

	A	B	C	D	E
1		Date:	Site Name:		Investigator:
2	Office Data Form (OF). ORWAP version 2.0.1. Answering many of the following questions requires viewing aerial imagery and maps, covering an area up to within 2 miles of the AA. In the Data column, change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Do not write in any shaded parts of this data form. Questions whose cells in column D have a " W " MUST be answered only for the ENTIRE wetland. Italicized indicators pertain only to wetland values. Although some land cover types (e.g., crops) can vary greatly from year to year, report only the conditions known to prevail during the majority of the past 5 years, or if unknown, then the conditions found in the available aerial imagery. Please do not attempt to fill out this data form until you're familiar with the accompanying manual.				
3	#	Indicator	Conditions	Data	Explanations, Definitions
4	D1	Mitigation Investment	The AA is all or part of a mitigation site used explicitly to offset impacts elsewhere (0= no, 1= yes)		[PUv+]
5			(no information)		
6	D2	Conservation Investment	The AA is part of or contiguous to a wetland on which public or private organizational funds were spent to preserve, create, restore, or enhance habitat mainly as part of avoluntary effort not used explicitly to offset impacts elsewhere (0= no, 1= yes)		voluntary= WRP, CRP, land trust easements with partial public funding, etc. Locations of OWEB-funded projects are mapped at <a href="http://www.oregonexplorer.info/owri_vistool/Intro.aspx">http://www.oregonexplorer.info/owri_vistool/Intro.aspx</a> [PUv+]
7			(no information)		
8	D3	Normal Land Cover	This AA (a) is not along (or in the biennial floodplain of) a large stream or river where riparian woodlands would be typical and (b) had a Presettlement vegetation class not dominated by trees as indicated by the Wetlands Explorer web site: <a href="http://www.oregonexplorer.info/wetlands/ORWAP">www.oregonexplorer.info/wetlands/ORWAP</a> . Enter 1 if both are true, 0= if not.		If the openness of the surrounding landscape is due almost entirely to agriculture and other human activities occurring within the past century, do not answer affirmatively. This question is used as a classification variable mainly to set appropriate expectations for the extent of surrounding forest cover. [INVc,FAc,FRc,SBMc,PD,CQc,SENSc]
9	D4	Enclosed by Roads	Draw a circle of radius of 2 miles centered on the AA. Within that circle, do paved roads completely encircle the AA? (0= no, 1= yes)		See illustration in Appendix A of the manual. Consider only paved roads expected to have at least 1 vehicle per hour, and which are visible in aerial imagery. Presence of culverts or bridges along the roads is irrelevant. Do not consider other potential barriers to wildlife movement (e.g., large rivers, fields). [AM-,SBM-,Stress+]
10	D5	Distance to Nearest Busy Road	The distance from the center of the AA to the nearest road with an average daytime traffic rate of at least 1 vehicle/ minute is:		Estimate the traffic rate using your judgment and considering the road width, local population, alternate routes, and other factors. [AM-,WBN-,SBM-, PD-,STR+]
11			>1 mile		
12			0.5- 1 mile		
13			1000-2600 ft		
14			500-1000 ft		
15			100-500 ft		
16			<100 ft		
17	D6	Forest Landscape Extent	Draw a circle of radius of 2 miles centered on the AA. Including the AA itself, the cumulative amount of forest (regardless of patch sizes) is:		Forested= woody vegetation currently taller than 20 ft, and with >70% canopy closure. [SBM+]
18			<5% of the circle		
19			5 to 20%		
20			20 to 50%		
21			50 to 80%		
22			>80%		
23	D7	Forest Tract Proximity	The minimum distance from the AA edge to the closest forested tract or corridor larger than 100 acres is:		forested tract= a land cover patch that has >70% tree cover. A corridor is simply an elongated forested patch that is not narrower than 150 ft at any point. "Not separated" from the AA means not separated by roads or other features that create a tree canopy gap wider than 150 ft. [SBM+]
24			<100 ft, or contiguous and not separated from the AA by impervious surface, open water, bare dirt, or lawn		
25			100-300 ft; or <100 ft but separated by impervious surface, open water, bare dirt, or lawn		
26			300-1000 ft		
27			>1000 ft		

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28	D8	Size of Nearby Forest	The largest patch or corridor within 0.5 mile of the AA edge that is forested (and not separated from the AA by roads, fields, etc. that create a gap wider than 150 ft), occupies:		The patch or corridor may either be entirely or only partially within the 0.5 mile distance. Disqualify any patch or corridor of forest where canopy thins to <70% cover, or where the forested patch becomes separated from the AA by a tree canopy gap of >150 ft or where the forested corridor narrows to less than 150 ft width. See diagram in Appendix A of the manual. [SBM+]
29			<1 acre of forest		1 acre is about: 200 ft on a side (if square)
30			1-10 acres		10 acres is about: 660 ft on a side
31			10-100 acres		100 acres is about: 0.5 mile on a side
32			100-1000 acres		1000 acres is about: 1 mile on a side
33			>1000 acres		
34	D9	Natural Land Cover Extent	Within a 2-mile radius measured from the center of the AA, the percent of the land that has <i>natural land cover</i> (see definition on right) is:		Natural land cover includes wooded areas, native prairies, sagebrush, vegetated wetlands, as well as relatively unmanaged commercial lands such as ryegrass fields, hayfields, lightly grazed pastures, timber harvest areas, and rangeland. It does not include water, row crops (vegetable, orchards, Christmas tree farms), residential areas, golf courses, recreational fields, pavement, bare soil, rock, bare sand, or gravel or dirt roads. Natural land cover is not the same as native vegetation. It frequently includes a dominance of non-native plants (e.g., cheat grass, Himalayan blackberry). Although some land cover types (e.g., crops) can vary greatly from year to year, report only the conditions known to prevail during the majority of the past 5 years, or if unknown, then the conditions found in the available aerial imagery. [AM+,SBM+]
35			<5% of the land		
36			5 to 20% of the land		
37			20 to 60% of the land		
38			60 to 90% of the land		
39			>90% of the land		
40	D10	Type of Land Cover Alteration	Within a 2-mile radius measured from the center of the AA, the area that is not "natural land cover" or water is mostly:		[POL-,AM+,SBM+]
41			impervious surface, e.g., paved road, parking lot, building, exposed rock		
42			bare pervious surface, e.g., dirt or gravel road, plowed fields, dunes, recent clearcut or landslide		
43			cultivated row crops, orchards, vineyards, tree plantations		
44			artificially landscaped areas or lawn		
45			grassland grazed or mowed to a height usually shorter than 4 inches		
46			other		
47			(none of above; land cover is >90% natural land cover)		
48	D11	Proximity to Natural Land Cover	The minimum distance from the AA edge to the edge of the closest tract or corridor of natural (not necessarily native) land cover larger than 100 acres, is:		Natural land cover includes wooded areas, native prairies, sagebrush, vegetated wetlands, as well as relatively unmanaged commercial lands such as ryegrass fields, hayfields, lightly grazed pastures, timber harvest areas, and rangeland. It does not include water, row crops (vegetable, orchards, Christmas tree farms), residential areas, golf courses, recreational fields, pavement, bare soil, rock, bare sand, or gravel or dirt roads. Natural land cover is not the same as native vegetation. It frequently includes a dominance of non-native plants (e.g., cheatgrass, Himalayan blackberry). [POL+,INV+,AM+,SBM+,Sens-]
49			<100 ft, or the AA contains >100 acres of vegetation, or >100 acres of natural land cover is connected to the AA (not separated by impervious surface or wide (>150 ft) stretches of open water, bare ground, or lawn)		
50			<100 ft, but separated from the wetland by impervious surface or wide (>150 ft) stretches of open water, bare ground, or lawn		
51			100-300 ft; and not separated from the wetland by impervious surface or wide (>150 ft) stretches of open water, bare ground, or lawn		
52			100-300 ft, but separated from the wetland by impervious surface or wide (>150 ft) stretches of open water, bare ground, or lawn		
53			NONE of the above		
54	D12	Size of Largest Nearby Tract or Corridor of Natural Land Cover	The largest patch or corridor that is natural land cover and is within 0.5 mile of the AA edge, and not separated from the AA by roads etc. that create gaps wider than 150 ft, occupies:		The patch or corridor may either be entirely or only partially within the 0.5 mile distance. Disqualify any patch or corridor of natural land cover where it becomes separated from the AA by a gap of >150 ft, if the gap is comprised of impervious surface, bare dirt, or lawn, or if the natural land corridor narrows to less than 150 ft. [POL+,AM+,WBN+,SBM+, Sens-]
55			<1 acre		1 acre is about: 200 ft on a side (if square)
56			1-10 acres		10 acres is about: 660 ft on a side
57			10-100 acres		100 acres is about: 0.5 mile on a side
58			100-1000 acres		1000 acres is about: 1 mile on a side
59			>1000 acres		

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60	D13	Local Wetland Uniqueness	Within 0.5 mile of the center of the AA, the AA and vegetation of the same form that is contiguous to the AA together provide (select all that apply):		This question will require field verification. In all cases, the patch may be entirely within the wetland, or may cover only part of the wetland but extend into contiguous upland. Likewise the patches to which it is being compared may be entirely or only partially within the 0.5 mile radius. There is no minimum size limit. [POLv+,AMv+,WBNv+,SBMv+,PDv+]
61			the largest patch of currently ungrazed, unmowed, and unshaded herbaceous vegetation		
62			the largest patch of unshaded shrubland (excluding plantations)		
63			the largest patch of deciduous or evergreen trees (excluding plantations)		
64			NONE of above		
65	D14	Herbaceous Open Land in Landscape	Draw a circle of radius of 2 miles centered on the AA. The amount of herbaceous openland is:		Herbaceous openland can include (for example) pasture, herbaceous wetland, meadow, prairie, ryegrass fields, row crops, plowed land, herbaceous rangeland, golf courses, grassed airports, and hayfields but only if they are known to be in flat terrain (almost no noticeable slope). Do not include open water of lakes, ponds, or rivers. See photographs in Appendix A of manual. In dry parts of the state, croplands in flat areas are often irrigated and are distinctly greener in aerial images. [POLv+,WBF+]
66			<5% of the land		
67			5 to 20%		
68			20 to 50%		
69			50 to 80%		
70			>80%		
71	D15	Proximity to Open Land	The distance from the AA edge to the closest patch of herbaceous openland larger than 1 acre is:		See definition of herbaceous openland above, and photographs in Appendix A of manual. Must be in flat terrain. [POLv+,WBF+]
72			<100 ft, or the AA contains >1 acre of such cover, or is contiguous to >1 acre of such cover		
73			100 to 300 ft		
74			300 to 1000 ft		
75			>1000 ft		
76	D16	Ponded Water in Landscape	Draw a circle of radius of 2 miles centered on the AA. Including water ponded in the AA itself or in a fringing water body, the amount of non-tidal water that is ponded during most of the year is:		Ponded water = any surface water that is not obviously part of a river, stream, or tidal system. Include herbaceous (emergent) wetlands larger than 1 acre if they are inundated and water is ponded at least seasonally. Consult the online wetland maps at Wetland Explorer. [AM+,WBF+,WBN+,SBM+,Sens-]
77			<5% of the circle, located in 5 or fewer ponds or lakes		
78			<5% of the circle, located in >5 ponds or lakes		
79			5 to 30%, located in 10 or fewer ponds or lakes		
80			5 to 30%, located in >10 ponds or lakes		
81			>30%, located in 15 or fewer ponds or lakes		
82			>30%, located in >15 ponds or lakes		
83	D17	Ponded Water Proximity	The minimum distance from the AA edge to the closest non-tidal wetland, pond, or lake that is larger than 1 acre, is ponded most of the year, and is not part of the same associated wetland, pond, or lake, is:		If multiple smaller water bodies are separated by <150 ft they may be combined when evaluating acreage. "Uninterrupted" means no impervious surfaces wider than 150 ft interrupt the corridor. "Natural" land corridor means a corridor comprised of natural land cover as defined in D9 above. Consult wetland maps, considering only those polygons whose water regime may be "permanent," "intermittently exposed," or "semipermanent" (codes F, G, or H on NWI maps). [AM+,WBF+,WBN+,SBM+,Sens-]
84			<300 ft, and connected with a natural land corridor		
85			<300 ft, but no uninterrupted natural land corridor		
86			300-1000 ft, and connected with a natural land corridor		
87			300-1000 ft, but no uninterrupted natural land corridor		
88			>1000 ft, and connected with a natural land corridor		
89			>1000 ft, but no uninterrupted natural land corridor		
90	D18	Large Ponded Water Proximity	The distance from the AA edge to the closest (but separate) non-tidal body of water that is ponded during most of the year and is larger than 20 acres (about 1000 ft on a side) is:		If multiple smaller water bodies are separated by <150 ft they may be combined when evaluating acreage. Consult wetland maps, considering only those polygons whose water regime may be "permanent," "intermittently exposed," or "semipermanent" (codes F, G, or H on NWI maps). [WBF+,WBN+,Sens-]
91			<1 mile		
92			1-5 miles		
93			>5 miles		

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94	D19	Tidal Proximity	The distance from the AA edge to the closest tidal body of water is:		[CS+,WBF+]
95			<1 mile		
96			1-5 miles		
97			>5 miles		
98	D20	<i>Upslope Soil Erodibility Risk</i>	Using the Web Soil Survey procedure described in the ORWAP manual, the rating of the soil map unit which occupies the largest percentage of the zone 200 ft uphill from the AA is:		See the ORWAP manual for instructions on how to obtain this information online. [SRV+, Sens-]
99			very severe		
100			severe		
101			moderate		
102			slight		
103			(could not determine)		
104	D21	Extent of Dominant Vegetation Class in Wetland	Using the Web Soil Survey AOI tool to measure it, what is the area of the largest patch of emergent, shrub, or forest vegetation within the entire wetland of which the AA is a part? Use just the dominant class. See instructions in last column.	W	When drawing the polygon around the patch, exclude vegetation of the same patch type if separated by a gap created by open water, a road, dike, or upland that is wider than 150 ft. [WBF+, WBN+, SBM+, POL+, Sens-]
105			<0.1 acre		
106			0.1 - 1 acre		
107			1 to 10 acres		
108			10 to 100 acres		
109			100 to 1000 acres		
110			>1000 acres		
111	D22	<i>Wetland Size Uniqueness in Watershed</i>	From the Wetlands Explorer web site (see Manual), note the 12-digit code number for this wetland's HUC6 (Hydrologic Unit Code, i.e., watershed). Then turn to the HUC4, HUC5, and HUC6 worksheets in the ORWAP_SupplInfo file and compare the extent of the wetland's dominant vegetation form (from above) with that of the largest wetlands of the same class in the same HUC4 (first 8 digits), the same HUC5 (first 10 digits), and the same HUC6 (12 digits). Enter "1" for all that apply below:	W	"of its type" means Cowardin system and class. First determine size importance in HUC6 and if criteria met, then also screen for importance in HUC5 and if met then in HUC4. Alternatively, instead of checking the worksheets, you may go to the Wetland Explorer web site, locate this wetland, activate the boundaries for wetlands plus the HUC4, 5, and 6, and then determine visually if this is the largest wetland of its class. Note that data are lacking for some HUCs. [WBFV+, WBNV+, SBMV+]
112			the vegetated part of this wetland is as large or larger than any of its class mapped in its HUC4 watershed		
113			the vegetated part of this wetland is as large or larger than any of its class mapped in its HUC5 watershed		
114			the vegetated part of this wetland is as large or larger than any of its class mapped in its HUC6 watershed		
115			none of above		
116			data are inadequate (NWI mapping not >90% completed in HUC)		
117	D23	<i>Wetland Number &amp; Diversity Uniqueness</i>	Turn to the HUCdiverse worksheet in the ORWAP_SupplInfo file. Using the HUC code noted from the web site, is this AA located in one of the HUCs that are listed as having a large diversity of wetland types relative to area of wetlands (column 3), or a large number (column 4) or area (column 5) of wetlands relative to area of the HUC? Enter "1" for all that apply below:		"type diversity" was based on Cowardin system and class (e.g., Palustrine emergent). Note that data are lacking for some HUCs. The criteria used to define "large" diversity of types, large number of wetlands, and large proportional area were based on the residuals of regression of those variables against wetland area or numbers in the associated HUC. The top 5% of the residuals were used to identify the most outstanding wetlands in each category. [AM+, WBF+, WBN+, SBM+]
118			yes, for the HUC4 watershed		
119			yes, for the HUC5 watershed		
120			yes, for the HUC6 watershed		
121			none of above		
122			data are inadequate (NWI mapping not completed in HUC)		

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123	To answer most of the following questions, you must obtain specific information from web sites or agencies as indicated in the Manual or in the last column (E). In a few cases you may need to also examine aerial imagery. In the Data column (D), change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated.				
124	D24	Historical Hydrologic Connectivity	Compared to extent of wetland that may have been originally present at this location (just prior to settlement in 1851), the current wetland is:	W	"Originally present" means immediately prior to widespread settlement of the region by western cultures (generally, about 1850). See ORWAP manual (section 2.2.8) for instructions on how to see hydric soils in the vicinity. If the hydric soil map units that intersect the wetland are together much larger than the wetland, assume fragmentation has occurred. If possible, also see maps of pre-settlement vegetation (available from ORNHIC for parts of Oregon), and topography. [CQ+]
125			same size and boundaries, approximately. For example, wetland boundary may be nearly identical to hydric soil boundary		
126			smaller (50-99% of the original size) and/or severed (by roads, dikes, drained soils, etc) from a few historically connected wetlands that may no longer exist. Soil map may show hydric soil extending somewhat beyond current wetland boundary.		
127			much smaller (<50% of the original size) and/or extensively severed (by roads, dikes, drained soils) from many historically connected wetlands that may no longer exist. Soil map may show hydric soil extending far beyond current wetland boundary.		
128			larger (due to damming of stream or runoff, excavation, removal of obstructions, irrigation, etc. that floods soils not mapped as hydric) or has been connected to wetlands from which it existed in isolation just prior to settlement.		
129			no wetland is known to have been present at this location originally (no hydric soil is mapped and presettlement vegetation was not wetland; the entire wetland may have resulted from impoundment, excavation, or regrading of upland soils)		
130	D25	Special Conservation Designations of the Wetland or Local Area	Go to the Oregon Wetlands Explorer web site or other sources noted below and use those to help determine each of the following:		
131			a) the AA is within or is connected to (at least seasonally) a stream or other water body within 0.5 mile that has been designated as Essential Indigenous Anadromous Salmonid Habitat (ESH)		You must use information not contained on the Wetlands Explorer web site to determine if such a connection exists at least seasonally. Many potential blockages along streams are shown in maps that may be downloaded from: <a href="http://nrimp.dfw.state.or.us/nrimp/default.aspx?pn=fishbarriermaps">http://nrimp.dfw.state.or.us/nrimp/default.aspx?pn=fishbarriermaps</a>
132			b) the AA is within or contiguous to a Special Protected Area managed by a conservation group or designated as specially protected for conservation by a state or federal resource agency,		This includes BLM Area of Critical Environmental Concern (ACEC) or Outstanding Natural Area (ONA), Federal Research Natural Area (RNA) or Special Interest Area (SIA), or Natural Heritage Conservation (NHCA), Land Trust and Nature Conservancy Preserves, and others.
133			c) the AA is within or contiguous to a Wetland Priority Area as determined partly by ODFW		As recognized by the Oregon Wildlife Conservation Strategy or the Oregon Natural Heritage Program
134			d) the AA is within an IBA (Important Bird Area, as officially designated) and listed in the IBA worksheet in the ORWAP_SupplInfo file		
135			NONE of above		
136	D26	Non-anadromous Fish Species of Conservation Concern	According to the Wetlands Explorer web site, the score for occurrences of rare non-anadromous fish species in the vicinity of this AA is:		Species include Pit-Klamath brook lamprey (S3), Miller Lake lamprey (S1), Klamath lamprey (S3), Malheur mottled sculpin (S3), Margined sculpin (S3), Slender sculpin (S3), Alvord chub (S2), Tui chub (S), Borax Lake chub (S1), Speckled dace (SS), Oregon chub (S2), Umpqua chub (S2), Modoc sucker (S1), Klamath smallscale sucker (SS), Warner sucker (S1), Shortnose sucker (S1), Pit Sculpin (S1), Klamath Lake Sculpin (S3), Bull Trout (S3), Blue Chub (S3), Umpqua Dace (S3), Lahontan Redside (S2), Klamath Largescale Sucker (S3), Tahoe Sucker (S1), Lost River Sucker (S1), Sacramento Perch (S3). Note that for some of these species, only specific geographic populations are designated. S1 is the most imperiled, S3 less so, according to ratings by the Oregon Natural Heritage Information Center. [FRv+]
137			high ( $\geq 0.75$ for maximum score, or $\geq 0.90$ for score sum), or there is a recent (within 5 yrs) onsite observation of any of these species by a qualified observer under conditions similar to what now occur		
138			intermediate (i.e., not as described above or below)		
139			low ( $\leq 0.33$ for both the maximum score this group's score sum, but not 0 for both)		
140			zero for both this group's maximum and its sum score, and no recent onsite observation of these species by a qualified observer under conditions similar to what now occur		

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141	D27	<i>Invertebrate Species of Conservation Concern</i>	According to the Wetlands Explorer web site, the score for occurrences of rare invertebrate species in the vicinity of this AA is:		
142			high ( $\geq 0.75$ for maximum score, or for this group's score sum), or there is a recent onsite observation of any of these species by a qualified observer under conditions similar to what now occur		
143			low ( $< 0.75$ for maximum score AND for this group's score sum, but not 0 for both)		
144			zero for both this group's maximum and its sum score, and no recent onsite observation of these species by a qualified observer under conditions similar to what now occur		
145	D28	<i>Amphibian or Reptile of Conservation Concern</i>	According to the Wetlands Explorer web site, the score for occurrences of rare amphibian or reptile species in the vicinity of this AA is:		Species include: Painted Turtle (S2), Northwestern Pond Turtle (S2), Clouded Salamander (S3), Oregon Slender Salamander (S2), Larch Mountain Salamander (S2), Siskiyou Mountains Salamander (S2), Cope's Giant Salamander (S2), Cascade Torrent Salamander (S3), Columbia Torrent Salamander (S3), Coastal Tailed Frog (S3), Inland Tailed Frog (S2), Northern Red-legged Frog (S3), Foothill Yellow-legged Frog (S2), Cascades Frog (S3), Northern Leopard Frog (S1), Oregon Spotted Frog (S2), Columbia Spotted Frog (S2), Great Basin Back-collared Lizard (S3), Desert Horned Lizard (S3), Night Snake (S3), Common Kingsnake (S3), Ground Snake (S3). [AMv+]
146			high ( $\geq 0.60$ for maximum score, or $> 0.90$ for score sum), or there is a recent onsite observation of any of these species by a qualified observer under conditions similar to what now occur		
147			intermediate (i.e., not as described above or below)		
148			low ( $\leq 0.21$ for maximum score AND $< 0.15$ for score sum, but not 0 for both)		
149			zero for both this group's maximum and its sum score, and no recent onsite observation of these species by a qualified observer under conditions similar to what now occur		
150	D29	<i>Nesting Waterbird Species of Conservation Concern</i>	According to the Wetlands Explorer web site, the score for occurrences of rare nesting waterbird species in the vicinity of this AA is:		Species include: Red-necked Grebe (S1), Am. White Pelican (S2), Snowy Egret (S2), Barrow's Goldeneye (S3), Bufflehead (S2), Yellow Rail (S1), Sandhill Crane (S3), Snowy Plover (S2), Black-necked Stilt (SS), Long-billed Curlew (S3), Franklin's Gull (S2), Caspian Tern (SS). [WBNv+]
151			high ( $\geq 0.60$ for maximum score, or $\geq 1.00$ for this group's score sum), or there is a recent onsite observation of any of these species by a qualified observer under conditions similar to what now occur		
152			intermediate (i.e., not as described above or below)		
153			low ( $\leq 0.09$ for maximum score and for score sum, but not 0 for both)		
154			zero for both this group's maximum and its sum score, and no recent onsite observation of these species by a qualified observer under conditions similar to what now occur		
155	D30	<i>Feeding (Non-breeding) Waterbird Species of Conservation Concern</i>	According to the Wetlands Explorer web site, the score for occurrences of rare non-breeding (feeding) waterbird species in the vicinity of this AA is:		"Non-breeding" mainly refers to waterbird feeding during migration and winter. [WBFv+]
156			high ( $\geq 0.33$ for maximum score, or there is a recent onsite observation of any of these species by a qualified observer under conditions similar to what now occur		
157			low ( $< 0.33$ for maximum score and for score sum, but not 0 for both)		
158			zero for both this group's maximum and its sum score, and no recent onsite observation of these species by a qualified observer under conditions similar to what now occur		
159	D31	<i>Songbird, Raptor, Mammal Species of Conservation Concern</i>	According to the Wetlands Explorer web site, the score for occurrences of rare songbird, raptor, or mammal species in the vicinity of this AA is:		Species include: Bald Eagle (SS), Northern Goshawk (S3), Swainson's Hawk (S3), Ferruginous Hawk (S3), Peregrine Falcon (S1), Band-tailed Pigeon (S3), Flammulated Owl (S3), Burrowing Owl (S3), Spotted Owl (S3), Great Gray Owl (S3), Short-Eared Owl (SS), Common Nighthawk (SS), Lewis's Woodpecker (S3), White-Headed Woodpecker (S2), Black-Backed Woodpecker (S3), American Three-toed Woodpecker (S3), Pileated Woodpecker (SS), Olive-sided Flycatcher (S3), Willow Flycatcher (SS), Horned Lark (SS), Purple Martin (S2), White-breasted (Slender-billed) Nuthatch (SS), Blue-gray Gnatcatcher (S3), Varied Thrush (SS), Loggerhead Shrike (S3), Yellow-breasted Chat (SS), Chipping Sparrow (SS), Brewer's Sparrow (SS), Vesper Sparrow (SS), Sage Sparrow (SS), Grasshopper Sparrow (S2), Western Meadowlark (SS), Fringed Myotis (S2), Long-Legged Myotis (S3), California Myotis (S3), Silver-haired Bat (S3), Hoary Bat (S3), Spotted Bat (S2), Townsend's Big-eared Bat (S2), Pallid Bat (S2), Red Tree Vole (S3), Kit Fox (S1), Ringtail (S3), American Marten (S3), Fisher (S2), Columbian White-Tailed Deer (SS). [SBMv+]
160			high ( $\geq 0.60$ for maximum score, or $> 1.13$ for score sum), or there is a recent onsite observation of any of these species by a qualified observer under conditions similar to what now occur		
161			intermediate (i.e., not as described above or below)		
162			low ( $\leq 0.09$ for maximum score AND $< 0.13$ for score sum, but not 0 for both)		
163			zero for both this group's maximum and its sum score, and no recent onsite observation of these species by a qualified observer under conditions similar to what now occur		
164	D32	<i>Plant Species of Conservation Concern</i>	According to the Wetlands Explorer web site, the score for occurrences of rare plant species in the vicinity of this AA is:		[PDv+]
165			high ( $\geq 0.75$ for maximum score, or $> 4.00$ for score sum), or there is a recent onsite observation of any of these species by a qualified observer under conditions similar to what now occur		
166			intermediate (i.e., not as described above or below)		
167			low ( $\leq 0.12$ for maximum score AND $< 0.20$ for score sum, but not 0 for both)		
168			zero for both this group's maximum and its sum score, and no recent onsite observation of these species by a qualified observer under conditions similar to what now occur		

	A	B	C	D	E
169	D33	<i>Floodable Property</i>	According to the Wetlands Explorer web site: The AA is tidal, or is either (a) not within a 100-yr floodplain of a river, or (b) there are no inhabited buildings or cropland within 2 miles downslope that are within the 100-yr floodplain. Mark "1" then SKIP TO D35. Inhabited buildings within 1 mile downslope from the AA also are within the 100-yr floodplain Croplands but no inhabited buildings are within 1 mile downslope from the AA, and that cropland is also within the 100-yr floodplain Inhabited buildings within 1-2 miles downslope from the AA are also within the 100-yr floodplain Croplands but no inhabited buildings are within 1-2 miles downslope from the AA, and that cropland is also within the 100-yr floodplain No floodplain data are available, and damage from river floods has not been known to have occurred within 2 miles downgradient. Mark "1" then SKIP to D35.		Do not consider pasture or hayfields to be "cropland." See the ORWAP manual for instructions on how to obtain this information online at <a href="http://www.oregonexplorer.info/wetlands/ORWAP">http://www.oregonexplorer.info/wetlands/ORWAP</a> [WSv+]
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176	D34	<i>Downslope Storage</i>	Between the AA and any floodable buildings or cropland located within 2 miles downslope: river flow is regulated and there are many seasonally ponded areas capable of storing water. river flow is regulated or there are many seasonally ponded areas capable of storing water. NONE of the above		"Seasonally ponded areas" includes (for example) detention ponds, reservoirs, and depressional wetlands [WSv-]
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180	D35	<i>Relative Elevation in Watershed</i>	According to Wetlands Explorer map showing this AA's position within its HUC4 watershed, the AA is [see last column and Manual for specific guidance]: in the upper one-third of its watershed in the middle one-third of its watershed in the lower one-third of its watershed		1) Which end of the HUC4 is the bottom? Where streams join, the "V" that they form on the map points towards bottom of the HUC4. 2) If the AA is closer to the HUC4's outlet than to its upper end, and is closer to the river or large stream that exits at the bottom of the HUC4 than it is to the boundary (margin) of the HUC4, then check "lower 1/3". If not near that river, check "middle 1/3". 3) If the AA is not in a 100-yr floodplain, is closer to the HUC4 upper end than to its outlet, and is closer to the boundary (margin) of the HUC4 than to the river or large stream that exits at the bottom of the HUC4, then check "upper 1/3". 4) For all other conditions, check "middle 1/3".
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184	D36	Contributing Area (CA) Percent	Based on the definition and protocol in the ORWAP manual, the area of the wetland (and of any lake or pond of which this AA is a part), relative to its contributing area (CA) is: <1% of its CA (true if wetland is tidal, or along major river, or has many tributaries, or gets substantial water drawn from other surface water bodies, e.g., flood irrigation) 1 to 10% of its CA 10 to 100% of its CA Larger than the area of its CA (wetland has essentially no CA, e.g., isolated by dikes with no input channels, or is in terrain so flat that a CA can't be delineated). SKIP TO D40.	W	The CA is basically the upslope area that has the potential to deliver water to the wetland. The CA boundary typically does not cross any streams or ditches except the one at the wetland outlet (if any). If the wetland is on the fringe of a pond or lake, compare the area of that water body to its contributing area -- not the area of the wetland compared to the wetland's contributing area. For most wetlands, and especially ones containing tributaries, the first choice will be the most appropriate. [WSv+,SRv+,PRv+,NRv+,Sens+]
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189	D37	Unvegetated Surface in the Contributing Area	The proportion of the CA comprised of buildings, roads, parking lots, other pavement, exposed bedrock and other impervious surface is about: >25% 10 to 25% <10%, or wetland is tidal	W	[WSv-,SRv-,PRv-,NRv-]
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	A	B	C	D	E
193	D38	Upslope Storage	The cumulative area of seasonally ponded areas in the same CA is:	W	"Seasonally ponded area" includes (for example) detention ponds, reservoirs, and depressional wetlands [WSv-,SRv-,PRv-,NRv-]
194	Much (>10x) greater than the area of this wetland (plus any contiguous pond or lake), or inflow is strongly regulated by dams etc.				
195	Somewhat greater than the area of this wetland (plus any contiguous pond or lake) and flows to wetland are not strongly regulated				
196	Less than the area of this wetland (plus any contiguous pond or lake), or wetland is tidal, or no upslope wetlands/ ponds and no inflow regulation				
197	D39	Transport From Upslope	A relatively large proportion of the precipitation that falls farther upslope in the CA reaches this wetland quickly as runoff (surface water), as indicated by the following: (a) input channel is present, (b) CA slopes are steep, (c) input channels have been straightened, (d) upslope wetlands have been ditched extensively, (e) land cover is mostly non-forest, and/or (f) most CA soils are shallow and/or have high runoff coefficients). This statement is:	W	[WSv+,SRv+,PRv+,NRv+]
198	Mostly true				
199	Somewhat true				
200	Mostly untrue, or wetland is tidal				
201	D40	Known Water Quality Issues in the Input Water	Within 1 mile upstream from the wetland, at least one of the major sources of surface water to this wetland (at least seasonally) has been designated as Water Quality Limited (303d) for at least one of the parameters below. Obtain from web site only -- do not guess. Select all that apply.	W	See the ORWAP manual (section 2.2.7) for instructions on how to obtain this information online at <a href="http://deq12.deq.state.or.us/lasar2/default.aspx">http://deq12.deq.state.or.us/lasar2/default.aspx</a> [SRv+,PRv+,NRv+,TRv+,INV-,WBF-,WBN-,STR+]
202	total suspended solids (TSS), sedimentation, or turbidity				
203	phosphorus				
204	nitrate or ammonia				
205	toxics, dioxin, heavy metals (iron, manganese, lead, zinc, etc.)				
206	temperature				
207	None of above, or degraded water cannot reach wetland, or no data.				
208	D41	Known Water Quality Issues Below the Wetland	Within 1 mile downstream or downslope from this wetland, there is at least one stream or other water body that has been designated as Water Quality Limited (303d) for at least one of the parameters below. Obtain from web site only -- do not guess. Select all that apply.	W	See the ORWAP manual (section 2.2.7) for instructions on how to obtain this information online at <a href="http://deq12.deq.state.or.us/lasar2/default.aspx">http://deq12.deq.state.or.us/lasar2/default.aspx</a> [SRv+,PRv+,NRv+,TRv+,INV-,WBF-,WBN-,STR+]
209	total suspended solids (TSS), sedimentation, or turbidity				
210	phosphorus				
211	nitrate or ammonia				
212	toxics, dioxin, heavy metals (iron, manganese, lead, zinc, etc.)				
213	temperature				
214	None of above, or no data.				
215	D42	Type of Outflow Connection to 303d	At least part of the AA is connected to the downstream 303d water mentioned in D41 above:		persistent water= flows for more than 9 months during most years. [SRv+,PRv+,NRv+,TRv+,INV-,WBF-,WBN-,STR+]
216	for 9 or more continuous months annually (persistent water in a stream, ditch, lake, or other water body)				
217	intermittently (at least once annually, but for less than 9 months continually)				
218	Not connected, or connected less than annually				
219	D43	Drinking Water Source (DEQ)	According to the ODEQ LASAR database, the AA is within:		See the ORWAP manual (section 2.2.7) for instructions on obtaining this online from <a href="http://deq12.deq.state.or.us/lasar2/default.aspx">http://deq12.deq.state.or.us/lasar2/default.aspx</a> [NRv+]
220	the source area for a surface-water drinking water (DW) source				
221	the source area for a groundwater drinking water source				
222	Neither of above				

	A	B	C	D	E
223	D44	Groundwater Risk Designations	The AA is (select all that apply):		[NRv+]
224			within a designated Groundwater Management Area (ODEQ), see maps in Appendix A of ORWAP manual.		
225			within a designated Sole Source Aquifer area (EPA): the North Florence Dunal Aquifer. See map downloadable from: <a href="http://oregonstatelands.us/DSL/WETLAND/or_wet_prot.shtml">http://oregonstatelands.us/DSL/WETLAND/or_wet_prot.shtml</a>		
226			NONE of above		
227	D45	Mean Annual Precipitation	According to the PRISM Data Explorer (see ORWAP manual for instructions), annual precipitation in the vicinity of the wetland has normally been:		Obtain online as explained in Manual from: <a href="http://gisdev.nacse.org/prism/nn/index.phtml">http://gisdev.nacse.org/prism/nn/index.phtml</a> These categories reflect the 10th, 25th, 50th, 75th, and 90th percentiles of all points in a comprehensive spatial grid of annual precipitation points in Oregon, for the years 1971-2000. [INVv+,AMv+,WBFv+,WBNv+,SBMv+,PDv+,Sens-]
228			<10 inches per year		
229			10-12 inches per year		
230			13-19 inches per year		
231			20-47 inches per year		
232			48-77 inches per year		
233		>77 inches per year			
234	D46	County Rank for Phosphorus Loading	The phosphorus loading rank of the county in which the AA is located is: (select one); seeWQprob worksheet in ORWAP SuppInfo file.		If you don't know it, determine which county the wetland is in from the ODEQ web site <a href="http://deq12.deq.state.or.us/lasar2/default.aspx">http://deq12.deq.state.or.us/lasar2/default.aspx</a> as explained in Manual. Data used for these rankings are from a national survey by USGS and represent the combined inputs (kg of P per sq. km.) from fertilizer (2001) and livestock (average of the years 1982, 1987, 1992, and 1997). [PRv+]
235			top 4 in Oregon (Marion, Malheur, Umatilla, Linn)		
236			top 18 (see Table 6 in WQprob worksheet in file ORWAP_SuppInfo)		
237			bottom 18 (see Table 6 in WQprob worksheet)		
238			bottom 4 (Josephine, Hood River, Lincoln, Clatsop)		
239	D47	County Rank for Nitrogen Loading	The nitrogen loading rank of the county in which the AA is located is: (select one); seeWQprob worksheet in ORWAP SuppInfo file.		Determine county from a map or online from <a href="http://deq12.deq.state.or.us/lasar2/default.aspx">http://deq12.deq.state.or.us/lasar2/default.aspx</a> as explained in Manual. Data used for these rankings are from a national survey by USGS and represent the combined inputs (kg of N per sq. km.) from fertilizer, livestock, and atmospheric deposition of N during 2001. [NRv+]
240			top 4 in Oregon (Marion, Malheur, Umatilla, Linn)		
241			top 18 (see Table 7 in WQprob worksheet)		
242			bottom 18 (see Table 7 in WQprob worksheet)		
243			bottom 4 (Curry, Josephine, Lincoln, Clatsop)		
244	Answer these final two questions only if the AA is tidal.				
245	D48	Estuarine Position	The AA's relative position in the estuary is (SKIP if nontidal):		[WSv+,PR+,PD+]
246			lower 1/3 (often on a bay and distant from the head-of-tide of a major river; includes most saline tidal wetlands)		
247			mid 1/3		
248			upper 1/3 (near the head-of-tide of a major river; includes most brackish and fresh tidal wetlands)		
249	D49	Salinity	The usual maximum water-surface salinity during high tide in summer in the main channel or bay closest to the AA is (SKIP if nontidal):		Refer to maps in Appendix A of ORWAP manual or (preferably) determine this from field measurement or from data at the ODEQ LASAR web site (see ORWAP manual for instructions on accessing those data). [SR-,PR-,CS+,OE+,FA-,PD-]
250			>30 parts per thousand (undiluted seawater)		
251			5-30 ppt (mesohaline, polyhaline)		
252			0.5 - 5 ppt (oligohaline)		
253			<0.5 ppt (fresh)		
254		no data for nearby locations found at the ODEQ LASAR web site or from other sources			