

	A	B	C	D	E
1		Date:	Site Name:		Investigator:
2	<p><b>Field F data form. ORWAP version 2.0.1.</b> 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. Answer these questions primarily based on your onsite observations and interpretations. Do not write in any shaded parts of this data form. Answering some questions accurately may require conferring with the landowner or other knowledgeable persons, and/or reviewing aerial imagery. Although accuracy will be greater if questions are answered for the entire wetland (not limiting only to the part potentially affected by a project), most questions may be answered for just part of a wetland-- the assessment area (AA). HOWEVER, questions with a W in the gray box in column D <b>must</b> be answered for the ENTIRE wetland of which the AA is a part.</p>				
3	#	Indicator	Conditions	Data	Explanations, Definitions
4	F1	Presence of Specific Wetland Types	Does the AA contain, or is it part of, any of these wetland types? Mark "1" next to all that apply.	W	
5			<b>Tidal wetland:</b> receives tidal water at least once during a normal year, regardless of salinity, and dominated by emergent or woody vegetation.		tidal = level of surface water fluctuates every ~6 hours on a daily basis in response to tides. [All functions, as classifier]
6			<b>Lacustrine wetland:</b> an undiked non-tidal wetland bordering a body of standing open water that is >20 acres.		open water = surface water that contains no vegetation (except perhaps floating-leaved or completely submersed species). [WBN+]
7			<b>Fringe wetland:</b> an undiked "shoreline" wetland bordering persistent open water that is >3 times wider than the wetland (includes most tidal, lacustrine, large riverine, some others).		[WSv-, T-, FA+,FR+, WBF+]
8			NONE of above		
9	F2	Wetland Type of Conservation Concern	Does the AA contain, or is it part of, any of these wetland types? Mark "1" next to all that apply. Consult the "Rare Wetland Type" reported for the general vicinity by the Oregon Explorer web site, but be aware that those may not apply to the exact AA you have delimited.	W	
10			<b>Bog or Fen:</b> contains a sponge-like organic soil layer which covers most of the AA AND often has extensive cover of sedges and/or broad-leaved evergreen shrubs (e.g., Ledum). Often lacks tributaries, being fed mainly by groundwater and/or direct precipitation.		[CS+,Sens+]
11			<b>Playa, Salt Flat, or Alkaline Lake:</b> a non-tidal ponded water body usually having saline (salinity >1 ppt or conductivity >1000 µS ) or alkaline (conductivity >2000 µS and pH >9) conditions and large seasonal water level fluctuations (if inputs-outputs unregulated). If a playa or salt flat, vegetation cover is sparse and plants typical of saline or alkaline conditions (e.g., <i>Distichlis</i> , <i>Atriplex</i> ) are common.		See file <b>ORWAP_SupplInfo</b> , worksheet <b>P_Salt</b> for species typically occurring in tidal or saline conditions. [PR+,CS+,INV+,FA-,FR-AM-,WBF+]
12			<b>Hot spring</b> (anywhere in Oregon): a wetland where discharging groundwater in summer is >10 degrees (F) warmer than the expected water temperature.		
13			<b>Native wet prairie</b> (west of the Cascade crest): a seasonally inundated wetland, usually without a naturally-occurring inlet or outlet, and dominated primarily by graminoids often including species in column E.		<i>Deschampsia caespitosa</i> , <i>Danthonia californica</i> , <i>Camassia quamash</i> , <i>Triteleia hyacinthina</i> , <i>Carex densa</i> , <i>C. aperta</i> , and/or <i>C. unilateralis</i> [PDv,CQc]
14			<b>Vernal pool</b> (Willamette Valley): a seasonally inundated wetland, underlain by hardpan or claypan, with hummocky micro-relief, usually without a naturally-occurring inlet or outlet, and with plant species distinctly different from those in slightly higher areas, and often including species in column E.		<i>Downingia elegans</i> , <i>Isoetes nuttallii</i> , <i>Triteleia hyacinthina</i> , <i>Eleocharis</i> spp., <i>Eryngium petiolatum</i> , <i>Plagiobothrys figuratus</i> , <i>Plagiobothrys scouleri</i> , <i>Grindelia nana</i> , <i>Veronica peregrina</i> , <i>Lasthenia glaberrima</i> , <i>Cicendia quadrangularis</i> , <i>Kickxia elatine</i> , <i>Gnaphalium palustre</i> , and/or <i>Callitriche</i> spp.[PDv]
15			<b>Vernal pool</b> (Medford area): a seasonally inundated acidic wetland, underlain by hardpan, with hummocky micro-relief, usually without a naturally-occurring inlet or outlet, and having concentric rings of similar vegetation, often including species in column E.		<i>Downingia vina</i> , <i>Isoetes nuttallii</i> , <i>Pilularia americana</i> , <i>Triteleia hyacinthina</i> , <i>Eleocharis</i> spp., <i>Eryngium petiolatum</i> , <i>Plagiobothrys bracteatus</i> , <i>Plagiobothrys scouleri</i> , <i>Grindelia nana</i> , <i>Veronica peregrina</i> , <i>Alopecurus saccatus</i> , <i>Lasthenia californica</i> , <i>Deschampsia danthonioides</i> , and/or <i>Callitriche</i> spp. [PDv]
16			<b>Vernal pool</b> (Modoc basalt & Columbia Plateau): a seasonally inundated wetland, usually without a naturally-occurring inlet or outlet, located on shallow basalt bedrock and often having species in column E.		<i>Blennosperma nanum</i> , <i>Camassia quamash</i> , <i>Epilobium densiflorum</i> , <i>Callitriche marginata</i> , <i>Cicendia quadrangularis</i> , <i>Eryngium vaseyi</i> , <i>Psilocarphus brevissimus</i> , and/or <i>Sedella pumila</i> . [PDv]

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17			<b>Interdunal wetland</b> (Coastal ecoregion): a seasonally inundated wetland, usually without a naturally-occurring inlet or outlet, located between sand dunes where wind has scoured the sand down to the water table (deflation plain), and often with significant cover of species in column E.		Carex obnupta, Argentina egedii, Juncus lesueurii, J. nevadensis, J. falcatus, Sisyrrinchium californicum, and/or Salix hookeriana [PDv]
18			<b>Mature forested wetland</b> (anywhere): a wetland in which mean diameter of trees (d.b.h., FACW and FAC species only) exceeds 18 inches, and/or the average age of trees exceeds 80 years, or there are >5 trees/acre with diameter >32 inches.		To qualify, the diameter of >18 inches must be the mean measured from at least 10 trees. [PDv]
19			<b>Ultramafic soil wetland</b> (mainly southwestern Oregon): a low-elevation wetland, usually with a sponge-like organic soil layer, occurring in an area with exposed serpentine or peridotite rock, and/or in soils with very low Ca:Mg ratios.		[PDv]
20			<b>Wooded tidal</b> wetlands with >30% cover of trees and shrubs. A wetland inundated at least once annually by tides and often dominated by woody plant species.		The plant species may include Sitka spruce, crabapple, and/or others [PDv]
21			<b>Undiked tidal freshwater wetland:</b> an emergent or wooded wetland inundated at least once annually by tides and with surface salinity <0.5 ppt during most of spring and summer, and which has never been diked.		[PDv]
22			NONE of above		
23	Is part of the site <b>tidal</b> ? If yes, answer next 2 questions. If no, <b>SKIP TO # F5</b> .				
24	F3	Low Marsh	The percent of the vegetated part of the AA that is "low marsh" (covered by tidal water for part of almost every day) is:		Include any natural channels within the marsh that are inundated at least once daily by tide. See file <b>ORWAP_SupplInfo</b> , worksheet <b>P_LowTidal</b> . [WS-,OE+,POL-,INV+,FA+,FR+,WBF+,WBN-,SBM-,PD-]
25			>95% of the AA		
26			50-95% of the AA		
27			25-50% of the AA		
28			1-25% of the AA		
29			<1% or none of the AA (high marsh only)		
30	F4	Tidal-Nontidal Hydroconnectivity	This tidal wetland is (select one):	<b>W</b>	<b>contiguous</b> = abutting, with no major physical separation that prohibits free exchange or flow of surface water, if any is present. See diagram in Appendix A of the manual. [FA+,WBF+,WBN+,PD+]
31			<i>contiguous</i> to a non-tidal palustrine wetland that contains surface water at least seasonally, and mostly not separated by a dike or other barrier, allowing fish access to both wetlands during spring.		
32			<i>contiguous</i> to a non-tidal palustrine wetland that contains surface water at least seasonally, but mostly separated by a dike or other barrier, yet still allowing fish access to both wetlands during spring.		
33			not <i>contiguous</i> to a non-tidal palustrine wetland that contains surface water, but has an inflowing stream that allows fish during the springtime to access a non-tidal wetland < 1 mile upstream.		
34			not <i>contiguous</i> to a non-tidal palustrine wetland that contains surface water, but has an inflowing stream that allows fish during the springtime to access a non-tidal wetland > 1 mile upstream.		
35			not <i>contiguous</i> to a non-tidal palustrine wetland, and lacks an inflowing non-tidal stream that provides fish access to an upstream wetland that contains surface water at least seasonally.		

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36	F5	Interannual Water Dynamics	Select one:		[PR-,NR-,CS-,OE+,INV+,FR-,WBF+,WBN+,PD+]
37	throughout the last 5 years most of the AA has been <b>constantly covered</b> with surface water, except for <b>once or twice</b> (for a period of <6 continuous months) when most of the AA <b>went dry</b> (lacked surface water, due to drawdown, drought, etc.).				
38	throughout the last 5 years most of the AA has <b>constantly lacked</b> surface water, except for <b>once or twice</b> (for a period of <6 continuous months) when most of the AA was <b>inundated</b> (had surface water).				
39	neither of above				
40	unknown				
41	F6	Surface Water Occurrence	No part of the AA is ever inundated (contains at least 1 inch of water above the land surface) for more than 14 consecutive days during a normal year. That is, it is <b>asaturated-only</b> wetland. If true, mark "1" here, then <b>SKIP TO F39</b> (Herbaceous Extent)		[classifier for all functions]
42	F7	Seasonal Water Extent	During normal years, the percent of the AA that is inundated <b>only seasonally</b> (more than 14 consecutive days but no more than 9 months, or in tidal wetlands is "high marsh" that is inundated by tides fewer than half the days in any month) is:		Flood marks (algal mats, adventitious roots, debris lines, ice scour, etc.) are often evident when not fully inundated. Also, such areas often have a larger proportion of upland and annual (vs. perennial) plant species. Vegetation may be patterned in concentric or parallel zones, as one moves outward & away from the deepest part of the wetland or channel. Although useful only as a general guide, the NRCS county soil survey descriptions of the predominant soil types usually includes information on flooding frequency and saturation persistence. [WS+,SR+,NR+,CS+,OE+,INV-,FA+, AM-, Sens+]
43	>75% of the AA				
44	50-75% of the AA				
45	25-50% of the AA				
46	5-25% of the AA				
47	<5% of the AA, or none				
48	F8	Extent of Persistent Surface Water (Dry Season)	When the AA's surface water is at its <b>lowest annual level</b> , the percent of the AA still containing surface water (whether obscured by vegetation or not) is:		For tidal sites, consider the condition that would exist at annual lowest tide. Indicators of persistence may include fish, some dragonflies, beaver, and muskrat. In the county soil survey, the NRCS descriptions of the predominant soil types may include information on saturation persistence in those types. [WS-,PR-,NR-,CS-,POL-,INV+,FR+,AM+,WBF+,WBN+,SB-]
49	>95% of the AA				
50	50-95% of the AA				
51	25-50% of the AA				
52	1-25% of the AA				
53	None of the above, and the AA contains or is part of a fringe wetland, <b>SKIP to F10</b>				
54	None of the above, and not a fringe wetland, <b>SKIP to F10</b>				
55	F9	Onsite Surface Water Isolation (Dry Season)	When the AA's surface water is at its <b>lowest annual level</b> (for tidal wetlands = annual lowest tide), the percent of the surface water that is in or connected to flowing channels that exit the AA, compared to surface water that is outside of channels and their floodplains (e.g., in small depressions that do not connect annually to the channel if any), is:		For tidal sites, consider the condition that would exist at annual lowest tide. See illustration in Appendix A of ORWAP manual. [WS+, SR+,PR+,NR+,OE-,T-, INV+,FA-,FR+,AM+,WBF+,WBN+,Sens+]
56	all (100%) located in channels, swales, or with a contiguous surface water connection to a lake or estuary at all times of year				
57	75-99% in or connected to channels, swales, or contiguous lake/ estuary, 1-25% in isolated pools				
58	50-75% in or connected to channels, swales, or contiguous lake/ estuary, 25-50% in isolated pools				
59	25-50% in or connected to channels, swales, or contiguous lake/ estuary, 50-75% in isolated pools				
60	1-25% in or connected to channels, swales, or contiguous lake/ estuary, 75-99% in isolated pools				
61	all located in isolated pools or a single isolated pond from which no surface water exits when levels are lowest				

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62	F10	Onsite Surface Water Isolation (Wet Season)	During <b>most of the wettest time of a normal year</b> , the percent of the surface water that is in or connected to ditches, swales, or flowing channels that exit the AA, compared to surface water that is in isolated pools that do not connect annually to channels or swales (if any), is:		For tidal sites, consider the condition at mean high tide. See Appendix A of ORWAP manual. Swales are sloping areas that contain >1 inch of surface water for at least 2 consecutive days per year, and are less distinct (broader and flatter in cross-section) than channels. Sites fed by unregulated streams that descend on north-facing slopes tend to remain wet longer into the summer, especially in montane snow-fed areas. [WS+, SR+, PR+, NR+, CS+, OE-, INV+, FA-, FR+, AM+, WBF+]
63			all (100%) located in channels, <i>swales</i> , or in other areas with a wet-season surface connection to channels or to a contiguous lake or estuary		
64			75-99% in or connected to channels, swales, or contiguous lake/ estuary, 1-25% in isolated pools		
65			50-75% in or connected to channels, swales, or contiguous lake/ estuary, 25-50% in isolated pools		
66			25-50% in or connected to channels, swales, or contiguous lake/ estuary, 50-75% in isolated pools		
67			1-25% in or connected to channels, swales, or contiguous lake/ estuary, 75-99% in isolated pools		
68			all located in isolated pools or a single isolated pond from which no surface water exits		
69	F11	Predominant Water Fluctuation Range	During most years, the difference in surface water level between the driest and wettest time of year in <b>most</b> of the area that is not inundated year-round is:		
70			>6 ft change		
71			3-6 ft change		
72			1-3 ft change		
73			0.5 - 1 ft change		
74			<0.5 ft or no change (stable)		
75	F12	Predominant Depth Class	When present, surface water in <b>most</b> of the AA is usually:		"Usually" means the majority of the weeks during which the AA is at least partly inundated. This question is asking about the <b>spatial median</b> depth that occurs during most of that time, even if inundation is only seasonal or temporary. If inundation in most but not all of the AA is brief, the answer will be based on the depth of the most persistently inundated part of the AA. Include surface water in channels and ditches as well as ponded areas. See diagram in Appendix A of the manual. For tidal sites, assess the condition as it exists at mean high tide. [SR+, PR+, CS-, OE-, T+, INV-, FA+, FR+, WBF-, WBN-, PD-, Sens-]
76			>6 ft deep		
77			2-6 ft deep		
78			1-2 ft deep		
79			0.5 - 1 ft deep		
80			<0.5 ft deep (but >0)		
81	F13	Depth Class Distribution	When at least part of the AA is inundated (select one):		Estimate these proportions by considering the gradient and microtopography of the site. See diagram in Appendix A of the manual. [INV+, FR+, WBF+, WBN+]
82			One depth class (use the classes in F12) comprises >90% of the AA's inundated area		
83			One depth class comprises >50% of the AA's inundated area		
84			Neither of above		
85	F14	Deep Spots	Ponded nontidal water deeper than 3 ft covers at least 1 acre or >5% of the AA during (check all that apply):		
86			most of the period November-April		
87			most of the period May-October		
88			neither of above (no ponded water >3 ft deep is that extensive)		
89			impossible to tell		

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90	F15	Open Water Interspersion With Partly Inundated Vegetation	Visualize the extent and distribution of <b>ponded open water</b> within the AA, relative to the distribution of the most dominant form of partly-submerged vegetation (herbaceous or woody, with stems and leaves >4" above the water surface). Visualize this as it occurs during <b>May</b> of most years. In the table to the right, first estimate the percent open water (left column) in the AA, then its distribution (top row). Select the highest applicable number and enter it in column D. See photographs in Appendix A of manual. <b>If the AA has no ponded water during May, score it "1."</b> If this is a fringe wetland, assume Open Water is >70%.  Note: <b>Ponded</b> open water is surface water that is not visibly flowing and contains no vegetation (except perhaps floating-leaved or completely submersed species) and is not beneath a canopy of trees or shrubs. For tidal sites, consider the condition at average mid-tide.		[NR+,OE+,INV+,FA+,FR+,WBF+,WBN+]  <table border="1"> <thead> <tr> <th rowspan="2">open water as % of AA</th> <th colspan="3">Cat-tail, bulrush, or woody plants which are partly submerged in May</th> <th colspan="3">Any other plants which are partly submerged in May</th> </tr> <tr> <th>with open water in many small patches</th> <th>inter-mediate</th> <th>open water in one/few larger patches</th> <th>with open water in many small patches</th> <th>inter-mediate</th> <th>open water in one/few larger patches</th> </tr> </thead> <tbody> <tr> <td>&gt;70</td> <td>19</td> <td>15</td> <td>6</td> <td>12</td> <td>9</td> <td>3</td> </tr> <tr> <td>30-70</td> <td>20</td> <td>16</td> <td>7</td> <td>14</td> <td>10</td> <td>4</td> </tr> <tr> <td>1-30</td> <td>18</td> <td>14</td> <td>5</td> <td>11</td> <td>8</td> <td>2</td> </tr> <tr> <td>&lt;1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> </tbody> </table>	open water as % of AA	Cat-tail, bulrush, or woody plants which are partly submerged in May			Any other plants which are partly submerged in May			with open water in many small patches	inter-mediate	open water in one/few larger patches	with open water in many small patches	inter-mediate	open water in one/few larger patches	>70	19	15	6	12	9	3	30-70	20	16	7	14	10	4	1-30	18	14	5	11	8	2	<1	1	1	1	1	1	1
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<1	1	1	1	1	1	1																																								
91																																														
92	F16	Inflow	When surface water enters the AA, it enters as (select all applicable choices):		[HGM, Sens]																																									
93			flow moving in streams, ditches, other channels																																											
94			surface water exchanged broadly as overflow with contiguous waters such as an estuary, lake, or river																																											
95			water pumped into or intentionally diverted to the AA, e.g., as part of a stormwater dispersion system, irrigation practice, or drainage tile outlet																																											
96			groundwater, runoff, and direct precipitation																																											
97	F17	Groundwater	Select one:	<b>W</b>	If discharging groundwater in summer is warmer than ambient air temperature, answer "None of the above." [NR+,CS+,T+,POL+,INV+,FA+,AM+,HGM]																																									
98			Part of the wetland contains <b>strong evidence</b> of groundwater discharges at the wetland surface during summer: (a) Springs are observed or are shown on Wetland Explorer map, or (b) water is cooler in summer and warmer in winter than in other local wetlands, or (c) measurements from shallow wells indicate groundwater is discharging to the wetland.																																											
99			Part of the wetland has <b>less definitive evidence</b> of discharging groundwater during summer. Wetland has no perennial tributary and is on organic, sandy, or gravelly soil (as determined in F58) AND has one or more: (a) outflow is present and persists during most of the summer or (b) on a natural slope of >5%, or (c) very close to the base of a natural slope steeper than 15%, or (d) located at a geologic fault, or (e) has rust deposits, colored precipitates, or dispersible natural oil sheen, or (f) within a mile of the top of a HUC4 watershed (see Wetland Explorer for boundaries).																																											
100			Neither of above is true, although some groundwater may discharge to or flow through the wetland, and wetland is in a region of <b>eastern Oregon</b> with mean annual precipitation of less than 20 inches.																																											
101			None of the above																																											
102	F18	Outflow Duration	The <b>most durable</b> surface water connection between the <b>wetland</b> and the closest contiguous and/or downslope surface waters is:	<b>W</b>	The connection may be via a ditch, pipe, tidegate, or culvert as well as through a natural channel, floodplain, or overflow area. Do not rely only on topographic or NWI maps to show this; inspect while in field. The frequencies given are only approximate and are for a "normal" year. The inundation need not occur during the "growing season." See photographs in Appendix A of manual. [WS																																									
103			persistent (>9 months/yr), or daily tidal exchange		[SR+,PR+,NR+,CS-,OE+,T+,FA+,FR+,Sens-]																																									
104			seasonal (14 days to 9 months/yr, not necessarily consecutive)																																											
105			temporary (<14 days, not necessarily consecutive)																																											
106			none -- the wetland lacks an outlet. If so, mark "1" here and <b>SKIP TO F25</b> (Sheltering of Water).																																											

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107	F19	Outflow Confinement	During major runoff events, in the places where surface water exits the wetland it is:	W	"Impeded" means causing a delay or reduction in water velocity or volume. "Major runoff events" would include biennial high water causes by storms and/or rapid snowmelt. [WS-,SR+,PR+,NR+,CS-,OE+,FA+,FR+,Sens-]
108	impeded by a pipe, culvert, tidegate, narrowly breached dike, berm, beaver dam, or other obstruction (other than natural topography), or water is pumped out of the wetland (e.g., for irrigation)				
109	not impeded by anything other than (possibly) natural topography				
110	F20	Inlet+Outlet	Either the wetland has <b>BOTH an inlet and outlet</b> with seasonal or persistent surface flow, or the wetland is <b>tidal or lacustrine</b> . If so, enter "1" here and continue. If <b>neither condition met</b> , enter "0" here and then <b>SKIP to F25</b> (Sheltering of Water).	W	The inflow and outflow from the wetland may be via a shallow ditch, pipe, or culvert. Do not rely only on topographic or NWI maps to show this: inspect while visiting the site.
111					
112	F21	Throughflow Complexity	During peak annual flow, <b>most of</b> the surface water that flows through the AA:	W	This mainly refers to surface water that moves between the inlet and outlet. Some judgment is required in assessing straight vs. indirect flow path. See diagram in Appendix A of the manual. [WS+,SR+,PR+,NR+,CS+,INV+,FA+,FR+,WBF+,WBN+]
113	encounters little or no vegetation, boulders, or other sources of friction.				
114	mostly encounters herbaceous vegetation that offers little resistance, and water follows a fairly <b>straight</b> path from entrance to exit (few internal channels, only slight meandering)				
115	mostly encounters herbaceous vegetation that offers little resistance and follows a fairly <b>indirect</b> path from entrance to exit (non-channelized flow or many internal channels, or very braided or tightly meandering)				
116	encounters measurable resistance from fairly-rigid vegetation (e.g., <b>cattail, bulrush, woody</b> plants) or channel-clogging debris, and follows a fairly <b>straight</b> path from entrance to exit.				
117	encounters measurable resistance from fairly-rigid vegetation (e.g., cattail, bulrush, woody species) or channel-clogging debris, and follows a fairly <b>indirect</b> path from entrance to exit.				
118	F22	Vegetated Zone Relative Width	During most of the time <b>open water</b> is present in the AA, vegetated areas within the AA, where they are <b>contiguous to open water</b> , are:	W	<b>open water</b> = surface water that contains no vegetation (except perhaps floating-leaved or completely submersed species) when viewed from above. May include channels, ditches, ponded areas, regardless if seasonal, persistent, or temporary. [SRv+,PRv+,NRv+, CS+,OE-,Sens-]
119	wider than the contiguous open water				
120	narrower than the contiguous open water				
121	F23	Vegetated Zone Absolute Width	The average width of vegetated area in the AA that separates adjoining uplands (if any) from contiguous open waters (if any) is:	W	<b>Note: For most sites larger than 10 acres and with persistent water, measure the width using aerial imagery</b> rather than estimate in the field. [SR+,PR+,NR+, CS+,OE-,WBN+,Sens-]
122	>300 ft, or no contiguous upland or open waters (not even temporary)				
123	100-300 ft				
124	25-100 ft				
125	5-25 ft				
126	<5 ft				
127	F24	Undercut Banks	The percent of the AA's <b>water edge</b> , if any, that has undercut banks that are partially visible above the water is:	W	<b>water edge</b> = streambank (both sides) or other edge between open water and soil. <b>undercut</b> = indented such that surface water flows beneath a canopy layer of soil, tree roots, or sod. At tidal sites, assess this at mid-tide. [FA+,FR+,AM+]
128	>75%				
129	50-75%				
130	25-50%				
131	1-25%				
132	<1%, or no definable water edge is present				
133	cannot estimate				

	A	B	C	D	E
134	F25	Sheltering of Water	At mid-day in summer, the area of surface water within the AA that is shaded by herbaceous or woody vegetation, incised channels, streambanks, or other features also present within the AA is:		For tidal sites, consider the condition at mean low tide. For all sites, consider the aspect and surrounding topographic relief as well as vegetation height and density. [T+,FA+]
135	>75% of the water				
136	50-75% of the water				
137	25-50% of the water				
138	5-25% of the water				
139	<5% of the water				
140		(surface water is typically absent in summer or during low tide)			
141	F26	Abovewater Wood	The number of downed wood pieces thicker than 4 inches that remain only partly underwater during most of the spring or early summer, thus potentially serving as <b>basking sites</b> for turtles, birds, or frogs, is:		For tidal sites, consider the condition at mean high tide. Only the wood that is at or above the water surface is assessed because of the impracticality of assessing underwater wood accurately when using a rapid assessment method. [FA+,FR+,AM+,WBF+,SBM+]
142	Several				
143	Few or none, or AA never has any surface water at that time				
144	F27	Islands	Select all that apply:	W	Island = terrestrial or wetland area larger than 400 sq.ft, and smaller than 1 sq. mi, and separated from "mainland" by water deeper than 3 ft over a distance of >50 ft during early summer. [AM+,WBF+,WBN+]
145	During <b>early summer</b> the wetland contains a floating vegetation mat suitable for nesting birds and isolated from the shore by water depths >3 ft. Or AA is an island with similar isolation and a gently-sloping water edge that is <b>mostly vegetated</b> .				
146	During early summer the wetland contains (or is) an island with a gently-sloping water edge, that is <b>mostly bare</b> and is isolated from the shore by water depths >3 ft.				
147	Neither of above				
148	F28	Shorebird Feeding Habitats	The extent of <b>mudflats</b> or <b>unwooded shortgrass</b> areas within the AA during <b>April or August</b> (or for tidal AAs, during mean low tide) is usually:		These areas must have (a) no vegetation (bare/ fallow), or herbaceous cover comprised mainly of grasses shorter than 4 inches during April and/or August, and (b) soils that either are saturated or covered with <1" of water during April and/or August, and (c) no detectable surrounding slope (e.g., not the bottom of an incised dry channel), and (d) no substantial areas of shrubs or trees. See photograph in Appendix A of manual. This addresses needs of most migratory sandpipers, plovers, stilts, avocets, curlews, and godwits. [WBF+]
149	none, or <100 sq. ft, and there are none that cover >10,000 sq. ft anywhere within 300 ft of the AA				
150	none, or <100 sq. ft, but some that cover >10,000 are within 300 ft of the AA				
151	100-1000 sq. ft. within AA				
152	1000 – 10,000 sq. ft. within AA				
153	>10,000 sq. ft within AA				
154	F29	Waves	Which of the following is most true:		Erosive wave conditions often occur where adjoining open water has a fetch (uninterrupted distance) of greater than approximately 1 mile in the direction of the strongest and most frequent wind. [SRV+, PD-, STR+]
155	Wind or boats frequently generate waves of >1 ft near the AA, those waves are intercepted by the wetland, and structures behind the AA are protected from wave erosion				
156	Wind or boats frequently generate waves of >1 ft near the AA, those waves are intercepted by the wetland, but there are no structures behind the wetland				
157	Neither wind nor boats frequently generate waves of >1 ft near the AA				
158	F30	Vectors for Waterborne Pests	Select all that apply:		[SRV+, FA-,FR-,AM-,PD-,STR+]
159	a regularly-used boat dock is present within or contiguous to the AA				
160	a regularly-used boat dock is <b>not within the AA</b> , but there is one within 300 ft of the AA and there is a persistent or tidal surface connection between the dock and the AA				
161	large ships that empty ballast water are regularly present in nearby contiguous waters				
162	the AA has a <b>persistent surface water connection</b> (>9 mos./yr, via ditch, pipe, channel, tidegate, or floodplain) to a nearby perennial stream, river, lake, or estuary				
163	none of the above				

	A	B	C	D	E
164	F31	Non-native Aquatic Animals	The following are known or likely to have reproducing populations in this AA, its wetland, or in water bodies within 300 ft that connect to the AA at least seasonally. Select all that apply:		Assume non-native fish to be present if wetland is associated with a nearby reservoir, fish pond, or perennial stream flowing through an agricultural or residential area. Assume bullfrog, nutria, and/or carp to be present if (a) the AA contains persistent water or is flooded seasonally by an adjoining body of permanent water, and (b) not a forested wetland, and (c) in western Oregon, elevation is lower than about 3000 ft. In the ORWAP_SupplInfo file, see Inverts_Exo worksheet for more complete list of non-native invertebrates or Oregon, and WetVerts worksheet for more complete list of fish that are not native to Oregon. You may also consult: <a href="http://www.dfw.state.or.us/conservationstrategy/invasive_species.asp">http://www.dfw.state.or.us/conservationstrategy/invasive_species.asp</a> [INV-,FA-,FR-,AM-,CO-]
165			non-native amphibians (e.g., bullfrog) or reptiles (e.g., red-ear slider)		
166			carp		
167			other non-native fish (e.g., bass, gambusia, walleye, crappie, brook trout)		
168			non-native invertebrates (e.g., New Zealand mudsnail, mitten crab, rusty crayfish)		
169			nutria		
170			none of above, or unknown		
171	For F32 to 34, if the statement is true, enter a "1" in column D. Otherwise that should be a "0"				
172	F32	Ice-free	During most years, most of the AA's surface water does not freeze, or freezes for fewer than 4 continuous weeks, or surface water is absent most winters.		[WS+,PR+,NR+,CS+,OE+,FR+,WBF+,Sens-]
173	F33	Ponded Threshold	During most of the summer, the AA contains more than 0.25 acre of ponded non-tidal surface water that is deeper than 1 ft, or is within 300 ft of such an area and the intervening habitat is not developed (roads, etc.). Or nesting within the AA by ducks, geese, or swans has been proven.		[WBN+]
174					
175	F34	No Scum	During most summers, less than 80% of the AA's water surface is covered by floating algae, duckweed, and other non-rooted aquatic plants, AND no major fish kills occur. If no surface water is present in summer, mark "1" in column D.		If wetland can be visited only during winter, it may not be possible to answer this question with much certainty unless local sources are contacted or indicators (e.g., dried remains of algae) are found. [PR+,FA+,PD+,CO+]
176	F35	Submerged & Floating-leaved Aquatic Vegetation (SAV)	SAV (submerged & floating-leaved aquatic vegetation) occupies an annual maximum of:		SAV = herbaceous plants that characteristically grow at or below the water surface, i.e., whose leaves are primarily and characteristically under or on the water surface during most of the part of the growing season when surface water is present. Some species are rooted in the sediment whereas others are not. If pond lily ( <i>Nuphar</i> ) is the predominant species, consider its maximum extent only during the period when surface water is present beneath the leaves. For tidal sites, consider the condition during mean high tide. [INV+,FA+,FR+,AM+,WBF+,Pdc,CQc,SENSc]
177			>95% of the surface water area		
178			50-95% of the surface water area		
179			25-50% of the surface water area		
180			5-25% of the surface water area		
181			<5% of the surface water area. Mark "1" here and SKIP TO F39 (Herbaceous Extent).		
182	F36	SAV Invasive vs. Non-invasive Cover	The areal cover of SAV at mid-summer is comprised of:		Invasive SAV species include: <i>Egeria densa</i> (Brazilian elodea), <i>Hydrilla verticillata</i> , <i>Myriophyllum aquaticum</i> (parrotfeather watermilfoil), <i>Cabomba caroliniana</i> (fanwort), <i>Nymphaea odorata</i> (white pondlily). For known distributions of these in your county see: <a href="http://www.weedmapper.org/maps.html">http://www.weedmapper.org/maps.html</a> [PD-,CQ-,Sens-]
183			mostly invasive SAV species (see list in column E). Mark "1" here and underline the species in column E. Then SKIP to F39.		
184			mostly non-invasive species		
185			impossible to tell		
186	F37	SAV Native Species Dominance	Considering just the SAV species that are native:		[PD-, CQ-, Sens-]
187			one or two of those species together comprise >50% of the SAV cover. Mark "1" here and write names of dominant species in column E.		
188			no two of the native SAV species together comprise >50% of the SAV cover		
189			impossible to tell		
190	F38	SAV Species Ubiquity	Of all the SAV species in this AA:		[PD-, CQ-, Sens-]
191			all are species that are common among Oregon's wetlands and lakes.		
192			at least one species is a SAV plant that is not common among Oregon's wetlands and lakes, and it covers >1% of the SAV area or >100 sq. ft. See file ORWAP_SupplInfo, worksheetP_UnCom. Mark "1" in next column and write names of the species in column E.		
193			impossible to tell		



	A	B	C	D	E
			<p>Note: In the next 4 questions, "herbaceous" does not include SAV or herbaceous plants growing under a woody canopy, unless that canopy covers &gt;80% of the vegetated part of the AA. <b>If the AA is farmed, estimate herbaceous cover (including crops) as it would exist under maximum cover conditions during the majority of the last 5 years.</b></p>		
194					
195	F39	Herbaceous Extent	The areal cover of herbaceous plants during mid-summer is:		herbaceous = forbs, graminoids, ferns, liverworts, moss. Can include crops. Do not include submersed and floating-leaved aquatics (SAV) in the category of "herbaceous", or when defining the "vegetated part" of the site. <b>Note: For sites larger than 10 acres, this should be determined from aerial imagery rather than estimated in the field.</b> [POLc,INV+,WBF+,WBN+,PDC,CQc,SENSc]
196			>95% of the vegetated part of the AA		
197			50-95% of the vegetated part of the AA		
198			25-50% of the vegetated part of the AA		
199			5-25% of the vegetated part of the AA		
200			<5% of the vegetated part of the AA. Mark "1" here and SKIP TO F44 (Woody Extent).		
201	F40	Graminoid vs. Forb Cover	When the areal cover of herbaceous plants is at an annual maximum, those plants are:		graminoids= grasses, sedges, rushes, reeds, burreed, cat-tail, and other grasslike plants. Remember to focus only on plants not beneath a woody canopy, unless that canopy occupies >80% of the AA. If possible this should be assessed during mid-summer. [POLL-]
202			overwhelmingly graminoids (>80% cover of grasslike plants)		
203			mostly graminoids (50-80% cover)		
204			mostly non-graminoids (e.g., forbs, ferns) (50-80%)		
205			overwhelmingly (>80%) non-graminoids		
206	F41	Herbaceous Native vs. Non-native Cover	The maximum annual areal cover of herbaceous plants is:		In the file ORWAP_SupplInfo, see P_Invas worksheet for list of invasives and P_Exo for non-native species list. For known distributions of invasive plants in your county, see: <a href="http://www.weedmapper.org/maps.html">http://www.weedmapper.org/maps.html</a> Remember to focus only on plants not beneath a woody canopy. [POL-,PD-,CQ-,Sens-]
207			overwhelmingly (>80% cover) non-native species, of which >10% are species considered invasive (see column E). Mark "1" in next column and write names of dominant invasive species in column E. Then SKIP to F43.		
208			overwhelmingly (>80% cover) non-native species, but <10% are considered invasive (see column E). Mark "1" in next column and write names of dominant non-native species in column E. Then SKIP to F43.		
209			mostly (50-80%) non-native species, regardless of invasiveness. Mark "1" and SKIP to F43.		
210			mostly (50-80%) native species		
211			overwhelmingly (>80%) native species		
212	F42	Herbaceous Species Dominance	Of just the herbaceous (forb and graminoid) species:		Remember to focus only on plants not beneath a woody canopy. [POL-,PD-,CQ-,Sens-]
213			one or two native species together comprise >50% of the areal cover of herbaceous plants at any time during the year. Mark "1" in next column and write names of dominant native species in column E.		
214			no two of the native species together comprise >50% of the areal cover of herbaceous plants, or no native species are present		
215	F43	Herbaceous Plant Species Ubiquity	Of all the herbaceous species in this AA:		This question and several others (F37, 38, 42, 48, 49) are used as "placeholders" until a Floristic Quality Assessment index can be developed for Oregon. Much information on distribution and frequencies of plant species is available from the Oregon Flora Project: <a href="http://www.oregonflora.org/">www.oregonflora.org/</a> [POL-,PD-,CQ-,Sens-]
216			all are species that are common among Oregon's wetlands.		
217			at least one species is not common among Oregon's wetlands and it covers >1% of the AA's herbaceous area or >100 sq. ft (either contiguous or scattered). See file ORWAP_SupplInfo, worksheet P_UnCom. Mark "1" in next column and write names of the species in column E.		
218	F44	Woody Extent Within the AA	Within the AA, woody vegetation (shrubs, trees, woody vines) occupies:		<b>Note: For sites larger than 10 acres, this should be determined from aerial imagery rather than estimated only in the field.</b> Vines are twining or climbing plants with relatively long stems, and can be either woody or herbaceous. Include Himalayan blackberry. [CS+,POLc.SBM+,PDC,CQc,SENSc]
219			>95% of the vegetated part of the AA		
220			50-95% of the vegetated AA		
221			25-50% of the vegetated AA		
222			5-25% of the vegetated AA		
223			<5% of the vegetated AA		
224	F45	Woody Extent Along Water Edge	Where surface water is present during the wettest time of year, the AA's woody vegetation occupies:		open water = surface water that contains no vegetation (except perhaps floating-leaved or completely submersed species). [SBM+]
225			>95% of the area within 100 ft of the open water		
226			50-95% of the area within 100 ft of open water		
227			25-50% of the area within 100 ft of open water		
228			5-25% of the area within 100 ft of open water		
229			<5% of the area within 100 ft of water; mark "1" here and SKIP TO F50 (Woody Diameter Classes).		

	A	B	C	D	E
230	F46	Woody Distribution	The woody vegetation (if any) within the AA is:		"contiguous to" means separated by less than one tree height. The separation may be caused by herbaceous vegetation, persistent water, roads, buildings, or bare soil, but not shrubs. [SBM+, CQ+, Sens+]
231			<b>clumped</b> in fairly distinct bands or patches mostly separate from herbaceous vegetation, and <b>most patches or bands are large</b> (>1 acre including contiguous upland woody veg). Or nearly the entire AA is wooded. Isolated shrubs or trees are few.		
232			<b>clumped</b> in fairly distinct bands or patches mostly separate from herbaceous vegetation, and <b>most patches are small</b> (<1 acre including contiguous upland woody veg).		
233			<b>dispersed</b> quite evenly amid the herbaceous vegetation, in many small patches, or many isolated shrubs or trees.		
234	F47	Cover of Woody Invasives	Within parts of the AA having shrubs or woody vines, the areal cover is:		In the file <b>ORWAP_SupplInfo</b> , see <b>P_Invas</b> worksheet for list of invasives and <b>P_Exo</b> for non-native species list. Woody invasives include: <i>Hedera helix</i> , <i>Ailanthus altissima</i> , <i>Buddleja</i> spp., <i>Cytisus</i> spp., <i>Rubus armeniacus</i> (discolor), <i>Rubus laciniatus</i> , <i>Tamarix</i> spp., <i>Umbellularia californica</i> , <i>Robinia pseudoacacia</i> . For known distribution of some invasives in your county see: <a href="http://www.weedmapper.org/maps.html">http://www.weedmapper.org/maps.html</a> [POL-,PD-,CQ-,Sens-]
235			overwhelmingly (>80%) non-natives that are categorized as <b>invasive</b> (see column E). Mark "1" in next column and write names of dominant invasives in column E. Then SKIP to <b>F49</b> .		
236			overwhelmingly <b>other non-natives</b> . Mark "1" in next column and write names of dominant non-native shrubs/ vines in column E. Then SKIP to <b>F49</b> .		
237			mostly (50-80%) non-natives. Mark "1" in next column and write names of dominant non-native shrubs/ vines in column E. Then SKIP to <b>F49</b> .		
238			mostly (50-80%) <b>natives</b>		
239			overwhelmingly (>80%) natives		
240	F48	Shrub & Vine Species Dominance	Of just the shrub & woody vine species that are native:		[POL-,PD-,CQ-,Sens-]
241			one or two of the <b>native</b> species together comprise >80% of the shrub & vine cover. Mark "1" in next column and write names of dominant species in column E.		
242			<b>no two</b> of the native species together comprise >80% of the shrub & vine cover		
243	F49	Shrub & Vine Species Ubiquity	Of all the shrub & woody vine species in this AA:		[POL-,PD-,CQ-,Sens-]
244			all are species that are <b>common</b> among Oregon's wetlands.		
245			at least one species is <b>not common</b> among Oregon's wetlands and it covers >1% of the AA or >100 sq. ft See file <b>ORWAP_SupplInfo</b> , worksheet <b>P_UnCom</b> .		
246	F50	Woody Diameter Classes	Select all the types occupying >5% of the <b>wooded</b> part of the AA or >5% of its <b>upland edge</b> if that is wooded.		upland edge= plants located within one tree-height of the wetland-upland boundary. Measurements are the d.b.h., which is the tree diameter at 4.5 ft above the ground. If visited only in winter, consider "dead standing trees" to be those that are mainly without bark. Include woody vines such as Himalayan blackberry. [CS+,POL+,INV+,AM+,WBN+,SBM+,Sens+]
247			deciduous 1-4" diameter and >3 ft tall		
248			evergreen 1-4" diameter and >3 ft tall		
249			deciduous 4-9" diameter		
250			evergreen 4-9" diameter		
251			dead standing 4-9" diameter		
252			deciduous 9-21" diameter		
253			evergreen 9-21" diameter		
254			dead standing 9-21" diameter		
255			deciduous >21" diameter		
256			evergreen >21" diameter		
257			dead standing >21" diameter		
258			Lacks woody vegetation, or none of above occupy >5% of the <b>wooded</b> part of the AA or 5% of the length of the upland edge.		

	A	B	C	D	E
259	F51	N Fixers	Within the vegetated part of the AA, the cover of nitrogen-fixing plants (e.g., alder, sweetgale, legumes) is:		For a more complete list see file <b>ORWAP_Supplinfo</b> , worksheet <b>NFIX</b> . Do not include algae.
260			<1% or none		
261			1-25%		
262			25-50%		
263			50-75%		
264			>75%		
265	F52	Waterfowl Food Plants	The percent of the vegetated part of the AA, <b>excluding areas that are never inundated</b> which contains one or more of these plants: <i>Alisma</i> spp., <i>Beckmannia</i> spp., <i>Polygonum</i> spp. (natives only), <i>Potamogeton</i> ( <i>Stuckenia</i> ) spp., <i>Ruppia</i> spp., <i>Sagittaria</i> spp., <i>Sparganium</i> spp., <i>Zostera</i> spp., is:		[WBF+,WBN+]
266			<1% or none, and none are known to occur commonly within the same wetland or within 300 ft of this AA		
267			<1% or none, but some are known to occur commonly within the same wetland or within 300 ft of this AA		
268			1-10%		
269			10-50%		
270			>50%		
271	F53	History of Fire or Vegetation Removal	The last time that >5% of the AA's vegetation cover was burned or harvested for hay or timber was:		[PR-,NR-,CS-,OE+,POL-,WBF+,PD+]
272			0-12 months ago, and this occurs almost annually within part of the AA		
273			0-12 months ago, but was not an annual (or near-annual) event		
274			1-5 years ago		
275			>5 years ago, or never		
276			unknown		
277	F54	Height Uniformity of Dominant Stratum	<b>Within</b> the stratum (herbaceous, shrub, or tree) that covers the most onsite area, the wetland plants <b>during maximum annual cover</b> condition are mostly:		e.g., If dominantly herbaceous, then "diverse heights" might include both short and tall forbs, some non-woody vines, and mid-height graminoids. See photograph of a vertically diverse herbaceous stratum in Appendix A of manual. [POL+,INV+,WBN+,SBM+,PD+]
278			of nearly uniform height (+ or - 20% of average)		
279			of very diverse heights (e.g., short & tall forbs, short & mid-height grasses)		
280	F55	Bare Ground & Accumulated Plant Litter	Consider the parts of the AA that usually are not inundated in May. Viewed from <b>6 inches above the soil surface</b> , the condition in <b>most</b> of this area <b>during May</b> is:		Estimates of "plant litter" cover should include only the litter and woody debris that would be visible from a height of 6 inches above the soil surface. Emphasis should be on plant litter that has remained from prior years ("thatch"), not recent. Erect plant stems should not be counted as plant litter, even if dead. "Bare ground" that is present under a tree or shrub canopy should be counted. It includes unvegetated soil, rock, sand, or mud between stems if any. See photographs in Appendix A of manual for examples. Wetlands that are dominated by annual plant species tend to have more extensive areas that are bare or covered only by plant litter, during minimum annual cover conditions. [SR-,PR-,NR-,CS-,OE-,POL-,INV-,AM-,SBM-,Sens+]
281			little or no (<5%) <i>bare ground</i> or plant litter (thatch) is visible between erect stems or under canopy. This can occur if ground surface is extensively blanketed by moss, graminoids with great stem densities, or plants with ground-hugging foliage.		
282			some (5-20%) bare ground or litter is visible. Herbaceous plants have moderate stem densities and do not closely hug the ground.		
283			much (20-50%) bare ground or plant litter is visible. Low stem density and/or tall plants with little near-ground foliage. May be mostly woody plants, woody vines, cattail, bulrush, sparse annuals.		
284			mostly (>50%) bare ground or accumulated plant litter. Or, during May the entire AA is constantly under water.		

	A	B	C	D	E
285	F56	Upland Edge Shape Complexity	Most of the edge between the wetland and upland is (select one):	W	See illustrations in Appendix A of the ORWAP manual . [NR+,SBM+]
286	<i>Linear</i> : a significant proportion of the wetland's upland edge is straight, as in wetlands bounded by partly or wholly by dikes or roads				
287	<i>Convolutd</i> : Wetland perimeter is many times longer than maximum width of the wetland, with many alcoves and indentations ("fingers")				
288	<i>Intermediate</i> : Wetland's perimeter either (a) is only mildly convoluted, or (b) mixed -- contains about lengths of linear and convoluted segments.				
289	F57	Upland Inclusions	The extent of inclusions of upland within the AA (as indicated by their topography, plants, and/or soils) is:		[NR+,AM+,SBM+]
290	Many (e.g., wetland-upland "mosaic")				
291	Few or none				
292	F58	Soil Composition in the Soil Pit	The composition of the soil in the soil pit at the ground surface (uppermost soil layer and excluding the <i>duff layer</i> , see protocol in ORWAP Manual, section 2.3.2) is:		<b>duff layer</b> = leaves, woody material, and live or dead roots, moss that has undergone partial decomposition. [PR,NR,CS,OE, PD, Sen]
293	<i>Loamy</i> : includes silt, silt loam, loam, sandy loam				
294	<i>Clayey</i> : includes clay, clay loam, silty clay, silty clay loam, sandy clay, sandy clay loam				
295	<i>Organic</i> : includes muck, mucky peat, peat, and mucky mineral				
296	<i>Coarse</i> : includes sand, loamy sand, gravel, cobble, stones, boulders, fluvents, fluvaquents, riverwash				
297	F59	Downed Wood	The number of downed wood pieces <b>longer than 6 ft</b> and with diameter >6", and <b>not persistently submerged</b> , is:		include driftwood. [POL+,INV+,AM+,SBM+]
298	Several (>5 if AA is >10 acres, or >2 for smaller AAs)				
299	Few or none				
300	F60	Ground Irregularity	The number of animal burrows, mounds, hummocks, boulders, upturned trees, islands, natural levees, dry channels, pits, wide soil cracks, and microdepressions (in parts of the AA that lack persistent water) is:		"microtopography" refers mainly to vertical relief of <1 m and is represented only by inorganic features, except where plants have created depressions or mounds of soil. See photographs in Appendix A of manual for examples. [WS+,SR+,PR+,NR+,CS+,POL+,INV+,AM+,SBM+,PD+]
301	Several (extensive micro-topography)				
302	Few or none (minimal microtopography: <1% of the area that isn't persistently inundated); e.g., many flat sites having a single hydroperiod				
303	Intermediate				
304	F61	Internal Gradient	The gradient along most of the AA's water flow paths (both sheet and channel flow) is:		Except in isolated wetlands (no outlets), this is not the same as the shoreline slope. It is the elevational difference between highest and lowest points within the site, divided by the flow-distance between them and converted to percent. If most of the surface water is impounded within the site, the gradient is the gradient of the water surface, not the gradient of the submerged substrate. See diagram in Appendix A. If available, use a clinometer to measure this. [WS-,SR-,PR-,NR-,CS-,OE+,AM-,WBF-,WBN-]
305	>10%				
306	6-10%				
307	2-5%				
308		Flat (<2%, no slope or flow is ever apparent). Includes most depressional sites			
309	F62	Fish Access From Offsite	Small fish (e.g., stickleback, minnow) from elsewhere in the watershed can access part of this AA for at least 2 days during most years or are known to already be present onsite.		Although incomplete, the species maps may be helpful at: <a href="http://map.streamnet.org/">http://map.streamnet.org/</a> or <a href="http://query.streamnet.org/">http://query.streamnet.org/</a> [INV-,FA+,FR+,AM-,WBF+]
310	F63	Nesting or Roosting Structures	Within the AA or within its wetland or within 300 ft of AA, there are bridges, buildings, caves, or ledges with openings/ crevices, well-maintained bird or bat boxes, elevated platforms, or other artificial structures suitable for nesting by some native bird or bat species.		e.g., open buildings for barn swallows, bridges for cliff swallows, wood duck boxes, goose nesting platforms, sheltered places for bees and wasps [POL+,SBM+]

	A	B	C	D	E
311	F64	Cliffs, Banks, or Beaver	In the AA or within its wetland or within 100 ft of the AA, there are elevated terrestrial features such as cliffs, stream banks, excavated pits, or pumice walls (but not riprap) that extend at least 6 ft nearly vertically, are unvegetated, and potentially contain crevices or other substrate suitable for nesting or den areas. Or there is evidence that beaver have used this AA (e.g., gnawed limbs).		[POL+,SBM+]
312	F65	Visibility	The maximum percent of the wetland that is visible from the best vantage point on public roads, public parking lots, public buildings, or public paved paths that adjoin or are within 300 ft of the AA (select one) is:		[PU+]
313			>50%		
314			25-50%		
315			<25%		
316	F66	Ownership	Most of the AA is (select one):		[PU+]
317			in public ownership		
318			in private ownership		
319	F67	Public Access	For most of the AA, permission for access is normally given or allowed:		In all cases, this question assumes that permission for access may be limited to certain activities. [PU+]
320			to anyone, mostly unrestricted		
321			to anyone, but significant restrictions (e.g., limited dates, permit required)		
322			only on a case-by-case basis, but with few other restrictions		
323			only on a case-by-case basis, with restrictions (e.g., limited dates, permit required)		
324			seldom or never		
325			(do not know)		
326	F68	Non-consumptive Uses - Actual or Potential	Assuming access permission was granted, select all statements that are true of this AA as it currently exists:		[PU+]
327			Walking is physically possible in >5% of the AA during most of year, e.g., free of deep water and dense shrub thickets		
328			All or part of the AA (or an area within sight of the AA and within 100 ft) would be physically accessible to people in wheelchairs, e.g., paved and flat		
329			Maintained roads, parking areas, or foot-trails are within 30 ft of the AA, or the AA can be accessed most of the year by boat		
330	F69	Sustained Scientific Use	Plants, animals, or water in the AA have been monitored for >2 years, unrelated to any regulatory requirements, and data are available to the public. Or the AA is part of an area that has been designated by an agency or institution as a benchmark, reference, or status-trends monitoring area.		[PU+]
331			(do not know)		
332	F70	Consumptive Uses (Provisioning Services)	Recent evidence was found within the AA of the following potentially-sustainable consumptive uses. Select all that apply.		"Low impact" means adherence to Best Management Practices such as those defined by NRCS and other agencies. Evidence may consist of direct observation, or presence of physical evidence (e.g., recently cut stumps, fishing lures, shell cases), or communication with the land owner or manager. [PS+]
333			low-impact commercial timber harvest		
334			low-impact grazing		
335			commercial harvesting of hay or mushrooms		
336			waterfowl hunting or furbearer trapping		
337			fishing (including shellfish harvest)		
338			None of the above		
339	F71	Domestic Wells	Wells that currently provide drinking water are:		If unknown, assume this is true if there is an inhabited structure within the specified distance and the neighborhood is known to not be connected to a municipal drinking water system (e.g., is outside an Urban Growth Boundary), or if crops are irrigated annually and the site is distant from a major water body. [NRv+]
340			Within 500 ft and downslope from the AA or at same elevation		
341			500-1000 ft and downslope or at same elevation		
342			>1000 ft downslope, or none downslope, or AA is tidal, or no information		

	A	B	C	D	E
343	F72	Sediment Removal	Excessive accumulation of sediment has caused frequent problems for large boats, with shoaling necessitating frequent dredging, in waters that are located:		[SRv+]
344			contiguous to the AA, or <1 mile downslope from the AA		
345			1-5 miles downslope		
346			>5 miles downslope, or no shoaling, or no boats, or no information		
347	F73	Devegetation	The percent of the AA's vegetation cover that normally grows taller than 4 inches but which has been persistently reduced to less than that height by mowing and/or grazing by domestic or wild animals is:		[OE-,INV-,AM-,WBN-,SBM-,PD-,CO-]
348			>95%		
349			50-90%		
350			5-50%		
351			<5%, or grazing/ mowing does not cause the described condition		
352	F74	Core Area 1	The part of the AA <b>almost never</b> visited by humans during an average year probably comprises:		Judge this based on proximity to population centers, roads, trails, accessibility of the AA to the public, wetland size, usual water depth, and physical evidence of human visitation. Exclude visits that are not likely to continue and/or that are not an annual occurrence, e.g., by construction or monitoring crews. See diagram in Appendix A of the manual.
353			>95% of the AA		[AM+,WBF+,WBN+,SBM+,PD+,STR-]
354			50-95%		
355			5-50%, or <5% but inhabited building is within 300 ft of the AA		
356			<5%, and no inhabited building within 300 ft of the AA		
357	F75	Core Area 2	The part of the AA visited by humans <b>almost daily for several weeks</b> during an average year probably comprises:		Exclude visits that are not likely to continue and/or that are not an annual occurrence, e.g., by construction or monitoring crews. See diagram in Appendix A of the manual. [AM-,WBF-,WBN-,SBM-,PD-,STR+]
358			>95% of the AA		
359			50-95%		
360			5-50%		
361			<5%		
362	F76	Weed Source Along Upland Edge	Along the AA's boundary with upland, the percent of the <b>upland</b> edge (within 10 ft of AA) that is occupied by species that are marked as <b>invasive</b> in the Plants worksheet is:		Some of the most common invaders along upland edges of Oregon wetlands are Himalayan blackberry, knotweed, sweetbrier rose, Russian olive, English ivy, nightshade, pepperweed, medusahead, white clover, ryegrass, quackgrass, false brome, bentgrass, dandelion, oxeye daisy, pennyroyal, bull and creeping thistles, tansy ragwort, poison hemlock, and teasel. See file
363			most (>50%) of the upland edge		<b>ORWAP_SupplInfo</b> , worksheet <b>P_Invas</b> . If a plant cannot be identified to species (e.g., winter conditions) but its genus contains
364			much (5-50%) of the upland edge		an invasive species, assume the unidentified plant to also be invasive. If vegetation is so senesced that apparently dominant edge
365			some (1-5%) of the upland edge		species cannot be identified even to genus, answer "none". [PD-,STR+]
366			none of the upland edge (invasives apparently absent), or AA is an island with no upland		
367	F77	Natural Land Cover in Buffer	Within <b>100 ft upslope</b> of the AA's wetland-upland boundary, the percent of the upland that contains <i>natural</i> ( <b>not necessarily native</b> ) land cover is:		<b>Natural land cover</b> includes wooded areas, sagebrush, vegetated wetlands, prairies, <b>as well as</b> relatively unmanaged commercial lands such as hayfields, lightly grazed pastures, and most rangeland. <b>It does not include water</b> , row crops (vegetable, orchards, Christmas tree farms), residential areas, lawn, pavement, bare soil, gravel or dirt roads. Natural land cover is not the same as native vegetation or undisturbed soil. It frequently includes a dominance of non-native plants (e.g., ryegrass, Himalayan blackberry). If the entire site is an island without an upland edge, select the last choice.
368			>90%, or there is no upland boundary		[POL+,INV+,FA+,FR+,AM+,WBN+,SBM+,PD+,Sens-]
369			60 to 90%		
370			30 to 60%		
371			5 to 30%		
372			<5%		

	A	B	C	D	E
373	F78	Type of Land Cover Alteration in Buffer	Within <b>100 ft upslope</b> of the AA's wetland-upland boundary, the upland land cover that is not natural (as defined above) is mostly:		[INV-,FA-,AM-,WBN-,SBM-,PD-,STR+]
374			impervious surface, e.g., paved road, parking lot, building, exposed rock		
375			bare pervious surface, e.g., dirt road, dike, dunes, recent clearcut, landslide		
376			cultivated row crops or orchard		
377			artificially landscaped areas or lawn		
378			grain fields, or grassland grazed or mowed to a height usually shorter than 4 inches		
379			other		
380			(buffer is >90% natural land cover or AA occupies all of an island)		
381	F79	Buffer Slope	Along the AA's <b>wetland-upland boundary and extending 100 ft uphill</b> , the slope of the land is mostly:		See diagram in Appendix A of the manual. If the described area contains a disturbance feature, estimate instead the slope between the wetland-upland boundary and the most extensive such feature. <b>Disturbance feature</b> = building, paved area, recently cleared area, dirt road, lawn, intensely grazed pasture, orchard, vineyard, annually-harvested row crops [Sens+]
382			<1% (flat -- almost no noticeable slope, or there is no upland boundary)		
383			2-5%		
384			5-30%		
385			>30%		
386	F80	Edge Slope	Within <b>10 ft of ponded surface water</b> (if any) in early summer, the percent of the vegetated area (wetland or upland) that has a gentle or moderate slope (less than 5% slope) is:		See diagram in Appendix A of the manual. If several isolated pools are present in early summer, estimate the percent of their collective shorelines that has such a gentle slope. [AM-,WBN-]
387			>75%		
388			50-75%		
389			25-50%		
390			1-25%		
391			<1%,		
392			(ponded surface water in early summer covers <1% of AA, or AA is tidal)		
393	F81	Independently Sustainable Hydrology	How likely is it that any or all of this AA will persist as a wetland (not necessarily of the same type) if an existing dike or berm, water control structure (e.g., dam, weir), or pumping/ diversion system that now helps sustain it -- and is within 1 mile of the AA -- was removed or became inoperable?		If all such human activities and structures disappeared, would the site still be a wetland? [WSv,SRv,PRv,NRv,INVv,AMv,WBFv,WBNv,SBMv,PDv+]
394			Very likely, or no such feature is present (greater sustainability potential)		
395			Somewhat likely -- part but not all of the AA would remain a wetland		
396			Unlikely or not at all (lower sustainability potential)		