Name	Status a/				Expected Habitat	Documented or Suspected Occurrence b/				Effect of Impact	Impact Reasoning
	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
sierranas									1146, M7, SA-952, SA-1134		potential for injury, or death
Franklin's bumblebee *Bombus franklini*	SOC		BT		Grasslands, 1400-4000 feet	Douglas Jackson	MD-D			MIIH	Modification of habitat , potential for injury, or death
Siskiyou short-horned grasshopper *Chloealtis aspasma*	SOC		BS		Grassland/herbaceous habitats; associated with elderberry	Jackson	MD-D	ROR	MD (T37S,R3E,S5; 1973): 0.1 miles S of MP 153.49.	MIIH	Modification of habitat , potential for injury, or death
Siskiyou carabid gazelle beetle *Nebria gebleri siskiyouensis*	SOC				Unknown	Jackson				MIIH	Disturbance Potential modification of habitat
Siuslaw sand tiger beetle *Cicindela hirticollis siuslawensis*			BT		Unknown	Coos	CB-S			MIIH	Disturbance Potential modification of habitat
Cooley's Lace bug *Acalypta cooleyi*			BT		Unknown	Jackson	MD-D			MIIH	Disturbance Potential modification of habitat
Indian paintbrush bug *Polymerus castilleja*			BT		Terrestrial	No Data	RO-S			MIIH	Disturbance Potential modification of habitat
Hairy shore bug *Saldula villosa*			BT		Unknown	Coos	CB-D			MIIH	Disturbance Potential modification of habitat
Gray-blue butterfly *Plebejus podarce (Agriades podarce)*			BT		Subalpine meadows, eggs laid on host plant (shooting stars)	Douglas Jackson Klamath	MD-S			MIIH	Disturbance Potential modification of habitat
Johnson's hairstreak *Callophrys johnsoni (Mitoura johnsoni)*			BS		Old-growth coniferous forests with red firs, western hemlocks or grey pines on which its parasitic host grows.	Coos Douglas Jackson Klamath	MD-D	RRS-D		MIIH	Modification of habitat , potential for injury, or death
Insular blue butterfly *Plebejus saepiolus littoralis*			BS		Bogs, roadsides, stream edges, open fields, meadows, open forests; hosts are clovers.	Coos	CB-D			MIIH	Disturbance Potential modification of habitat

TABLE H-6

Special Status Marine Mammal and Terrestrial Wildlife Species that May Occur Near the Project

Common Name and/or Scientific Name	Status a/				Expected Habitat	Documented or Suspected Occurrence b/				Effect of Impact	Impact Reasoning
	Federal	State	BLM	USFS		County	District/Forest BLM	District/Forest USFS	Within Vicinity of Project Area c/		
Mardon skipper butterfly *Polites mardon*	C		BS		Small (0.5-10 acres) high-elevation (4,500-5,100 feet) grassy meadows within mixed conifer forests.	Jackson Klamath	CB-S MD-D	UMP-D RRS-D	RRS (T37S,R4E,S19; 2005): 0.6mi SW of MP 159.95; RRS (T37s,R4E,S20; 2005): 0.8mi SW of MP 159.95.	MIIH	Disturbance Potential modification of habitat
Coronis fritillary *Speyeria coronis coronis*			BT		Mountain slopes, foothills, prairie valleys, chaparral, sagebrush, forest openings; hosts are violets	Jackson	MD-S			MIIH	Disturbance Potential modification of habitat

a/ Status Key:
Federal Status: C = Federal Candidate, SOC = Species of Concern, MMPA = Marine Mammal Protection Act
State Status: SC = State Critical, SV = State Vulnerable, SP = State Peripheral or Naturally Rare, SU = Undetermined Status
BLM Status: BS = BLM Sensitive, BA = BLM Assessment, BT = BLM Tracking, SM = Survey and Manage
USFS Status: S = Sensitive, SM = Survey and Manage

b/ Occurrence Key:
BLM Districts and USFS Forests provided lists of species documented or suspected within the management area and are noted.

BLM District: CB = Coos Bay District, RO = Roseburg District, MD = Medford District, K F= Klamath District
USFS Forest: F-W = Fremont-Winema National Forest, RRS = Rogue River-Siskiyou National Forest, UMP = Umpqua National Forest
D = Documented within BLM or USFS Management Area
S = Suspected within BLM or USFS Management Area

c/ Pacific Connector Project: mollusks and red tree vole documented within 500 feet of the proposed pipeline; all other species are documented within 3 miles of the proposed pipeline.

d/ Invertebrates associated with water are included in Appendix 4.6-C.

References:
Species Status and Range: FWS 2006a; BLM 2006; ORNHIC 2007a, b; ORNHIC 2006a and 2006d; Janes et al. 2005.
Expected Habitat: Csuti et al. 2001; NatureServe 2006; ORNHIC 2006d; Gilligan et al. 1994; Kozloff 1976; USFS and BLM 2006.

TABLE H-7
Special Status Fish Species and Aquatic Invertebrates that may Occur Near the Project

Common Name and/or Scientific Name	Status a/				Life History and Expected Habitat	Documented or Suspected Occurrence b/				Effect of Impact	Impact Reasoning
	Federal	State	BLM	USFS		County	BLM	USFS	Waterbodies crossed by Project/ Documentation within Vicinity of Project Area c/		
Non-anadromous Fish											
Pit-Klamath Brook lamprey *Lampetra lethophaga*			BT	S	In Oregon, this species is confined to the Klamath River system. Inhabits cool, clear streams or springs with sandy-muddy bottoms or edges, low to moderate gradient. Spawning in spring-summer.	Jackson Klamath	LV-S	F-W-D	Klamath River; spawn in Spencer Creek.	MIIH	Potential disturbance or change to habitat
Klamath River lamprey *Lampetra similis*				S	Klamath River drainage of Oregon and California, restricted to fresh water.	Klamath		F-W-D	Klamath River drainage; spawn in Spencer Creek.	MIIH	Potential disturbance or change to habitat
Jenny Creek redband trout *Oncorhynchus mykiss*		SV	BS	S	Adfluvial, located within Jenny Creek	Jackson Klamath	LV-D MD-D	F-W-D RRS-D	Jenny Creek not crossed by PCGP.	NI	
Klamath redband trout *Oncorhynchus mykiss newberryi*	SOC	SV	BT	S	Occupies remnant streams in seven Pleistocene lake beds in Oregon. Highly fragmented and isolated populations.	Klamath	KF	F-W-D RRS-D	Spawning occurs in Spencer Creek from mouth to RM 12; most spawning occurs between Roads 100 and 110.	MIIH	Potential disturbance or change to habitat
Umpqua Oregon chub *Oregonichthys kalawatseti*	SOC	SV	BS	S	Endemic to the mainstream and south Umpqua River, resident species. Occupies habitats with higher current velocities.	Douglas	RO-D	UMP-D	Tenmile Creek (1971); endemic to Umpqua and South Umpqua rivers.	MIIH	Potential disturbance or change to habitat
Blue chub *Gila coerulea*				S	Rocky pools of creeks and rivers, rocky shores of reservoirs and lakes. Known to spawn in spring-summer at the shoreline over substrate of rocks, large gravel, or volcanic rubble. Abundant in Upper Klamath Lake and other	Klamath		F-W-D RRS-S	Klamath and Lost River basins	MIIH	Potential disturbance or change to habitat

TABLE H-7
Special Status Fish Species and Aquatic Invertebrates that may Occur Near the Project

Common Name and/or Scientific Name	Status a/				Life History and Expected Habitat	Documented or Suspected Occurrence b/				Effect of Impact	Impact Reasoning
	Federal	State	BLM	USFS		County	BLM	USFS	Waterbodies crossed by Project/ Documentation within Vicinity of Project Area c/		
					reservoirs.						
Millicoma dace *Rhinichthys catarctae ssp.*	SOC	SP	BS		Endemic to Coos Basin, resident species. Prefers swift current associated with cobble and boulders and probably high velocity waters.	Coos Douglas	CB-D		South Fork Coos River	MIIH	Potential disturbance or change to habitat
Jenny Creek sucker *Catostomus rimiculus ssp.*	SOC	SP	BS		Adfluvial, located within Jenny Creek.	Jackson	LV-D MD-D		Not crossed by PCGP	NI	
Klamath largescale sucker *Catostomus snyderi*	SOC		BT	S	Limited to Upper Klamath Basin and its tributaries. In rocky pools, runs of creeks and small rivers (with moderate gradient), lakes and reservoirs Spawning usually occurs from late March to mid-April, and sometimes earlier in small tributary streams.	Klamath	LV	F-W-D RRS-S	Upper Klamath Lake and tributaries	MIIH	Potential disturbance or change to habitat
Slender sculpin *Cottus tenuis*	SOC		BT	S	Inhabits both still and slower waters on variety of substrates of the Upper Klamath and Agency lakes and their tributaries.	Klamath	LV-D	F-W-D		MIIH	Potential disturbance or change to habitat
Anadromous Fish											
North American green sturgeon, Northern DPS *Acipenser medirostris*	SOC		BT		Mainly a marine species, but also in fresh water. Migratory species. Northern DPS includes coastal watersheds north of Eel River, California. Known to spawn in the Klamath River, California and maybe Rogue River,	Coos Douglas	CB		Coos Bay and estuary.	MIIH	Potential disturbance or change to habitat

TABLE H-7
Special Status Fish Species and Aquatic Invertebrates that may Occur Near the Project

Common Name and/or Scientific Name	Status a/				Life History and Expected Habitat	Documented or Suspected Occurrence b/				Effect of Impact	Impact Reasoning
	Federal	State	BLM	USFS		County	BLM	USFS	Waterbodies crossed by Project/ Documentation within Vicinity of Project Area c/		
					OR. Probably found in all open Oregon estuaries. Appear in the estuaries more in the summer.						
River lamprey *Lampetra ayresi*	SOC				Anadromous species, migrate to sea and return to fresh water to spawn in the spring. Freshwater habitat includes rivers and creeks, with low to moderate gradients and pools and riffles. Marine habitats are near shore and estuarine habitats include bay/sound and river mouths and tidal rivers.	Coos Douglas			Coastal drainages (Kostow, 1995)	MIIH	Potential disturbance or change to habitat
Pacific lamprey *Lampetra tridentata*	SOC	SV	BT		Anadromous species, spawning habitat is similar to salmonids including cool, flowing water and clean gravel. Rearing areas are slow-moving backwaters with fine sediment. Larvae spend several years in fresh water before transforming and migrating to the ocean.	Coos Douglas Jackson Klamath	CB-D LV-D MD-D RO-D		Coos Bay Coastal drainages	MIIH	Potential disturbance or change to habitat
Chinook Salmon *Oncorhynchus tshawytscha*											
Oregon Coast ESU			BA	S	Anadromous species that rears in the Pacific Ocean, for most of its life, and spawns in freshwater streams. Most enter Oregon's	Coos Douglas	CB RO	UMP-D	Coos Bay, Coos, Coquille, South Umpqua, and Umpqua HUs	MIIH	Potential disturbance or change to habitat

TABLE H-7
Special Status Fish Species and Aquatic Invertebrates that may Occur Near the Project

Common Name and/or Scientific Name	Status a/				Life History and Expected Habitat	Documented or Suspected Occurrence b/				Effect of Impact	Impact Reasoning
	Federal	State	BLM	USFS		County	BLM	USFS	Waterbodies crossed by Project/ Documentation within Vicinity of Project Area c/		
					coastal rivers April-December, but some start in February. Spawning generally occurs from August to early November for spring chinook and from October to early March for fall chinook. Preferred spawning and rearing areas have a low gradient (<3%), adults often ascend to higher gradient reaches to find spawning areas. Spawn and rear in a range of sizes of streams and rivers, and often use estuaries for rearing. Adults require deep pools within proximity to spawning areas where they hold and mature between migration and spawning						

TABLE H-7
Special Status Fish Species and Aquatic Invertebrates that may Occur Near the Project

Common Name and/or Scientific Name	Status a/				Life History and Expected Habitat	Documented or Suspected Occurrence b/				Effect of Impact	Impact Reasoning
	Federal	State	BLM	USFS		County	BLM	USFS	Waterbodies crossed by Project/ Documentation within Vicinity of Project Area c/		
Southern Oregon Coast/California Coast ESU Fall-run		SC	BS	S	Anadromous species that rears in the Pacific Ocean, for most of its life, and spawns in freshwater streams. Most enter Oregon's coastal rivers April-December, but some start in February. Spawning generally occurs from October to early March. Preferred spawning and rearing areas have a low gradient (<3%), adults often ascend to higher gradient reaches to find spawning areas. Spawn and rear in a range of sizes of streams and rivers, and often use estuaries for rearing. Adults require deep pools within proximity to spawning areas where they hold and mature between migration and spawning	Jackson	CB-D MD-D	RRS-D	Rogue River & Tributaries (spawning and rearing)	MIIH	Potential disturbance or change to habitat
Chum salmon (Pacific Coast ESU) *Onocorhynchus keta*		SC	BS	S	Anadromous species that rears in the Pacific Ocean, for most of its life, and spawns in freshwater streams in the fall. Utilizes low gradient, gravel-rich, barrier-free freshwater habitats and productive estuaries. Juveniles migrate to estuarine environments after emergence.	Coos Douglas	CB-D RO-D	UMP-I RRS-I	Unknown	NI	

TABLE H-7
Special Status Fish Species and Aquatic Invertebrates that may Occur Near the Project

Common Name and/or Scientific Name	Status a/				Life History and Expected Habitat	Documented or Suspected Occurrence b/				Effect of Impact	Impact Reasoning
	Federal	State	BLM	USFS		County	BLM	USFS	Waterbodies crossed by Project/ Documentation within Vicinity of Project Area c/		
Steelhead *Oncorynchus mykiss*											
Klamath Mountains Province ESU Summer/winter run		SV	BA		Anadromous species, juveniles rear in freshwater streams 1-4 years. Adults live in marine environment prior to spawning in winter or spring. May spawn more than once.	Jackson	CB-D MD-D		Upper Rogue	MIIH	Potential disturbance or change to habitat
Oregon Coast ESU	SOC	SV		S	Anadromous species, juveniles rear in freshwater streams 1-4 years. Adults live in marine environment prior to spawning mostly in winter or spring. May spawn more than once.	Coos Douglas	CB-D MD-D RO-D	UMP-D	Coos, Coquille, South Umpqua, and Umpqua HUs	MIIH	Potential disturbance or change to habitat
Coastal Cutthroat *Oncorhynchus clarki clarki*											
Oregon Coast ESU	SOC	SV	BT	S	Spawn in first and second order tributaries from late winter through spring, may spawn more than once. Young fry move into channel margin and backwater habitats during the first several weeks. During the winter, juvenile cutthroat trout use low velocity pools and side channels with complex habitat created by large wood.	Coos Douglas	CB RO	UMP-D	Coos Bay, Coos, Coquille, South Umpqua, and Umpqua HUs	MIIH	Potential disturbance or change to habitat

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Special Status Fish Species and Aquatic Invertebrates that may Occur Near the Project

Common Name and/or Scientific Name	Status a/				Life History and Expected Habitat	Documented or Suspected Occurrence b/				Effect of Impact	Impact Reasoning
	Federal	State	BLM	USFS		County	BLM	USFS	Waterbodies crossed by Project/ Documentation within Vicinity of Project Area c/		
Southern Oregon/California Coast ESU	SOC	SV	BT	S	Spawn in first and second order tributaries from late winter through spring, may spawn more than once. Young fry move into channel margin and backwater habitats during the first several weeks. During the winter, juvenile cutthroat trout use low velocity pools and side channels with complex habitat created by large wood.	Douglas Jackson	CB MD	RRS-D	Rogue River and Tributaries.	MIIH	Potential disturbance or change to habitat
Cowcod *Sebastes levis*	SOC				Marine environments; 68-1200 feet depths; soft and hard bottoms, canyons.	Coos Douglas			No documentation.	MIIH	Noise disturbance from berth construc-tion
Aquatic Invertebrates											
Olympia oyster *Ostrea conchaphila*			BT		Marine and estuarine environments	Coos	CB-D			NI	
Pea clam *Pisidium ultramontanum*	SOC		BS		Freshwater, seasonal wetlands.	Klamath	CB-S MD-S		PV (T40S,R11E,25; no date): approximately 0.2mi S of MP 221.83.	NI	
California floater *Anodonta californiensis*	SOC				Low elevation lakes and lake-like streams with shallow water.	Coos Klamath			MP 17.24-20.96 (historic population)	MIIH	Potential disturbance or change to habitat
Oregon floater *Anodonta oregonensis*			BT		Found in slower moving water, in mud, sand, or fine gravel beds. Juveniles attach to gravel in well aerated, flowing waters.	Coos Douglas Klamath	CB-S RO-D			NI	
Western ridgemussel			BT		Creeks and rivers with varying substrates only	Klamath	RO-D	FW-D RRS-S		NI	

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Special Status Fish Species and Aquatic Invertebrates that may Occur Near the Project

Common Name and/or Scientific Name	Status a/				Life History and Expected Habitat	Documented or Suspected Occurrence b/				Effect of Impact	Impact Reasoning
	Federal	State	BLM	USFS		County	BLM	USFS	Waterbodies crossed by Project/ Documentation within Vicinity of Project Area c/		
Gonidea angulata					in Pacific drainages			UMP-S			
Black Abalone *Haliotis cracherodii*	C				Feed mostly on kelp and drift algae; spawn primarily during the summer months.	Coos?			Rare in Coos Bay.	NI	
Western pearlshell *Margaritifera falcata*			BT		Rivers and streams with cool, flowing water. Adults prefer sand/gravel substrates, juveniles prefer well-oxygenated sand.	Coos Douglas Klamath	CB-D RO-D			NI	
Newcomb's littorine snail *Algamorda newcombiana*	SOC		BS		Inhabits salt marshes at the edge of bays and estuaries on glasswort/pickleweed; tolerant of fresh and saltwater.	Coos	CB-D			NI	
Diminutive pebblesnail *Fuminicola sp. Nov.*			BS		Very large, cold springs and their outflow, with very cold, clear water; gravel/boulder substrate.	Jackson	LV-D			NI	
Fall Creek pebblesnail *Fluminicola sp. Nov.*			BS		Large cold springs and outflows including medium-sized creeks; gravel/cobble substrate.	Jackson Klamath	MD-D			NI	
Keene Creek pebblesnail *Fluminicola sp. Nov.*			BS/ SM	SM	Small to medium sized springs and spring-influenced creeks.	Jackson Klamath	MD-D			NI	
Toothed pebblesnail *Fluminicola sp. Nov.*			BS/ SM	SM	Very large cold springs and their outflow, with exceptionally good water quality; gravel/boulder substrate.	Jackson	MD-D			NI	
Klamath pebblesnail *Fluminicola sp. Nov.*			BS		Gravel-boulder substrates with flowing water (cold, oligotrohpic water with high dissolved oxygen) rarely found in	Klamath	LV-D MD-S	RRS-S		NI	

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Special Status Fish Species and Aquatic Invertebrates that may Occur Near the Project

Common Name and/or Scientific Name	Status a/				Life History and Expected Habitat	Documented or Suspected Occurrence b/				Effect of Impact	Impact Reasoning
	Federal	State	BLM	USFS		County	BLM	USFS	Waterbodies crossed by Project/ Documentation within Vicinity of Project Area c/		
					springs; avoids dense macrophyte beds.						
Nerite pebblesnail *Fumunicola sp. Nov.*			BS/ SM	SM	Large cold springs and their outflows with exceptionally good water quality; gravel/boulder substrate	Jackson	LV-S MD-D			NI	
Scale lanx *Lanx klmathensis*			BS		Spring-influenced portions of large lakes and streams or limnocrene springs; boulder/cobble substrates; well-oxygenated, cold water.	Klamath	LV-D MD-S	RRS-S		NI	
Rotund lanx *Lanx subrotunda*			BS		Found in unpolluted rivers and large streams at low to moderate elevations, in highly oxygenated, swift-flowing, cold water on stable cobble, boulder, or bedrock substrates.	Douglas	CB-S RO-D	UMP-D	Typically found on Umpqua River below the confluence with Little River, Little River, portions of the South Umpqua and major tributaries above Roseburg, and Cow Creek.	MIIH	Potential disturbance or change to habitat
Pacific walker *Pomatiopsis californica*			BS		Semi-aquatic; inhabit wet leaf litter and vegetation adjacent to flowing or standing water in shade; high humidity.	Coos	CB-S			NI	
Denning's agapetus caddisfly *Agapetus denningi*	SOC		BT		Creeks	Jackson	CB-S			NI	
Cascades apatanian caddisfly *Apatania tavala*	SOC				Streams with low to medium current with cobbles or coarse substrate, 4000-6000 feet. Various degrees of shading, not clearcuts.	Douglas Klamath				NI	

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Special Status Fish Species and Aquatic Invertebrates that may Occur Near the Project

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	Federal	State	BLM	USFS		County	BLM	USFS	Waterbodies crossed by Project/ Documentation within Vicinity of Project Area c/		
Mt. Hood primitive brachycentrid caddisfly *Eobrachycentrus gelidae*	SOC		BT		Very cold streams. Larvae on moss on submerged rocks or along edges in small streams. Adults crawl on sunny snow banks.	Douglas	CB-S			NI	
Green Springs Mountain farulan caddisfly *Farula davisi*	SOC				Not accurately known. Probably small streams or seeps, maybe marshes.	Jackson				NI	
Sagehen Creek goeracean caddisfly *Goeracea oregona*	SOC				Creeks or springs	Douglas Jackson				NI	
Schuh's homoplectran caddisfly *Homoplectra schuhi*	SOC		BT		Spring seepage areas	Jackson Klamath	LV-D		LV (T40S,R6E,S13; 1963): S of MP 184.24.	NI	
caddisfly (no common name) *Moselyana comosa*	SOC		BT		Creeks or springs	Douglas Jackson	CB-S MD-N			NI	
caddisfly (no common name) *Namamyia plutonis*	SOC		BT		Creeks or springs	Douglas	CB-S			NI	

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Special Status Fish Species and Aquatic Invertebrates that may Occur Near the Project

Common Name and/or Scientific Name	Status a/				Life History and Expected Habitat	Documented or Suspected Occurrence b/				Effect of Impact	Impact Reasoning
	Federal	State	BLM	USFS		County	BLM	USFS	Waterbodies crossed by Project/ Documentation within Vicinity of Project Area c/		

a/ Status Key:
Federal Status: SOC = Species of Concern
State Status: SC = State Critical, SV = State Vulnerable, SP = State Peripheral or Naturally Rare
BLM Status: BS = BLM Sensitive, BA = BLM Assessment, BT = BLM Tracking, SM = Survey and Manage
USFS Status: S = Sensitive, SM = Survey and Manage

b/ Occurrence Key:
BLM Districts and USFS Forests provided lists of species documented or suspected within the management area and are noted.

BLM District: CB = Coos Bay District, RO = Roseburg District, MD = Medford District, LV = Lakeview District
USFS Forest: F-W = Fremont-Winema National Forest, RRS = Rogue River-Siskiyou National Forest, UMP = Umpqua National Forest
D = Documented within the BLM or USFS management area
S = Suspected within the BLM or USFS management area
I = FS Actions Influence Downstream

c/ Documentation within Project Area: Aquatic invertebrates documented within 500 feet of the proposed PCGP alignment.

References:
Status and Range References: FWS 2006a and b; ORNHIC 2007b
Life Histories and Expected Habitat References: Kostow 1995; NatureServe 2006; ODFW 2005a; CDFG 1986; NMFS 2006b.
Waterbodies Crossed: ORNHIC 2006a; Kostow 1995.

TABLE H-8
Special Status Plant (Vascular and Non-Vascular) Species that may Occur Near the Project

Common Name and/or Scientific Name	Status a/				Expected Habitat	Documented or Suspected Occurrence b/				Effect of Impact	Impact Reasoning
						Districts/Forests					
	Federal	State	BLM	USFS		County	BLM	USFS	Vicinity of Pipeline (≤ 500 feet)		
Bryophytes											
Anomobryum julaceum (= a. Filiforme)			BT		Rock outcrops.	Klamath	MD-S			NI	
Bruchia bolanderi			BT		Montane meadows and streambanks, disturbed soil.	Klamath	LV-S			NI	
Bryum calobryoides			BA		Rock outcrops and shallow soil	Jackson	MD-D			NI	
Buxbaumia aphylla			BT		Soil and shallow soil over rock.	Douglas Klamath	CB-S LV-D			NI	
Calypogeia sphagnicola			BA		Sphagnum containing wetlands.	Coos Douglas	CB-D			NI	
Cephaloziella spinigera			BT		Wetlands containing *Sphagnum*.	Klamath	CB-S LV-S RO-S			NI	
Chiloscyphus gemmiparus			BS		On rocks in cold water streams.	Klamath	LV-S RO-S			NI	
Codriophorus depressus (formerly Racomitrium depressum)			BA		On rocks in montane streams.	Jackson	MD-D			NI	
Crumia latifolia			BA		Wet rocks and cliff faces, usually calcareous, along seasonal creeks	Douglas Jackson	MD-D RO-D			NI	
Diplophyllum plicatum			BA/SM	SM	Moist cool forests on bark, rotting wood, humus and soil.	Coos Douglas	CB-D RO-S			NI	
Encalypta brevicollis var. crumiana			BS		Deep, rocky ravine.	Coos	MD-S			NI	
Ephemerum Crassinervium			BT		Bare soil, high light levels, and seasonal moisture.	Jackson	MD-D			NI	

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	Federal	State	BLM	USFS		County	BLM	USFS	Vicinity of Pipeline (≤ 500 feet)		
Eucladium verticillatum			BA		Year-round seepage; wet rocks; perennially wet microhabitats; calcareous substrates along edges of waterfalls, and on rocks with seeps and creek splash.	Jackson	MD-D			NI	
Fabronia pusilla			BT		Restricted to bark and wood of old trees in Pacific Northwest with most known occurrences on old-growth conifers in association with algae, occasionally found on younger trees, 11 sites in Oregon.	Douglas Jackson	MD-D		RO: (T30S,R3W,S17; 2005) 207 feet W of MP 90.19.	MIIH	
Fissidens grandifrons			BT		On rocks in cool mountain streams with some sun.	Douglas	CB-S MD-D RO-S			NI	
Funaria muhlenbergii			BA		Dry exposed soil on rock outcrops and cliff ledges.	Douglas Jackson	CB-S MD-D RO-D			NI	
Grimmia anomala			BT		On rock, mid to moderately high elevation.	Klamath Jackson	MD-D RO-S LV-S			NI	
Harpanthus flotovianus			BT		Wet places, often with sphagnum.	Klamath	LV-S			NI	
Hedwigia detonsa			BT		Exposed rock outcrops.	Jackson	MD-D			NI	
Helodium blandowii			BA		Montane fens, usually with calcareous ground water.	Douglas Jackson Klamath	LV-S			NI	
Kurzia makinoana			BA/SM	SM	Shady moist sites on orangic substrates.	Coos	CB-D			NI	
Limbella fryei	SOC	C	BS		On wet rotting wood, leaf litter and lower trunks of tall shrubs in coastal shrub swamps.	Coos Douglas	CB-S			NI	
Meesia uliginosa			BA		Wet places, marshes and fens.	Jackson	LV-S MD-D			NI	

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	Federal	State	BLM	USFS		County	BLM	USFS	Vicinity of Pipeline (≤ 500 feet)		
Platyhypnidium riparoides			BT		Aquatic in mountain streams	Coos	CB-D			NI	
Pseudocalliergon trifarium (formerly Calliergon trifarium)			BA		Calcareous fens.	Klamath	LV-S			NI	
Pseudoleskeella serpentinensis			BA		On ultramafic rock, usually with some shade.	Douglas	CB-D MD-D RO-D			NI	
Rhizomnium nudum			SM	S/SM	On moist organic soil, or among rocks or on rotten logs in mid to high elevations.	Douglas		RRS-S UMP-D F-W-S		NI	
Schistostega pennata			BA/SM	S/SM	On damp rock, soil and decaying wood in dark places, caves or mineshafts and rootwads.	Douglas Klamath	CB-S RO-S	RRS-S UMP-D F-W-S		NI	
Scouleria marginata			BT	S	On rocks in streams, often submerged part of the year.	Douglas Jackson	CB-S MD-D RO-S	UMP-D		NI	
Splachnum ampullaceum			BA		On old dung of herbivores.	Klamath	LV-S			NI	
Tayloria serrata			BA		On old dung of herbivores	Douglas Jackson	MD-D RO-D			NI	
Tortula mucronifolia			BT		On soil or rock	Jackson	MD-D RO-S LV-S			NI	
Tripterocladium leucocladulum			BA		Shaded to exposed rocks, cliffs and bark of hardwoods.	Douglas Jackson	CB-S LV-S MD-D RO-S			NI	
Tritomaria exsectiformis			BA/SM	SM	On peaty or humic soil, or rotted wood. Often along creeks.	Douglas Klamath	LV-S			NI	

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						Districts/Forests					
	Federal	State	BLM	USFS		County	BLM	USFS	Vicinity of Pipeline (≤ 500 feet)		
Fungi											
Albatrellus avellaneus			BS/SM	SM	Presumed mycorrhizal with pine trees, known from Shore Acres in Coos County, in T26S, R14W, Sec. 17 SWNE along Cape Arago area.	Coos	CB-S			NI	
Albatrellus caeruleoporus			BT/SM	SM	Old growth forest, ranging from near sea level to montane.	Coos	CB-D			NI	
Albatrellus ellisii			BT/SM	SM	Above Olalla Creek, near junction with Thompson Creek in Douglas County; solitary, scattered, gregarious, or in fused clusters on ground in forest.	Douglas Jackson Klamath	CB-S RO-D MD-D LV-D			NI	
Alpova olivaceotinctus			BT/SM	SM	Associated with true fir, Douglas-fir, madrone, ponderosa pine and black oak	Jackson	MD-D			NI	
Amanita novinupta			BT		Unknown.	Coos	CB-S			NI	
Arcangeliella camphorata			BS/SM	SM	Forms sporocarps beneath soil surface associated with various Pinaceae spp., particularly Pseudotsuga menziesii and Tsuga heterophylla from 600 feet to 2,800 feet elevation.	Coos	CB-D			NI	

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						Districts/Forests					
	Federal	State	BLM	USFS		County	BLM	USFS	Vicinity of Pipeline (≤ 500 feet)		
Arcangeliella crassa			BT/SM	SM	Associated with pines, especially Douglas-fir and western hemlock, two known sites from So. Fork Camas area and Wasson Lake road area; CR & WC Ecoregions.	Coos Douglas	CB-D			NI	
Balsamia nigrescens			BT/SM	SM	Associated with pines and Douglas-fir	Jackson	CB-S MD-D			NI	
Boletus pulcherrimus			BS/SM	S/SM	West side Cascades, sporocarps usually solitary in association with mixed conifer (grand fir, Douglas-fir) and hardwoods (tanoak) in coastal forests.	Jackson	CB-S LV-D MD-D	RRS-D UMP-D F-W-D		NI	
Catathelasma ventricosum			BT/SM	SM	Solitary, scattered, rooting in deep humus under conifers (primarily fir and spruce), known from South Slough Estuarine Reserve; located within Coos Bay	Coos	CB-S			NI	
Cazia flexiascus			BT		Unknown.	Douglas	MD-N RO-S			NI	

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						Districts/Forests					
	Federal	State	BLM	USFS		County	BLM	USFS	Vicinity of Pipeline (≤ 500 feet)		
Choiromyces alveolatus			BT/SM	SM	Forms sporocarps beneath the soil surface associated with various Pinaceae spp., particularly Abies spp., shorepine, Douglas-fir, western hemlock, and mountain hemlock above 1,300 meters.	Douglas Jackson	RO-S			NI	
Clavariadelphus sachalinensis			BT/SM	SM	Mixed conifer forests, mesic sites	Jackson Klamath	MD-D RO-S LV-D		MD (T34S,R1E,S35; 2000): 260 feet E of MP 133.29.	MIIH	
Clavariadelphus subfastigiatus			BT/SM	SM	On soil or duff, under mixed conifers.	Douglas Jackson	CB-S MD-D RO-D			NI	
Cortinarius barlowensis			BT/SM	S/SM	Coastal to montane conifer forests up to at least 1,200m elevation; late successional old-growth association; fruits in autumn.	Douglas	CB-S	UMP-D		NI	
Cortinarius valgus			BT/SM	SM	Associated with *Abies, Picea, Pseudotsuga, Tsuga*; fruits in autumn.	Douglas	CB-S			NI	
Cortinarius verrucisporus			BT/SM	SM	Associated with *Abies magnifica*	Klamath	LV-S			NI	
Cudonia monticola			BT/SM	S/SM	Grows on spruce needles and coniferous debris, several district sites in the Burnt Ridge area, fruits in late summer and autumn.	Coos Douglas	CB-D RO-D	UMP-D		NI	

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						Districts/Forests					
	Federal	State	BLM	USFS		County	BLM	USFS	Vicinity of Pipeline (≤ 500 feet)		
Dendrocollybia racemosa			BT		Gregarious, on rotting or mummified remnants of agarics, or seldom in nutrient-rich leaf mulch, in forests. Located in Soup Creek area under dense huckleberry in rotting leaf litter on steep slope.	Douglas Jackson	CB-D MD-D LV-S			NI	
Dermocybe humboldtensis			BS/SM	SM	Stabilized dunes on roots of pine and huckleberry species and conglomerate rock and gravelly loam soil with Douglas-fir and ponderosa pine	Douglas	CB-S MD-S RO-D			NI	
Endogone oregonensis			BT/SM	SM	Roots of Sitka spruce, Douglas-fir, and western hemlock, below 350 m elevation, known from Cascade Head, Lincoln County and on Roseburg BLM.	Douglas	CB-S RO-D			NI	
Gastroboletus vividus			BS/SM	SM	Associated with *Abies magnifica* and *Tsuga mertensiana*	Jackson Klamath	MD-S			NI	
Gelatinodiscus flavidus			BT/SM	SM	Fruits from cones, twigs, and down foliage of *Chamaecyparis nootkatensis*. It typically occurs near or under melting snow-banks.	Douglas Jackson	MD-D			NI	
Glomus pubescens			BT		Hypogenous fungi in coniferous forests.	Coos Douglas	CB-S RO-S			NI	

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						Districts/Forests					
	Federal	State	BLM	USFS		County	BLM	USFS	Vicinity of Pipeline (≤ 500 feet)		
Gomphus bonarii (synonym of common species Gomphus floccosus)			BT/SM	S/SM	Under montane conifers.	Douglas Klamath	MD-S RO-D	UMP-D F-W-D		NI	
Gomphus kauffmanii			BT/SM	S/SM	Deep humus under pine and spruce species, closely gregarious	Coos Douglas Jackson	CB-S MD-D RO-D LV-S	RRS-D UMP-D F-W-D		NI	
Gymnomyces monosporus			BT		Unknown.	Douglas	CB-S RO-D			NI	
Helvella elastica			BT/SM	SM	Duff in coniferous forests; CR & WC Ecoregions. Gregarious on soil under conifers in damp areas, fruits from May through December.	Douglas	CB-S MD-D RO-D LV-S			NI	
Helvella maculate			BT		Low to mid elevations under mixed conifers and hardwoods.	Douglas	CB-S MD-D RO-S			NI	
Hygrophorus albicarneus			BT		Unknown.	Klamath	MD-S RO-S LV-S				
Leucogaster citrinus			BT/SM	S/SM	Roots of white fir, sub-alpine fir, shore pine, western white pine, Douglas-fir, and western hemlock, Fruits from August through November.	Douglas Jackson	CB-S MD-D RO-D	RRS-S UMP-D		NI	

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						Districts/Forests					
	Federal	State	BLM	USFS		County	BLM	USFS	Vicinity of Pipeline (≤ 500 feet)		
Mycena monticola				S	Roots of Sitka spruce and western hemlock below 200 m, known from several coastal sites in Curry, Lane, and Lincoln Counties, fruits in January, July through November.	No Data		RRS-D UMP-D F-W-D		NI	
Mycena tenax			BT/SM	SM	Densely gregarious in duff under fir, Douglas-fir, spruce, and redwood trees, known from several coastal sites in Douglas, Lane, and Lincoln Counties; fruits in spring and autumn.	Douglas	CB-S			NI	
Nolanea verna var. Isodiametrica			BT		Mainly under conifers.	Douglas	MD-D RO-S			NI	
Phaeocollybia attenuata			BT/SM	SM	Groups under Sitka spruce and redwoods. From Sept. to Nov.	Coos Douglas	CB-D RO-D			NI	
Phaeocollybia californica			BS/SM	S/SM	Roots of Sitka spruce, Pacific silver fir and western hemlock	Douglas	CB-D MD-S RO-D	RRS-D		NI	
Phaeocollybia olivacea			BS/SM	S/SM	Under conifers in fall and F-Wter.	Coos Douglas	CB-D MD-D RO-D	RRS-D		NI	
Phaeocollybia piceae			BT/SM	SM	Roots of Pacific silver fir, Douglas-fir and western hemlock in October and November.	Coos	CB-D MD-D RO-S			NI	
Phaeocollybia pseudofestiva			BT/SM	SM	Associated with Pinaceae, mixed conifers, and hardwoods; fruits in October - January and April – July.	Coos Douglas	CB-D MD-D RO-S			NI	
Phaeocollybia radicata			BT			Coos	CB-D			NI	

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	Federal	State	BLM	USFS		County	BLM	USFS	Vicinity of Pipeline (≤ 500 feet)		
Phaeocollybia scatesiae			BT/SM	SM	Roots of *Abies,* Sitka spruce and huckleberry in coast range and west Cascades in spring and fall.	Coos	CB-D RO-S			NI	
Phaeocollybia spadicea			BT/SM	SM	In humus under mixed conifer forests or forests associated with *Abies, Picea, Pseudotsuga, Tsuga*; fruits September – December.	Coos Douglas	CB-D RO-D			NI	
Plectania milleri			BT		In moss and litter under mixed conifer forests in spring	Douglas Jackson Klamath	CB-S MD-D RO-S LV-D			NI	
Psathyrella quercicola			BT		Unknown.	Jackson	MD-S RO-S LV-S			NI	
Pseudorhizina californica (formerly Gyromitra californica)			BT/SM	S/SM	Forest edges, disturbed sites.	Douglas Jackson Klamath	MD-S RO-S LVD	RRS-D UMP-D F-W-D		NI	
Ramaria abietina			BT/SM	SM	In duff under conifers, especially Monterey cypress and Coast Redwood; from late fall to late winter.	Douglas	MD-D RO-D			NI	
Ramaria amyloidea			BT/SM	S/SM	In humus or soil under *Abies* ssp Douglas-fir and western hemlock from September to October.	Douglas	RO-S	UMP-D		NI	
Ramaria aurantiisiccescens			BT/SM	S/SM	In humus or soil under *Abies* ssp Douglas-fir and western hemlock in October.	Coos	CB-D MD-D RO-S	UMP-D F-W-D		NI	

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	Federal	State	BLM	USFS		County	BLM	USFS	Vicinity of Pipeline (≤ 500 feet)		
Ramaria botrytis var. aurantiramosa			BT/SM	SM	Form coralloid sporocarps in humus or soil that mature above the surface of the ground.	Douglas Klamath	RO-S			NI	
Ramaria concolor f. Tsugina			BT/SM	SM	In humus or soil under *Abies* ssp Douglas-fir and western hemlock in October.	Coos	RO-S			NI	
Ramaria conjunctipes var. Sparsiramosa			BT/SM	SM	On ground in moist conifer forests in fall.	Coos	CB-D RO-S			NI	
Ramaria coulterae			BT/SM	SM	Unknown; fruits spring-early summer.	Jackson Klamath	MD-D RO-S			NI	
Ramaria largentii			BT/SM	S/SM	In humus or soil under *Abies* ssp Douglas-fir, western white pine and western hemlock in October.	Jackson	CB-D MD-D RO-D	RRS-S UMP-D		NI	
Ramaria rainierensis			BT/SM	SM	In humus or soil under *Abies* ssp Douglas-fir and western hemlock in December and March.	Coos	CB-D			NI	
Ramaria rubribrunnescens			BT/SM	SM	Terrestrial under Pinaceae ssp. in October and November.	Coos Douglas	CB-D MD-D RO-S			NI	
Ramaria spinulosa var. diminutiva			BS/SM	SM	Terrestrial under Pinaceae ssp. in October and November.	Douglas	CB-S MD-S RO-D			NI	
Ramaria suecica			BT/SM	SM	On litter; fruits in autumn.	Douglas	RO-D			NI	
Ramaria thiersii			BT/SM	SM	Terrestrial under Pinaceae ssp. in June.	Douglas Jackson Klamath	MD-D RO-S	F-W-D	F-W (T38S,R5E,S11; 2001): 172 feet W of MP 171.93.	MIIH	
Rhizopogon brunneiniger			BT/SM	SM	Associated with roots of various Pinaceae ssp. in low to high elevation conifer forests in September and October.	Douglas	CB-S MD-S RO-S			NI	

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Rhizopogon clavitisporus			BT		Unknown.	Jackson	MD-S RO-S LV-S			NI	
Rhizopogon ellipsosporus			BS/SM	SM	Associated with roots of Douglas-fir and sugarpine in October.	Jackson	LV-S MD-D			NI	
Rhizopogon flavofibrillosus			BT/SM	SM	Associated with roots of various Pinaceae ssp. in mid to high elevation conifer forests from July through November.	Douglas	CB-S MD-S RO-D			NI	
Rhizopogon truncatus			BT/SM	SM	Associated with Pinaceae; fruits April-November.	Douglas Jackson Klamath	CB-S MD-D RO-D LV-S			NI	
Rhizopogon variabilisporus			BT		Unknown.	Jackson	MD-S RO-S LV-S			NI	
Rickenella swartzii			BT/SM	SM	Moist, shaded locations, typically in moss beds; known from coastal forests in the fall; locally abundant in small troops on or among mosses under hardwoods.	Coos Douglas	CB-D			NI	
Sarcodon fuscoindicus			BT/SM	SM	Found on soil; fruits in autumn and winter.	Douglas	CB-S MD-S RO-D			NI	
Sarcosoma latahense			BT		On decaying wood, litter and soil in low to montane conifer forests from April through May.	Douglas	CB-D MD-D RO-S LV-S			NI	
Sowerbyella rhenana			BT/SM	SM	In duff of moist older conifer forests from October through December.	Jackson Klamath	CB-D MD-D RO-D LV-S			NI	
Stropharia albovelata (formerly Pholiota albivelata)			BT/SM	SM	Scattered under conifers on conifer litter from late April through early January.	Coos	CB-S			NI	
Tuber pacificum			BT		Low elevation moist	Coos	CB-S			NI	

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					coniferous forests.						
Urnula craterium			BT		Moist ground in spring; fallen oak branches.	Jackson	MD-S			NI	
Lichens											
Bryoria pseudocapillaris			BS/SM	SM	Coastal trees and shrubs.	Coos Douglas	CB-D RO			NI	
Bryoria spiralifera			BS/SM	SM	Grows on exposed or moderately exposed coastal trees, shrubs, and (once) on rock, primarily in late seral and old-growth shorepine scrub forests of dunes, marine terraces, and in Sitka spruce forests along the edges of coastal lagoons, estuaries, and headlands at or near sea level (0 - 75 m elevation; 0-250 feet). Occurring in sites with moderated temperature and high humidity provided by frequent fog.	Coos Douglas	CB-D RO			NI	
Bryoria subcana			BA/SM	SM	Grows on conifer bark in forests of coastal bays, streams, dune forests, and high precipitation ridges within 30 mi (50 km) of the ocean. Inhabits areas of high humidity, mostly in late-seral to old-growth stands.	Coos	CB-D RO-S			NI	
Buellia oidalea			BT/SM	SM	Bark of various shrubs, hardwoods, and conifers, maritime (< 1 km from coastline), known from Oregon Dunes NRA	Douglas Jackson	CB-S MD-D RO-S			NI	
Calicium			BA/S	SM	Highly textured bark on	No Data	CB-S			NI	

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adspersum			M		the boles of old growth conifer trees.		RO-S				
Caloplaca stantonii			BT		On rocks near coast	Coos	CB-S			NI	
Cetrelia cetrarioides			BT/SM	SM	Moist riparian and valley bottom forests, especially older red alder stands over swampy ground.	Coos	CB-D RO-S			NI	
Chaenotheca ferruginea			BT/SM	SM	Open, gappy, well-lit sites in conifer stands, oak balks with occasional remnant conifer snags, conifers snags around rocky outcrops, and the edges of beaver ponds and bogs; on the boles of lare, old oaks; on large, old conifers with highly textured bark on the side of the tree that lacks mosses and macrolichens, usually the side that does not intercept rain, 62 known sites in Oregon.	Douglas Jackson	MD-D RO-D			NI	
Chaenotheca furfuracea			BT		Bark and roots of older conifers and rocks in deep shade	Coos Douglas Jackson	CB-D MD-D RO-D			NI	
Chaenotheca subroscida			BT/SM	S/SM	Restricted to bark of old trees with most known occurrences on conifers > 200 years old, occasionally found on younger trees southward in Klamath region, 7 sites found in Oregon	Douglas Jackson	MD-D	RRS-S UMP-D		NI	
Chaenothecopsis pusilla			BT/SM	SM	Restricted to bark and wood of old trees in Pacific Northwest with most known occurrences	Douglas	RO-D			NI	

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						Districts/Forests					
	Federal	State	BLM	USFS		County	BLM	USFS	Vicinity of Pipeline (≤ 500 feet)		
					on old-growth conifers in association with algae, occasionally found on younger trees, 11 sites in Oregon.						
Cladonia norvegica			BT		Decaying wood and bark at the base of conifers in humid shady forests.	Coos Douglas	CB-D			NI	
Dermatocarpon luridum			BT/SM	S/SM	On moist to wet rocks along streams or lakesides.	Douglas Jackson	MD-D RO-D	RRS-S UMP-D F-W-S		NI	
Erioderma sorediatum			BA		Humid sites on trees and shrubs near the coast	Coos	CB-D			NI	
Heterodermia leucomela			BA		On mossy hardwoods or rock faces with some light.	Coos Douglas	CB-D			NI	
Hypotrachyna revoluta			BA/SM	SM	On rocks, trunks of alders growing on streambanks and lakesides.	Coos	CB-S			NI	
Lecanora pringlei			BT		Unknown.	Jackson Klamath	MD-D RO-S LV-S			NI	
Leioderma sorediatum			BA		On shrubs (huckleberry and manzanita) and mossy conifer branches in humid coastal forests	Coos Douglas	CB-S			NI	
Leptogium brebissonii			BA		Mossy trees and shrubs in low elevation coastal forests.	No Data	CB-S			NI	
Leptogium cyanescens			BT/SM	S/SM	On bark or wood of hardwoods and conifers near coast. Sometines on rock.	Douglas Jackson	CB-S MD-D RO-D	RRS-S UMP-S F-W-S		NI	
Leptogium hirsutum (L. burnetiae var. h.)			BT	S	Usually on hardwood trunks and branches but also on decaying logs and rocks. In mesic open forests.	Jackson	CB-S MD-D	UMP		NI	
Leptogium rivale			BT/SM	SM	Submerged rocks in small to medium sized mountain streams.	Coos Douglas Jackson	MD-D RO-D			NI	

TABLE H-8
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						Districts/Forests					
	Federal	State	BLM	USFS		County	BLM	USFS	Vicinity of Pipeline (≤ 500 feet)		
						Klamath					
Leptogium teretiusculum			BT/SM	SM	Usually on oaks in dry to mesic open mixed conifer forests.	Douglas Jackson	CB-S MD-D RO-D		MD (T33S,R2W,S12; 2001) 445 feet SW of MP 115.32.	MIIH	
Lobaria linita			BA/SM	SM	On trees, shrubs, mossy rocks or alpine sod. Montane to alpine.	Douglas Jackson	CB-S MD-S RO-S			NI	
Nephroma occultum			BT/SM	S/SM	Bark and wood of conifers in old growth moist forests on the west slope of the cascades.	Douglas Jackson	CB-S MD-S RO-D	RRS-D UMP-D		NI	
Niebla cephalota			BA/SM	SM	On trees, shrubs and rock on the immediate coast.	Coos	CB-D RO			NI	
Pannaria rubiginosa			BA		Low elevation coastal shrub thickets on wet deflation plains, mature Douglas-fir/western hemlock forest, and old growth conifer forest dominated by Douglas-fir, Sitka spruce, and western red cedar.	Coos Douglas	CB-S RO-S	RRS-S		NI	
Parmelina quercina			BT		Usually black oak trunks and branches groF-Wg on ridgelines but also found on shrubs in open woodlands.	Jackson	CB-S MD-D RO-S LV-S			NI	
Peltigera pacifica			SM	S/SM	Terrestrial in moist conifer forests at low elevations.	Jackson		RRS-S UMP-D		NI	
Peltula euploca			BT		On noncalcareous rock in open and very dry to damp.	Jackson Klamath	MD-D RO-S LV-D			NI	
Platismatia lacunosa			BT/SM	SM	On bark and wood, mainly hardwoods and rarely on mossy rocks in moist riparian forests in the coast range and cascades.	Coos Douglas Jackson	CB-D MD-D RO-D			NI	
Pseudocyphellaria mallota			BA		Old conifers or understory hardwoods	Douglas	CB-S			NI	

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					and shrubs in late successional forests.						
Pseudocyphellaria perpetua			BT/SM	SM	Conifer branches in riparian old growth forests on the immediate coast and on shaded branches of manzanita on stabilized sand dune.	Coos Douglas	CB-D RO-S			NI	
Pseudocyphellaria rainierensis			BT/SM	S/SM	Bark or wood of conifers in moist old growth forests at low to mid elevations.	Douglas	CB-D RO-S	UMP-D		NI	
Pyrrhospora quernea			BT		On wood and sometimes bark or rock in open oceanic regions.	Coos Douglas	CB-D			NI	
Ramalina pollinaria			BA	S	Bark and wood, usually in low elevation swamps.	Coos Jackson?	CB-D	UMP-S		NI	
Stereocaulon spathuliferum			BA		On rock.	Not within the counties affected	RO-S			NI	
Sulcaria badia			BA		On branches of hardwoods and shrubs, usually in oak woodlands	Coos Jackson	CB-S MD-D RO-D			NI	
Teloschistes flavicans			BA/SM	SM	On bark and wood, usually Sitka spruce in coastal headland forests.	Coos	CB-D RO			NI	
Thelomma mammosum			BT		On acidic rock near coast.	No Data	CB-S			NI	
Usnea hesperina			BT/SM	SM	On branches of exposed hardwoods and conifers usually near the coast.	Coos Douglas Jackson	CB-S MD-S RO-S			NI	
Usnea longissima			BT/SM	S/SM	On trees in shaded, humid forests.	Coos Douglas	CB-D MD-D RO-D	UMP-D		NI	
Usnea rubicunda			BT		On trees in open moist forests.	Coos	CB-D			NI	
Vezdaea stipitata			BT		Unknown.	Douglas	RO-D			NI	
Vascular Plants											
Yellow sandverbena *Abronia latifolia*			BT		Coastal dunes and in coastal scrub	Coos Douglas	CB-D			NI	

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California maiden-hair *Adiantum jordanii*			BA		Rocky areas in moist woods	Coos Douglas	CB-D MD-D RO-D			NI	
Henderson's bentgrass *Agrostis hendersonii*	SOC		BS		Vernal pools, Agate Desert	Jackson	MD-S		Extirpated in Oregon (recovery plan)	NI	
Two-stemmed onion *Allium bisceptrum*			BT		Meadows and aspen groves	Klamath	LV-S			NI	
Bolander onion *Allium bolanderi var. bolanderi*			BT		Gravelly areas in forest openings	Jackson?	MD-D			NI	
Peninsular onion *Allium peninsulare*			BA	S	Dry open or wooded slopes and flats to 3000 ft; valley grassland, foothill woodlands; March through June.	Jackson	MD-S	RRS-S		NI	
Long-stemmed androsace *Androsace elongata ssp. acuta*			BA	S	Found on slopes between 0 - 4000 feet within chapparral, foothill woodland, northern coastal scrub, coastal sage scrub.	Jackson	MD-S	RRS-S		NI	
Koehler's rockcress *Arabis koehleri var. koehleri*	SOC	C	BS		Rocky cliff sites.	Douglas	CB-S RO-D			NI	
Koehler's stipitate rockcress *Arabis koehleri var. Stipitata*			BT		Dry rocky serpentine slopes, ridges	Jackson	CB-S MD-D			NI	
Rogue Canyon rockcress *Arabis modesta*	SOC		BA	S	Known only from the Rogue River canyon near Galice, Josephine County.	Jackson	MD-D			NI	
Crater Lake rock cress *Arabis suffrutescens var. horizontalis*	SOC	C		S	High elevation open sites with pumice. Known sites in Crater Lake NP.	Jackson Klamath		F-W-D RRS-S UMP-D		NI	
Hairy manzanita	SOC		BA	S	Rocky serpentine soils	Douglas	CB-D			NI	

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Arctostaphylos hispidula					or sandstone, open forests		MD-D				
Shasta arnica *Arnica viscosa*			BA	S	High elevation, open rocky sites; known in Deschutes, Klamath, Douglas Co, OR; F-Wema, found at a few sites in wilderness along the Cascade Crest and on Pelican Butte.	Douglas Klamath	MD-S	F-W-D RRS-S UMP-D		NI	
Coastal sagewort *Artemisia pycnocephala*			BA		Rocky or sandy soils, coastal strand	Coos	CB-D			NI	
Green-flowered wild-ginger *Asarum wagneri*		C	BS		Grows in humus soils within red and/or white fir trees at low elevations up to open boulder fields at timberline; occurs above 5,000 feet in Klamath County.	Douglas Jackson Klamath	MD-D LV-D			NI	
Grass-fern *Asplenium septentrionale*			BA	S	Grows on shady, moist, north faces of large rocks; only known in North Umpqua	Douglas Jackson Klamath	MD-S RO-S	UMP-D F-W-D RRS-D		NI	
California milk-vetch *Astragalus californicus*			BA		Dry open areas in shrubland.	Jackson	MD-D			NI	
Gambel milk-vetch *Astragalus gambelianus*			BT		Open grassy areas, shrublands	Jackson	MD-D			NI	
Woodland milk-vetch *Astragalus umbraticus*			BT		Forest openings, disturbed areas, roadsides.	Douglas	CB-S MD-D RO-D			NI	
Beach saltbush *Atriplex leucophylla*			BT		Sandy soils, dunes.	Coos	CB-D			NI	
Wooly balsamroot *Balsamorhiza hookeri var. lanata*			BS		Open woods, grassy slopes.	Jackson	MD-D			NI	
Bensonia	SOC	C	BS	S	Wet meadows and moist	Coos	CB-D			NI	

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Bensoniella oregana					streamside sites in pre-Cretaceous metasedimentary rock at elevations above 4,000 feet.	Douglas	MD-D RO-D				
Crenulate grape-fern *Botrychium crenulatum*	SOC	C		S	Marshes, meadows above 4000 feet	Douglas Jackson		RRS-S		NI	
Mingan moonwort *Botrychium minganense*			BT/SM	S/SM	Coniferous forests along streams.	Douglas	RO-S	UMP-S		NI	
California brodiaea *Brodiaea californica*			BT		Grassland, open woodland, gravelley clay soils.	Jackson	MD-S			NI	
Dwarf brodiaea *Brodiaea terrestris*			BA		Grassland, open woodlands.	Coos	CB-D			NI	
F-Winged water-starwort *Callitriche marginata*			BT		Ponds, vernal pools.	Jackson	MD-D			NI	
Greene's mariposa-lily *Calochortus greenei*	SOC	C	BS		Grows on dry, bushy hillsides in southern Jackson County.	Jackson Klamath	LV-S MD-D			NI	
Long-bearded mariposa lily *Calochortus longebarbatus var. longebarbatus*			BT		Clay loams in vernally moist sites in meadows, forest-meadow edges, and within semi-open areas within coniferous woods dominated by grasses and forbs; quite moist in spring and early summer. Sites are typically flat or on very gentle slopes; Seasonally wet meadows within pine forests or sagebrush communities.	Klamath	LV-D			NI	
One-leaved mariposa-lily			BA	S	Wooded slopes, clay loam soils.	Jackson Klamath	MD-D	RRS-S		NI	

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	Federal	State	BLM	USFS		County	BLM	USFS	Vicinity of Pipeline (≤ 500 feet)		
Calochortus monophyllus											
Broad-fruit mariposa-lily *Calochortus nitidus*	SOC		BA	S	Open rocky areas or dry meadows	Jackson	MD-D			NI	
Siskiyou mariposa lily *Calochortus persistens*	C		B?		Open rocky areas	Jackson	MD-D			NI	
Howell's camassia *Camassia howellii*	SOC	C	BS	S	Grassy wet meadows, swampy ground, and transitional areas between wet meadows and coniferous woodlands.	Jackson	MD-D			NI	
Primrose *Camissonia graciliflora*				S	Open rocky grassy and shrublands, usually clay soils.	Jackson	MD-D	RRS-D		NI	
Golden eggs *Camissonia ovata*			BT		Grassy fields, oak woodlands.	Douglas Jackson	MD-S RO-S			NI	
Colville's toothwort *Cardamine nuttallii var. Covilleana*			BT		Moist, shaded hillsides, wet, open pine forests.	Jackson	MD-D			NI	
Dissected toothwort *Cardamine nuttallii var. Dissecta*			BT		Mossy slopes, pine forests.	Coos Jackson Klamath	MD-D			NI	
Abrupt-beaked sedge *Carex abrupta*			BA		Moist meadows, open forests.	Klamath	LV-S			NI	
Awned sedge *Carex atherodes*			BT		Wetlands, shallow water	Klamath	LV-S			NI	
Santa barbara sedge *Carex barbarae*			BT		Seasonlly wet areas along major streams.	Douglas Jackson	CB-S MD-D RO-D			NI	
Short-stemmed sedge *Carex brevicaulis*			BA		Rocky or sandy soils.	Coos Douglas	CB-D RO-S			NI	
Capitate sedge *Carex capitata*			BA		Wet places.	Jackson Klamath	LV-S			NI	

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Bristly sedge *Carex comosa*			BA		Wet places.	Klamath	LV-D MD-D RO-S			NI	
Crawford's sedge *Carex crawfordii*			BA	S	Moist or wet places.	Jackson	CB-D	RRS-S UMP-S		NI	
Sedge *Carex epapillosa*			BT		Wet meadows.	Douglas Klamath	LV-S			NI	
Carex gigas				S	Wet meadows at high elevations	Jackson		RRS-D		NI	
Hairy sedge *Carex gynodynama*			BA		Moist meadows, open forests.	Coos Douglas	CB-D MD-D RO-D			NI	
Smooth beaked sedge *Carex integra*			BT		Seasonally moist soils.	Jackson Klamath	LV-S			NI	
Inland sedge *Carex interior*			BT	S	Wet meadows, swamps	Jackson	MD-S LV-D			NI	
Slender sedge *Carex lasiocarpa var. americana*			BA		Bogs, shallow water.	Klamath	LV-D			NI	
Bristly stalked sedge *Carex leptalea sp. Leptalea*			BT		Wet meadows, swamps.	Coos Jackson Klamath	CB-S MD-D RO-S LV-D			NI	
Bighead sedge *Carex macrocephala*			BT		Sandy beaches, sand dunes.	Coos Douglas	CB-S			NI	
Sierra sedge *Carex nervina*				S	Moist to wet places.	Jackson		RRS-D		NI	
Meadow sedge *Carex praticola*			BT		Moist or wet meadows, moist woods, streambanks.	Jackson	MD-D			NI	
Siskiyou sedge *Carex scabriuscula*			BA		Same plant as Cares gigas	Jackson	CB-S MD-D			NI	
Saw-tooth sedge *Carex serratodens*			BA	S	Moist places.	Douglas Jackson	MD-D RO-D	RRS-D UMP-S		NI	
Involute-leaved sedge *Carex stenophylla* (*C. eleocharis*)				S	Wet meadows	Klamath		F-W-S		NI	
Short-lobed red-			BT		Serpentine grasslands.	Jackson	MD-D			NI	

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paintbrush *Castilleja brevilobata*											
Green-tinged paintbrush *Castilleja chlorotica*			BS	S	Grows on dry gravelly or sandy slopes; Elevation 6000 - 8000 feet; late June through mid-August. Found in shrub openings on slopes and ridges; On F-Wema, found at one site near northeast corner of the Forest.	Klamath	LV-S	F-W-D		NI	
Split-hair paintbrush *Castilleja schizotricha*				S	Decomposed granite or marble at high elevations.	Jackson		RRS-D		NI	
Coville's lip-fern *Cheilanthes covillei*			BA		Rock outcrops, cliffs.	Jackson	MD-D			NI	
Coastal lip-fern *Cheilanthes intertexta*			BA	S	Rock outcrops, cliffs.	Douglas Jackson	MD-D	RRS-S	MD (T37SS,R2E,S2; 2000): 413 feet SW of MP 149.9.	MIIH	
Narrow-leaved amole *Chlorogalum angustifolium*			BA	S	Clay soils in dry grassland.	Jackson	MD-D	RRS-S		NI	
Timwort *Cicendia quadrangularis*			BA		Openings.	Coos Douglas	CB-D RO-D			NI	
Bulb-bearing water-hemlock *Cicuta bulbifera*			BA	S	Wetlands and lake and stream margins.	Klamath	LV-S	F-W-S		NI	
Tall bugbane *Cimicifuga elata var. elata*		C	BS	S	Moist open forests and along small drainages.	Douglas Jackson	CB-S MD-D RO-D	RRS-D UMP-D		NI	
Ashland thistle *Cirsium ciliolatum*			BS		Grasslands and shrublands in clay soils.	Jackson	MD-D			NI	
Small-fruit clarkia *Clarkia heterandra*			BA	S	Open forests and oak woodlands.	Douglas Jackson	MD-D	RRS-D		NI	
Spoonwort *Cochlearia*			BA		Sea bird nesting areas on offshore rocks	Coos	CB-S			NI	

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officinalis											
Mt. Mazama collomia *Collomia mazama*			BS	S	Dry woods at high elevations; July and August; True fir/lodgepole pine forest, meadows, and meadow edges; On F-Wema, found in Lost Creek, Horse Creek, Rock Creek and Cherry Creek drainages, Klamath RD.	Douglas Jackson Klamath	LV-S	UMP-D RRS-D F-W-D		NI	
Milo Baker's cryptantha *Cryptantha milobakeri*			BA	S	Rocky or gravelly soils in conifer openings, chaparral or oak woodlands.	Jackson	MD-D	RRS-D		NI	
Baker's cypress *Cupressus bakeri*	SOC		BA	S	Scattered on dry wooded slopes, usually in serpentine soil.	Jackson	MD-D	RRS-D		NI	
Pinewoods cryptantha *Cryptantha simulans*			BT		Conifer forest openings.	Jackson Klamath	MD-S			NI	
Short-pointed cyperus *Cyperus acuminatus*			BA		Wet, low places in valley and lowlands, edges of tempory pools, ponds, streams, ditches	Jackson	MD-S			NI	
Shining flatsedge *Cyperus bipartitus*			BT	S	Sand bars, pond shores, ditches.	Douglas Jackson	CB-S MD-D			NI	
California lady's-slipper *Cypripedium californicum*			BT		Moist slopes, streambanks, mixed evergreen or coniferous forest, edges of serpentine bogs	Coos Douglas Jackson	CB-D MD-D RO-D			NI	
Clustered lady's-slipper *Cypripedium fasciculatum*	SOC	C	BS/SM	S/SM	Open woods of coniferous forests; can occur up to 6,400 feet.	Douglas Jackson	CB-S LV-S MD-D	RRS-D UMP-D	PV: (T31S,R2W,S31; 1994) 30 feet N of MP 104.10 in construction ROW.	MIIH	
Mountain lady's-slipper *Cypripedium montanum*			BT/SM		Moist areas, dry slopes, mixed evergreen or conifer forests.	Douglas Jackson Klamath	MD-D RO-D LV-D	UMP RRS-D F-W		NI	

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California pitcher-plant *Darlingtonia californica*			BT		Bogs, streamsides on and off serpentine.	Coos Douglas	CB-D MD-D			NI	
Red larkspur *Delphinium nudicaule*			BA	S	Rocky openings, often in talus on moist slopes.	Douglas Jackson	MD-D	RRS-D		NI	
Firecracker flower *Dichelostemma ida-maia*			BT		Forest edges, grasslands, usually near the coast.	Douglas Jackson	CB-S MD-D RO-D			NI	
Siskiyou false rue-anemone *Enemion stipitatum*			BT	S	Oak woodlands, forest edges.	Douglas Jackson Klamath	CB-S MD-D RO-D	UMP		NI	
Yellow willow-herb *Epilobium luteum*			BT		Moist streambanks, montane meadows.	Douglas Jackson	RO-S			NI	
Oregon willow herb *Epilobium oreganum*	SOC	C	BS	S	Grows in bogs at low elevations. Known only from Josephine County.	Douglas	MD-D			NI	
Swamp willow-herb *Epilobium palustre*			BT		Wet meadows, boggy areas.	Douglas Klamath	RO-S			NI	
Siskiyou willow herb *Epilobium siskiyouense*	SOC	C		S	Scree and talus on Serpentine ridges.	Jackson		RRS-D		NI	
Cascade daisy *Erigeron cascadensis*			BT		Rocky slopes at moderate to high elevations.	Douglas Klamath	RO-S			NI	
Siskiyou daisy *Erigeron cervinus*	SOC		BA	S	Rocky streamsides.	Jackson	CB-S MD-S	RRS-S		NI	
Rock daisy *Erigeron petrophilus*				S	Rocky foothills to montane forest.	Jackson		RRS-D		NI	
Prostrate buckwheat *Eriogonum prociduum*	SOC	C		S	Areas of barren rocky or gravelly volcanic soils within juniper or sagebrush habitat.	Klamath		F-W-D		NI	

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Russet cotton-grass *Eriophorum chamissonis*			BA	S	Bogs along the coast	Coos	CB-D			NI	
Large-leaved filaree *Erodium macrophyllum*			BA		Open sites grassland and shrubland.	Jackson	MD-S			NI	
Inland coyote-thistle *Eryngium alismifolium*			BA		Vernal pools, flooded meadows.	Klamath	LV-D			NI	
Howell's adder's tongue *Erythronium howellii*			BS	S	Found in open woods primarily in the upper Illinois River basin, mostly in serpentine soil; April and May	Jackson	MD-D			NI	
Coast fawn-lily *Erythronium revolutum*			BT		Streambanks and wet places in woodlands.	Coos Douglas	CB-D			NI	
Gold poppy *Eschscholzia caespitosa*			BA	S	Grows on dry, brushy slopes and flat areas, mostly along roadsides; known in southern Douglas County; March through early June	Douglas	MD-D RO-S			NI	
Brewer's aster *Eucephalus breweri (Aster breweri)*			BA		Subalpine meadows, open woods	Jackson	MD-D			NI	
Western wahoo *Euonymus occidentalis*			BT	S	Shaded Streambanks, canyouns	Coos Douglas	CB-D MD-D RO-D			NI	
Elmer's fescue *Festuca elmeri*			BA		Rocky openings in oak woodlands and chaparral.	Jackson Douglas	MD-D RO-S	RRS-D		NI	

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Umpqua swertia *Frasera umpquaensis*		C	BS	S	Elevations 4500 - 6500 feet in conifer forests, in damp, shaded or sometimes open environments; June through August	Douglas Jackson	CB-S MD-D RO-S	RRS-D UMP-D		NI	
Siskiyou fritillaria *Fritillaria glauca*			BA	S	found on dry, rocky serpentine slopes in Douglas County; April through June	Douglas Jackson	CB-S MD-D	RRS-D UMP-D		NI	
Newberry's gentian *Gentiana newberryi var. newberryi*			BA	S	High alpine meadows of the Cascade Mountains ; wet meadows and meadow edges, generally 5,000' and above ; August and September, On F-Wema found on Klamath RD.	Klamath	LV-S	RRS-S UMP-S F-W-D		NI	
Seaside gilia *Gilia millefoliata*	SOC		BS		Stabiilized Coastal Dunes	Coos Douglas	CB-D			NI	
Sinister gilia *Gilia sinistra ssp. Sinistra*			BT		Rocky openings, roadsides.	Douglas Jackson Klamath	MD-S			NI	
Beautiful stickseed *Hackelia bella*			BA		Forest openings, roadsides.	Jackson Klamath	MD-D			NI	
Large-flowered rush-lily *Hastingsia bracteosa var. bracteosa*			BS	S	Found only in Siskiyou Mountains of southern Jackson County; late May through June.	Jackson	MD-D			NI	
Whitney's bristleweed *Hazardia whitneyi var. discoidea*			BT	S	Rocky, open forested slopes at high elevation, Oregon Cascades. On Fremont-Wema few sites found along Cascade Crest in wilderness	Douglas Jackson Klamath	CB-S RO-S	RRS-D UMP-D F-W-D		NI	

TABLE H-8
Special Status Plant (Vascular and Non-Vascular) Species that may Occur Near the Project

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						Districts/Forests					
	Federal	State	BLM	USFS		County	BLM	USFS	Vicinity of Pipeline (≤ 500 feet)		
California helianthella *Helianthella californica var. Nevadensis*			BT		Open grassy sites.	Douglas	MD-S RO-S LV-S			NI	
Bolander's sunflower *Helianthus bolanderi*			BT		Grassy, often disturbed sites.	Jackson	MD-S			NI	
Salt heliotrope *Heliotropium curassavicum*			BA		Moist to dry saline soils.	Klamath	LV-D			NI	
Short-leaved evax *Hesperevax sparsiflora var. Brevifolia*			BT		Sandy bluffs and flats.	Coos	CB-D			NI	
Greene's hawksweed *Hieracium greenei*			BT		Rocky forest openings	Douglas Jackson Klamath	MD-D LV-D			NI	
Shaggy hawkweed *Hieracium horridum*			BT		Rocky places.	Jackson Klamath	LV-S			NI	
Vanilla grass *Hierochloe odorata*			BT		Wet sites, meadows.	Coos Douglas Jackson Klamath	MD-S			NI	
Shaggy horkelia *Horkelia congesta ssp. congesta*	SOC	C	BS		Open dry ground and rocky flats	Douglas Jackson	RO-D			NI	
Henderson's horkelia *Horkelia hendersonii*	SOC			S	Endemic to summits of a few granite peaks in southern Jackson County.	Jackson		RRS-D		NI	
Three-toothed horkelia *Horkelia tridentata ssp. tridentata*			BA	S	Granitic soils.	Jackson	MD-S RO-S	RRS-D		NI	

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Whorled marsh-pennywort *Hydrocotyle verticillata*			BA	S	Swampy ground, lake margins.	Coos Douglas	CB-S			NI	
Baker's globe-mallow *Iliamna bakeri*			BS	S	Open mixed conifer or ponderosa pine stands, and juniper shrublands. Generally occurs after a fire, but may persist in openings. On F-Wema, few sites in southeast Chiloquin RD.	Jackson Klamath	LV-D MD-D	F-W-D		NI	
California globe-mallow *Iliamna latibracteata*			BA	S	Grows in coastal ranges in Coos and Douglas counties; June and July	Coos Douglas Jackson	CB-D MD-D RO-S	RRS-D UMP-D F-W-D		NI	
Siskiyou rue-anenome *Isopyrum stipitatum*				S	1968-4593 feet; chaparral, foothill woodland Same plant as Enemion stipitatum	Douglas Jackson Klamath		RRS-D UMP-S		NI	
Kellogg's dwarf rush *Juncus kelloggii*			BT		Swampy or sandy ground.	Klamath	MD-S			NI	
North Umpqua kalmiopsis *Kalmiopsis fragrans*	SOC		BS	S	Cliffs and rock outcrops, known only from North Umpqua River	Douglas	RO-S	UMP-D		NI	
Bush beardtongue *Keckiella lemmonii*			BA	S	Rocky slopes, chaparral	Jackson	MD-S	RRS-D		NI	
Thin -leaved peavine *Lathyrus holochlorus*	SOC		BS		Thickets and open woods, low elevations, fence rows	Douglas	RO-S			NI	
Tracy's peavine *Lathyrus lanszwertii var. Tracyi*			BT		Conifer forests.	Jackson	MD-D			NI	

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Columbia lewisia *Lewisia columbiana var. columbiana*			BA	S	Reported on three mountains in the southeastern portion of Douglas County; May through July	Douglas		UMP-D		NI	
Howell's lewisia *Lewisia cotyledon var. Howellii*			BT		Moist rock outcrops.	Douglas Jackson	MD-D RO-D			NI	
Lee's lewisia *Lewisia leana*			BA	S	Grows on high elevation serpentine ridges; late May through August	Douglas Jackson	MD-D	RRS-D UMP-S		NI	
Opposite-leaved lewisia *Lewisia oppositifolia*			BT		Forest openings in serpentine	Jackson	CB-S MD-D			NI	
Flowering quillwort *Lilaea scilloides*			BT		Fresh water margins, mud	Douglas Klamath	CB-D LV-S			NI	
Kellogg's lily *Lilium kelloggii*			BA	S	Grows on sandstone/sedimentary type of soil in dry wooded areas; June	Klamath?	CB-S			NI	
Bellinger's meadowfoam *Limnanthes floccosa ssp. bellingeriana*	SOC	C	BS	S	Seasonally wet depressions above 2500 ft; seasonally wet meadows in Klamath County.	Jackson Klamath	LV-D MD-D	RRS-S		NI	
Slender meadow-foam *Limnanthes gracilis ssp. gracilis*		C	BS	S	Found in Douglas, Jackson, and Josephine counties in very wet areas (early spring) and often in serpentine soil; March through May. Vernal pools.	Douglas Jackson	MD-D RO-D		RO (T29S,R8W,S9; 1989): 215 feet N of MP 51.64.	MIIH	
Western marsh-rosemary *Limonium californicum*			BA	S	Coastal strands, salt marshes	Coos	CB-D			NI	
Many-leaf prairie star *Lithophragma heterophyllum*			BT		Forest openings.	Jackson	MD-D			NI	
Sanborn's onion			BT		Serpentine rock outcrops	Jackson	MD			NI	

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Lium sanbornalii var. Sanbornii											
Tracy's desertparsley *Lomatium tracyi*				S	Open pine forest, serpentine.	Douglas Jackson		RRS-S		NI	
Stipuled trefoil *Lotus stipularis*			BA	S	Open forests, chaparral, disturbed sites.	Jackson	MD-D	RRS-S		NI	
Anderson's lupine *Lupinus andersonii*			BT		Dry slopes, forest openings	Jackson Klamath?	MD-D LV-S			NI	
Brewer's Lupine *Lupinus breweri var. breweri*			BA		Montane coniferous forest, 4,000-11,000 feet	Jackson	MD-S			NI	
Ashland lupine *Lupinus lepidus var. ashlandensis*	SOC	C		S	Sandy or gravelly soils at low to alpine elevations.	Jackson		RRS-D		NI	
Tracy's lupine *Lupinus tracyi*			BA	S	Dry open montane forest.	Douglas Jackson Klamath	MD-S			NI	
Bog club-moss *Lycopodiella inundata*			BA	S	Bogs, muddy depressions, and pond margins. On F-Wema one site in Yoss Creek drainage on Chiloquin RD.	Coos Douglas Klamath	CB-D	F-W-D		NI	
Stiff club-moss *Lycopodium annotinum*			BT		Moist woods and thickets up to timberline.	Douglas	RO-S			NI	
White meconella *Meconella oregana*	SOC	C	BS	S	Grows in open areas that are wet in the spring at low elevations. Known from sites in the Willamette Valley and the Columbia Gorge.	Douglas Jackson	MD-D	RRS-S		NI	
Nodding melic *Melica stricta*			BA		Open sites, coniferous forests, rocky areas in alpine.	Klamath	LV-S			NI	
Coast microseris *Microseris bigelovii*			BA		Open sandy soil or sandy pockets on rocky headlands.	Coos	CB-S			NI	
Douglas' microseris			BA	S	Grassy flats and hillsides in heavy hard packed	Jackson	MD-S	RRS-S		NI	

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Microseris douglasii ssp. douglasii					soil.						
Detling's microseris *Microseris laciniata spp. detlingii*	SOC		BS	S	In moist rocky meadows, open grasslands, and in clay soils.	Jackson	MD-D	RRS-D	MD (T35S,R2E,S29; 2000): 342 feet E of MP 140.55.	MIIH	
Bolander's monkeyflower *Mimulus bolanderi*			BA	S	Openings in chaparral, burns and disturbed areas. Applegate Valley	Jackson	MD-D	RRS-D		NI	
Congdon's monkeyflower *Mimulus congdonii*			BA		Openings in oak woodland and chaparral. Applegate Valley	Jackson	MD-D			NI	
Douglas' monkeyflower *Mimulus douglasii*			BT		Forest openings, chaparral, shallow soil.	Douglas Jackson	CB-D MD-D RO-D			NI	
Disappearing monkeyflower *Mimulus evanescens*		C	BS	S	Vernally moist sites along perennial and intermittent streams; receding margins of lakes, ponds, and reservoirs within juniper/sagebrush habitats.	Klamath	LV-D	F-W-S		NI	
Jepson's monkeyflower *Mimulus jepsonii*			BT		Pine forest openings.	Douglas Jackson Klamath	MD-D LV-S			NI	
Kellogg's monkeyflower *Mimulus kelloggii*			BT		Rocky openings, skree.	Douglas Jackson	MD-D RO-D			NI	
Tri-colored monkeyflower *Mimulus tricolor*			BA	S	Grows at low elevations in clay soil, preferring vernal pools; scattered in Klamath County; late May through June	Klamath	LV-S	F-W-D		NI	
California sandwort *Minuartia californica*			BT		Open gravelly slopes, grassy ridges, sometimes on serpentine.	Douglas Jackson	CB-D MD-D RO-S			NI	
Glaucous monardella			BT		Rocky openings, sagebrush scrub to	Jackson	MD-D LV-S			NI	

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Monardella glauca					alpine forest.						
Howell's montia *Montia howellii*		C	BT	S	Vernally wet sites, usually on compacted soils.	Douglas	MD-D RO-D	UMP-S		NI	
Siberian water-milfoil *Myriophyllum sibiricum*			BT		Ponds, ditches, streams and lakes.	Klamath	LV-S			NI	
Lobb's nama *Nama lobbii*			BT		Dry , sandy or rocky slopes and ridges.	Douglas Jackson Klamath	LV-S			NI	
Tehama naverretia *Navarretia heterandra*			BA		Openings in chaparral, old roads and trails.	Jackson	MD-S		MD (T34S,R1E,S18; 2003): 163.5 feet W of MP 126.44 in TEWA; MD (T34S,R1E,S18; 2005): 64 feet E of MP 126.88; MD (T34S,R1E,S19; 2005): 305 feet NE of MP 127.57; MD (T35S,R2E,S19; 2005): 453 feet NE of MP 138.97.	MIIH	
White-flowered navarretia *Navarretia leucocephala*			BT		Vernal pools	Douglas Jackson Klamath	MD-D LV-D			NI	
Awl-leaf navarretia *Navarretia subuligera*			BT		Open rocky often disturbed sites	Jackson	MD-D LV-D		MD (T34S,R1E,S18; 2003): 60 feet W of MP 126.34 in construction ROW.	MIIH	
Marigold navarretia *Navarretia tagetina*			BT	S	Open rocky grassy flats, vernal pools.	Douglas Jackson	MD-D RO-S			NI	
Slender nemacladus *Nemacladus capillaris*			BA	S	Dry slopes, burned areas.	Jackson	MD-D	RRS-S		NI	
Indian tobacco *Nicotiana*			BT		Open well drained washes, slopes.	Douglas	LV-S			NI	

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quadrivalvis var. Bigelovii											
Adder's-tongue *Ophioglossum pusilum*			BA	S	Open fens, wet meadows, grassy slopes, roadside ditches.	Coos Douglas	CB-S	UMP-D		NI	
Brittle prickly-pear *Opuntia fragilis var. Fragilis*			BT		Juniper woodland	Jackson	MD-D			NI	
Coffee fern *Pellaea andromedifolia*			BA	S	Rock outcrops, cliffs.	Coos Douglas Jackson	CB-D MD-D RO-D	RRS-S UMP-S		NI	
Bird's-foot fern *Pellaea mucronata ssp mucronata*			BA	S	Rocky dry openings.	Jackson	MD-D	RRS-S		NI	
Blue-leaved penstemon *Penstemon glaucinus*			BS	S	Openings in mid to high elevation pine, fir, and mounatin hemlock communities. Well-drained volcanic soils along rocky points and ridges.	Klamath	LV-D	F-W-D		NI	
Red-root yampah *Perideridia erythrorhiza*	SOC	C	BS	S	Moist meadows, forest edges below 4500'.	Douglas Jackson Klamath	MD-D RO-D LV-S	RRS-S UMP-S F-W-D		NI	
Playa phacelia *Phacelia inundata*	SOC				Alkaline flats, dry lake margins. Elevation 4800 - 6400 feet.	Klamath				NI	
Spring phacelia *Phacelia verna*			BT		Moist banks, just after snowmelt	Coos Douglas	CB-D MD-D RO-D			NI	
American pillwort *Pilularia americana*			BA	S	Vernal pools, mud flats, lake margins.	Jackson Klamath	MD-S LV-S	RRS-S		NI	
Gray Pine *Pinus sabiniana*			BT		Infertile soils in mixed conifer and hardwood forests.	Jackson	MD-D			NI	
Austin's plagiobothrys *Plagiobothrys austiniae*			BA		Vernally wet areas, along road and trail edges.	Jackson	MD-D			NI	
Coral seeded	SOC	C	BS	S	Low elevation meadows	Jackson	MD-D	RRS-S		NI	

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allocarya *Plagiobothrys figuratus var. corallicarpus*					and moist clearings and fields.						
Sculptured popcornflower *Plagiobothrys glyptocarpus*			BA	S	Vernal pools, seasonal stream edges.	Jackson	MD-D	RRS-S		NI	
Greene's popcorn flower *Plagiobothrys greenei*			BA		Vernal pools (Recovery plan)	Jackson	MD-D			NI	
Bolander's bluegrass *Poa bolanderi*			BT		Montane open pine forests	Jackson	MD-D LV-S			NI	
Loose-flowered bluegrass *Poa laxiflora*			BT	S	Wet cliffs in the coast mountains.	Coos	CB-D			NI	
Piper's bluegrass *Poa piperi*			BT		Open rocky serpentine areas.	Coos	CB-D MD-D			NI	
Timber bluegrass *Poa rhizomata*			BA		Dry Douglas-fir/ponderosa pine forests.	Jackson	MD-D			NI	
Profuse-flowered mesa mint *Pogogyne floribunda*			BS		Vernal pools, seasonal lakes.	Klamath	LV-D			NI	
California sword-fern *Polystichum californicum*			BA	S	Creek banks and canyons in redwoods and mixed evergreen forests.	Coos Douglas	CB-D RO-D	UMP-D		NI	
Rafinesque's pondweed *Potamogeton diversifolius*			BA		Shallow water, ditches, ponds, lakes.	Klamath	LV-S			NI	
Fibrous pondweed *Potamogeton foliosus var. fibrillosus*			BA		Shallow water, ditches, ponds, lakes, streams.	Klamath	LV-S			NI	
Dwarf alkaligrass *Puccinellia pumila*			BT		Marshes and flats.	Coos Douglas	CB-D			NI	
California chicory			BT		Chaparral, recent burns,	Jackson	MD-D			NI	

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Rafinesquia californica					in the Applegate Valley.						
Southern Oregon buttercup *Ranunculus austrooreganus*		C	BS		Oak woodlands, chaparral and dry grasslands.	Jackson	MD-D			NI	
Redberry *Rhamnus ilicifolia*			BA	S	Chaparral in Applegate Valley	Jackson	MD-S	RRS-D		NI	
White beakrush *Rhynchospora alba*			BT		Marshes, bogs.	Jackson	CB-D			NI	
Klamath gooseberry *Ribes inerme var. Klamathense*			BT		Riparian, forest edges.	Douglas Jackson Klamath	MD-D LV-S			NI	
Thompson's mistmaiden *Romanzoffia thompsonii*			BS	S	Sunny, vernally wet mossy rocks.	Douglas Jackson	CB-D MD-S RO-D	RRS-D UMP-D		NI	
Columbia cress *Rorippa columbiae*		C	BS	S	Along intermittent and perennial streams and lakeshores: banks, sandbars, vernal pools, lakebeds, and ditches.	Klamath	LV-D	RRS-S F-W-D		NI	
Water-pimpernel *Samolus parviflorus*			BT		Moist sites.	Coos? Douglas	CB-D			NI	
Joint-leaved saxifrage *Saxifragopsis fragarioides*			BA	S	Grows on dry cliffs in the high Siskiyou Mountains.	Jackson	MD-S	RRS-S		NI	
American Scheuchzeria *Scheuchzeria palustris ssp. Americana*			BA	S	Grows in ponds and along streams in Oregon Cascades.	Douglas Klamath	LV-S	UMP-D F-W-D		NI	
Water clubrush *Schoenoplectus subterminalis (formerly Scirpus subterminalis)*			BA	S	Lakes, ponds, marshes.	Coos Douglas Klamath	CB-D RO-S LV-S	RRS-S UMP-D		NI	
Slender bulrush			BT		Lake margins	Klamath	LV-S			NI	

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Scirpus heterochaetus											
Drooping bulrush *Scirpus pendulus*			BA	S	Marshes, wet meadows, ditches.	Jackson	CB-S MD-D	RRS-D		NI	
Scribner's grass *Scribneria bolanderi*			BT	S	Shallow soil on open rocky scabland.	Jackson	MD-D			NI	
Heckner's stonecrop *Sedum laxum ssp. heckneri*			BT	S	Grows in dry areas in peridotite and gabbro rock outcrops; Elevation 4500 - 5300 feet.	Douglas Jackson	CB-S MD-D RO-S	RRS-D		NI	
Applegate stonecrop *Sedum oblanceolatum*		C	BS	S	Rock outcrops in the Applegate Valley.	Jackson	MD-D	RRS-D		NI	
Purdy's stonecrop *Sedum spathulifolium ssp. Purdyi*			BT		Rock outcrops.	Douglas Jackson	MD-D RO-D			NI	
Bog groundsel *Senecio triangularis var. Angustifolius*			BT		Sphagnum bogs near the coast.	Coos	CB-D			NI	
Cusick's checker-mallow *Sidalcea cusickii*			BT		Open fields and roadsides, heavy soils in valleys.	Coos Douglas Jackson?	CB-D MD-S RO-D			NI	
Henderson sidalcea *Sidalcea hendersonii*	SOC		BS		Wet meadows, tidal marshes and flats at low elevations.	Douglas	CB-S			NI	
Hickman's checkerbloom *Sidalcea hickmanii ssp. nov.*			BS		Shallow soil in open rocky areas. Known from one site in Sams Valley.	Jackson	MD-D			NI	
Coast checker bloom *Sidalcea malvaeflora ssp. patula*	SOC	C	BS	S	Open Coastal Forest	Coos	CB-D			NI	
Lemmon's catchfly *Silene lemmonii*			BT		Forest openings, granitic soils.	Jackson	MD-D LV-D			NI	
Fringed campion			BT		Shrubland, Juniper	Klamath	LV-D			NI	

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Silene nuda ssp. Insectivora					woodland, coniferous forest.						
Hitchcock's blue-eyed grass *Sisyrinchium hitchcockii*	SOC		BS		Known in the Umpqua and southern Willamette valleys.	Douglas	RO-D			NI	
California smilax *Smilax californica*			BT		Riparian zones, along small to large streams.	Jackson	CB-S MD-D			NI	
Parhish's horse-nettle *Solanum parishii*			BA		Chaparral, dry conifer openings, recent burns.	Jackson	MD-D			NI	
Howell's tauschia *Tauschia howellii*	SOC	C		S	Granitic gravel ridgetops above 6000 feet	Jackson		RRS-D		NI	
Short-podded thelypody *Thelypodium brachycarpum*			BA	S	Alkaline flats, lake margins in shrub steppe and near edges of pine forests.	Klamath	LV-S	F-W-D		NI	
Siskiyou mtn. Pennycress *Thlaspi montanum var. Siskiyouense*			BT		Open serpentine grasslands and rock outcrops.	Douglas	CB-S MD-D			NI	
Threerib arrowgrass *Triglochin striatum*			BT		Saline or brackish marshes.	Coos	CB-D			NI	
Yellow brodiaea *Triteleia crocea var. Crocea*			BT		Open conifer forest, dry slopes.	Jackson	MD-D			NI	
Leach's brodiaea *Triteleia hendersonii var. leachiae*	SOC	C	BS	S	Open and wooded slopes in the Siskiyou Mountains of Josephine, Curry, and Douglas counties.	Coos	CB-D MD-S			NI	
Sierra brodiaea *Triteleia ixioides ssp. anilina*			BA	S	Coniferous forest edge, often in sand or gravel	Jackson	MD-S	RRS-S		NI	
Golden triteleia *Triteleia ixioides ssp. Scabra*			BT		Scrub edges, mixed conifer forest, in clay and granite soils.	Jackson	MD-S			NI	
Humped bladderwort *Utricularia gibba*			BA	S	Shallow water, mud.	Coos	CB-D RO-S			NI	
Lesser			BA		Shallow water.	Coos	CB-D			NI	

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bladderwort *Utricularia minor*						Douglas Jackson Klamath	RO-S MD-S LV-S				
Wild bog cranberry *Vaccinium oxycoccos*			BT		Bogs, wet places.	Douglas	CB-S RO-S			NI	
Blue verbena *Verbena hastate* c/			BT		Wet places, ditches, marshes.	Douglas Jackson	MD-D RO-S			NI	
Aleutian violet *Viola langsdorfii*			BT		Moist places, bogs.	Coos	CB-S			NI	
Western bog violet *Viola primulifolia ssp. occidentalis*			BS	S	Serpentine bogs.	Douglas	CB-S MD-D			NI	
Columbia water-meal *Wolffia columbiana*			BA	S	Free floating in quiet water.	Douglas Jackson	MD-S RO-S	RRS-S UMP-S		NI	
Small-flowered death camas *Zigadenus fontanus*	SOC		BA		Rocky openings in chaparral in Applegate Valley	Jackson	MD-D			NI	

a/ Status Key:
Federal Status: E = Endangered, T = Threatened, C = Federal Candidate, SOC = Species of Concern,
State Status: SE = State endangered, ST = State threatened, C = State Candidate
BLM Status: BS = BLM Sensitive, BA = BLM Assessment, BT = BLM Tracking
USFS: S = Sensitive
BLM and USFS: SM = Survey and Manage species

b/ Occurrence Key:
BLM Districts and USFS Forests noted if the species has been documented or suspected within the management area.

c/ ORNHIC (2007a, b) dropped from rare species list in March 2007 because too common.

BLM Districts: CB = Coos Bay District, RO = Roseburg District, MD = Medford District, LV = Lakeview District
USFS Forests: F-W = Fremont-Fremont-Winema National Forest, RRS = Rogue River-Siskiyou National Forest, UMP = Umpqua National Forest
D = Documented within BLM or USFS management area.
S = Suspected within BLM or USFS management area.

Pacific Connector Project Area: Botanical species documented within 500 feet of proposed project area.
References

TABLE H-8

Special Status Plant (Vascular and Non-Vascular) Species that may Occur Near the Project

Common Name and/or Scientific Name	Status a/				Expected Habitat	Documented or Suspected Occurrence b/				Effect of Impact	Impact Reasoning
						Districts/Forests					
	Federal	State	BLM	USFS		County	BLM	USFS	Vicinity of Pipeline (≤ 500 feet)		
Status: USFS 2006a; ORNHIC 2004a and b ; ORNHIC 2006e; ODA 2006a, USFS 2006a. Expected Habitat: ORNHIC 2006e; Eastman 1990; ORNHIC 2006a; Pojar and MacKinnon 1994; BLM 2004; Hickman 1993; Hitchcock et al. 1969; Castellano et al. 1999; Arora 1986; Christy and Wagner 1996; Lawton 1971; Norris and Shevok 2004a and b; McCune and Geiser 1997; Brodo et al. 2001. Documented Occurrences: BLM 2006; ORNHIC 2004b, 2006a; USFS 2006b; NRCS 2007.											