| Date: |  | Name: | Site: |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \hline \text { Form F } \\ & \text { Field Data } \\ & \text { (nontidal } \\ & \text { Wetlands) } \\ & \text { ORWAP V } 3.2 \\ & \hline \end{aligned}$ |  | Conduct an assessment only after reading the accompanying Manual and explanations in column E below. For each affirmative answer, change the 0 in the "Data" column to a " 1 ". Answer all items except where directed to skip to others. Questions whose cells in "Data" column have a "W" MUST be answered for the ENTIRE wetland and bordering waters. | For a list of functions to which each question pertains, see bracketed codes in column E. Codes for functions and their benefits are: WS= Water Storage, WC= Water Cooling, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, $\mathrm{CS}=$ Carbon Sequestration, $\mathrm{OE}=$ Organic Export, $\mathrm{INV}=$ Invertebrates, $\mathrm{FA}=$ Anadromous Fish, $\mathrm{FR}=$ Resident Fish, AM= Amphibians, WBF= Feeding Waterbirds, WBN= Nesting Waterbirds, SBM= Songbirds, Mammals, \& Raptors, POL= Pollinators, PH= Plant Habitat, PU= Public Use \& Recognition, EC= Ecological Condition, Sens= Sensitivity, STR= Stressors. |  |  | For guidance and detailed descriptions of how Excel calculates the numbers in the Scores worksheet, see the Technical Supplement and Appendix C of the accompanying Manual. For a documented rationale for each indicator, open each of the worksheet tabs at the bottom (one for each function or value) and see column H. |
| \# | Indicators | Condition Choices | Data | Explanations, Definitions (Column E) | Cell Name | Comments |
| F1 | Tidal Wetland (Tidal) | This is a tidal wetland (either freshwater or saltwater). If yes, GO TO worksheet " T ". Do not enter any data here. <br> If nontidal, continue with F . |  | Tidal wetland - a wetland that receives tidal water at least once during a normal year, regardless of salinity, and dominated by emergent or woody vegetation. Tidal flooding occurs on a 6 -hour cycle DURING THE TIME it is flooded by tide, which may be as infreuent as once per year. If NWI map shows the wetland with a code beginning with E (for estuarine), assume the wetland to be tidal. However, some wetlands lacking that code are also tidal. |  |  |
| F2 | $\begin{aligned} & \text { Ponded Condition } \\ & \text { (Lentic) } \end{aligned}$ | At least once every 2 years, some part of the AA contains a cumulative total of $>900$ sq.ft. of surface water that is ponded. The water persists for $>6$ days and may be hidden beneath emergent vegetation or scattered in small pools. <br> Enter 1, if true. | 0 | Ponded - Most surface water is not visibly flowing. Flow, if any, is not sufficient to suspend fine sediment. These include pools in floodplains and may be either large (e.g., an off-channel pond) or small (size of a puddle). [AM,WBF,WBN] | entic |  |
| Reminder: For all questions, the AA should include all persistent waters in ponds smaller than 20 acres that are adjacent to the AA. The AA should also include part of the water area of adjacent lakes or rivers larger than 20 acres -- specifically, the open water part adjacent to wetland vegetation and equal in width to the average width of that vegetated zone. |  |  |  | Adjacent - is used synonymously with abutting, adjoining, bordering, contiguous -- and means no upland (manmade or natural) completely separates the described features along their directly shared edge. Features joined only by a channel are not necessarily considered to be adjacent -- a large portion of their edges must match. The features do not have to be hydrologically connected in order to be considered adjacent. |  |  |
| F3 |  |  |  | In the NRCS county soil survey, the Water Features table provides information about periods of flooding, ponding, and highwater table depths. Descriptions of the soil units may include information on saturation persistence. Also consider the hydroperiod label on NWI wetland polygons. <br> [WS, FA, FR, WBN, WBF, WC] | NeverWater <br> TempWet <br>  <br> ShallowType <br> DeepType |  |
|  |  |  | 0 | Permanent - usually has significant groundwater input, higher conductivity, less annual water level fluctuation. No woody vegetation in most persistently flooded parts. Often with extensive open water and subsurface aquatic plants. | PermType |  |


| F4 | $\begin{aligned} & \text { Flooded Persistently - \% } \\ & \text { of AA (PermW) } \end{aligned}$ | Identify the parts of the AA that still contain surface water even during the driest times of a normal year . At that time, the percentage of the AA that still contains surface water is: |  | driest times of a normal year - i.e., when the AA's surface water is at its lowest annual level. <br> Sites fed by unregulated streams that descend on north-facing slopes, tend to remain wet longer into the summer. Indicators of persistence may include fish, some dragonflies, beaver, and muskrat. <br> [WS,PR,NR,CS,INV,FR,AM,WBF,WBN] |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1 to <25\% of the AA. | 0 |  |  |  |
|  |  | 25 to <50\% of the AA. | 0 |  |  |  |
|  |  | 50 to $95 \%$ of the AA. | 0 |  |  |  |
|  |  | 295\% of the AA. | 0 |  | AllPermWater |  |
| F5 | $\begin{aligned} & \text { Depth Class } \\ & \text { (Predominant) } \\ & \text { (DepthDom) } \end{aligned}$ | When water is present in the AA, the depth most of the time in most of inundated area is: [Note: NOT necessarily the maximum spatial or annual depth] |  | This question is asking about the spatial median 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. <br> In the ORWAP Manual, se the diagram in Appendix B. <br> [WC,SR,PR,CS,OE,INV,FA,FR,WBF,WBN,PD,Sens] |  |  |
|  |  | $>0$ to $<0.5 \mathrm{ft}$. | 0 |  |  |  |
|  |  | 0.5 to < $1 \mathrm{ft} \mathrm{deep}$. | 0 |  |  |  |
|  |  | 1 to <3 3 deep. | 0 |  |  |  |
|  |  | 3 to $6 \mathrm{ft} \mathrm{deep}$. | 0 |  |  |  |
|  |  | 76 ft deep. | 0 |  |  |  |
| F6 | $\begin{aligned} & \hline \text { Depth Class Distribution } \\ & \text { (DepthEven) } \end{aligned}$ | Within the area described above, and during most of the time when surface water is present, the water area has: Select only one. |  | Estimate these proportions by considering the gradient and microtopography of the site. In the ORWAP Manual, see the diagram in Appendix B. <br> [INV,FR,WBF,WBN,PD] |  |  |
|  |  | One depth class covering >90\% of the AA's inundated area (use the classes in the question above). | 0 |  |  |  |
|  |  | One depth class covering 51-90\% of the AA's inundated area (use the classes in the question above). | 0 |  |  |  |
|  |  | Neither of above. There are 3 or more depth classes and none occupy $>50 \%$. | 0 |  |  |  |
| F7 | Emergent Plants -- Area (EmArea) | Consider just the area that has surface water for $>1$ week during the growing season. Herbaceous plants (not moss, not woody) whose foliage extends above a water surface in this area (i.e., emergents) cumulatively occupy an annual maximum of: | W | If multiple small patches are separated by less than 150 ft , they may be combined when evaluating this question. <br> [SR,PR,OE,INV,FR,WBF,WBN,SBM,PD] |  |  |
|  |  | <0.01 acre (<400 sq.ft). Enter 1 and SKIP TO F10, unless only part of a wetland is being assessed. | 0 |  | NoEm |  |
|  |  | 0.01 to < 0.10 acres (3,920 sq. ft). | 0 |  |  |  |
|  |  | 0.10 to <0.50 acres (21,340 sq. ft). | 0 |  |  |  |
|  |  | 0.50 to < 5 acres. | 0 |  |  |  |
|  |  | 5 to 50 acres. | 0 |  |  |  |
|  |  | >50 acres. | 0 |  |  |  |
| F8 | $\begin{aligned} & \text { \% Emergent Plants } \\ & \text { (EmPct) } \end{aligned}$ | Emergent plants occupy an annual maximum of: |  | [WC,SR,PR,NR,CS,OE,INV,PD,FA,FR,AM,WBF,WBN,SBM] |  |  |
|  |  | <5\% of the parts of the AA that are inundated for $>7$ days at some time of the year. | 0 |  |  |  |
|  |  | 5 to <30\% of the parts of the AA that are inundated for >7 days at some time of the year. | 0 |  |  |  |
|  |  | 30 to $<60 \%$ of the parts of the AA that are inundated for > $>$ days at some time of the year. | 0 |  |  |  |
|  |  | 60 to $95 \%$ of the parts of the AA that are inundated for $>7$ days at some time of the year. | 0 |  |  |  |
|  |  | -95\% of the parts of the AA that are inundated for $>7$ days at some time of the year. | 0 |  |  |  |
| F9 | $\begin{aligned} & \text { Cattail or Tall Bulrush } \\ & \text { Cover (Cttail) } \end{aligned}$ | The percentage of the emergent vegetation cover in the AA that is cattail (Typha spp.) or tall bulrush is: |  | [WBN, SBM] |  |  |
|  |  | <1\% of the emergent vegetation, or cattail and bulrush are absent. | 0 |  |  |  |
|  |  | 1 to <25\% of the emergent vegetation. | 0 |  |  |  |
|  |  | 25 to $75 \%$ of the emergent vegetation. | 0 |  |  |  |
|  |  | $>75 \%$, of the emergent vegetation. | 0 |  |  |  |




| F19 | Floating Algae \& Duckweed (Algae) | At some time of the year, most of the AA's otherwise-unshaded water surface is covered by floating mats of algae, or small (<1 inch) floating plants such as duckweed, Azolla, Wolffia, or Riccia. Enter 1, if true. | 0 | This includes most nontidal wetlands labeled as Aquatic Bed (AB) on NWI maps. 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. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| F20 | Floating-leaved \& Submerged Aquatic Vegetation (SAV) | SAV (submerged \& floating-leaved aquatic vegetation, excluding the species listed above) occupies an annual maximum of: <br> none, or $<5 \%$ of the water area. <br> 5 to $<25 \%$ of the water area. <br> 25 to $<50 \%$ of the water area. <br> 50 to $95 \%$ of the water area. <br> $>95 \%$ of the water area. <br> many SAV plants present, but impossible to select from the above categories. | 0 0 0 0 0 0 | SAV - are 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 (Nuphar) is the predominant species, consider its maximum extent only during the period when surface water is present beneath the leaves. <br> [PR,OE,INV,FR,AM,WBF,WBN] | NoSAV |
| F21 | Width of Vegetated Zone (Driest) (WidthDry) | When water levels are lowest, during a normal year, but surface water still occupies $>400 \mathrm{sq}$ feet or $>1 \%$ of the AA (which ever is more), the width of the vegetated wetland that separates the largest patch of open water within or bordering the AA from the closest adjacent uplands, is predominantly: <br> $<5 \mathrm{ft}$, or no vegetation between upland and open water. <br> 5 to $<30 \mathrm{ft}$. <br> 30 to $<50 \mathrm{ft}$. <br> 50 to $<100 \mathrm{ft}$. <br> 100 to 300 ft . <br> $>300 \mathrm{ft}$. | 0 | Measure the width perpendicular to the open water part. <br> Vegetated wetland - in this case does not include underwater or floating-leaved plants, i.e., aquatic bed. In farmed wetlands that have different crops from year to year, consider vegetation condition as it probably existed during most of the past 5 years. <br> Note: For most sites larger than 1 acre and with persistent water, measure the width using aerial imagery rather than estimating in the field. <br> [WBN] |  |
| F22 | Beaver (Beaver) | Use of the AA by beaver during the past 5 years is: Select most applicable ONE. <br> Evident from direct observation or presence of gnawed limbs, dams, tracks, dens, or lodges. <br> Very likely based on known occurrence in this part of the region and proximity to ALL of the following (a) a persistent freshwater wetland, pond, or lake, or a perennial low-gradient (<5\%) channel, and (b) average valley width is > 150 ft and (c) $>20 \%$ cumulative cover of aspen, cottonwood, alder, and willow in vegetated areas within 150 ft of the AA's edge. Or there is evidence of beaver just outside the AA. <br> Somewhat likely based on known occurrence in this part of the region and proximity to ALL of the following (a) a persistent freshwater wetland, pond, or lake, or a perennial low or mid-gradient (<10\%) channel, and (b) average valley width is $>50 \mathrm{ft}$, and (c) $>20 \%$ cumulative cover of hardwood trees and shrubs in vegetated areas within 150 ft of the AA's edge. <br> Unlikely because site characteristics above are deficient, and/or this is an area where beaver are routinely removed. But beaver occur within 2 miles. <br> None. Beaver are absent from this part of the region. | 0 0 | Valley width - is delimited by an abrupt increase in slope on both sides of the channel. <br> [AM,WBN,SBM,PD,Sens] |  |
| F23 | Isolated Island (Island) | During June, the wetland contains (or is part of) an island that is isolated from the shore by water depths $>3 \mathrm{ft}$. The island may be solid, or it may be a floating vegetation mat suitable for nesting waterbirds. The island must be larger than 400 sq.ft and without inhabited buildings. Enter 1, if true. | 0 | [WBF,WBN] |  |
| F24 | \|ce-free (IceDura) | During most years, most of the AA's surface water (if any) does not freeze, or freezes for fewer than 4 continuous weeks. Enter 1, if true. | 0 | [PR,FR,WBF] |  |


| F25 | Water Fluctuation Range - Maximum (Fluctu) | The maximum vertical fluctuation in sufface water within the AA , during a normal year is: |  | maximum vertical fluctuation - is the difference between the highest annual and lowest annual water level during an average year. <br> Use field indicators to assess this indicator. <br> [WS,SR,PR,NR,CS,OE,INV,AM,WBN,PD] |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $<0.5 \mathrm{ft}$ or stable. | 0 |  |  |  |
|  |  | 0.5 to <1 ft. | 0 |  |  |  |
|  |  | 1 to < 3 ft . | 0 |  |  |  |
|  |  | 3 to 6 ft . | 0 |  |  |  |
|  |  | $>6 \mathrm{ft}$. | 0 |  |  |  |
| F26 | \% Only Saturated orSeasonally Flooded(SeasPct) | Identify the parts (if any) of the AA that never contain surface water (only saturated soil) or where the water (either ponded or flowing) usually remains on the land surface for less than the entire growing season. The percentage of the AA containing such areas is: |  | If you can identify plants, use their wetland indicator status to infer the possible extent of seasonalonly inundation within a wetland. Vegetation may be patterned in concentric or parallel zones, as one moves outward \& away from the deepest part of the wetland or channel. Flood marks (algal mats, adventitious roots, debris lines, ice scour, etc.) may be evident when not fully inundated. In riverine systems, the extent of this zone can be estimated by multiplying by 2 the bankful height and visualizing where that would intercept the land along the river. Also, such areas often have a larger proportion of upland and annual (vs. perennial) plant species. Although useful only as a general guide, the NRCS county soil survey descriptions of the soil units and water feature table usually includes information on flooding frequency and saturation persistence. <br> [SR,NR,CS,OE,INV,FA,WBF,WBN,POL,SBM,PD,Sens,EC] |  |  |
|  |  | <5\% of the AA, or none (i.e., all water persists for >4 months). | 0 |  | NoSeasonal |  |
|  |  | 5 to <25\% of the AA. | 0 |  |  |  |
|  |  | 25 to <50\% of the AA. | 0 |  |  |  |
|  |  | 50 to $75 \%$ of the AA. | 0 |  |  |  |
|  |  | >75\% of the AA. | 0 |  |  |  |
| F27 | Salinity, Alkalinity, Conductance (Salin) | The AA's sufface water is mostly: |  | Saline or brackish conditions are commonly indicated by a prevalence of particular plant species. Consult the ORWAP Supplnfo file's P_Salt worksheetfor a list of these. <br> Brackish or saline - conductance of $>5000 \mu \mathrm{~S} / \mathrm{cm}$, or $>3200 \mathrm{ppm}$ TDS Slightly brackish - conductance of $500-5000 \mu \mathrm{~S} / \mathrm{cm}$, or $320-3200 \mathrm{ppm}$ TDS Fresh - conductance of $<500 \mu \mathrm{~S} / \mathrm{cm}$, or $<320 \mathrm{ppm}$ TDS <br> [PR,CS,AM] |  |  |
|  |  | Brackish or saline. Plants that indicate saline conditions dominate the vegetation. Salt crust may be obvious around the perimeter and on flats. | 0 |  |  |  |
|  |  | Slightly brackish. Plants that indicate saline conditions are common. Salt crust may or may not be present along perimeter. | 0 |  |  |  |
|  |  | Fresh. [Note: Assume this to be the condition unless wetland is known to be a playa or there is other contradicting evidencel. | 0 |  | FreshW |  |
|  |  | Unknown. | 0 |  |  |  |
| F28 | Fish \& Waterborne Pests(FishAcc) | Select All that apply: |  | [INV,FA,FR,AM,WBF] |  |  |
|  |  | A regularly-used boat dock is present within or contiguous to the AA. | 0 |  |  |  |
|  |  | A regularly-used boat dock is not within the AA, but there is one within 300 ft . of the AA and there is a persistent surface connection between the dock and the AA. | 0 |  |  |  |
|  |  | Fish (native or stocked) are known to be present in the AA, or can access it during at least one day annually. | 0 |  |  |  |
|  |  | None of the above, and could not estimate fish presence/absence. | 0 |  |  |  |
| F29 | Non-native Aquatic Animals (PestAnim) | 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_Supplnfo file, see Inverts_Exo worksheet for more complete list of non-native invertebratesf or Oregon, and WetVerts worksheet for more complete list of fish that are not native to Oregon. <br> You may also consult: http://nas.er.usgs.gov/queries/default.aspx http://www.dfw.state.or.us/conservationstrategylinvasive_species.asp [FA,FR,AM,EC] |  |  |
|  |  | Non-native amphibians (e.g, bullfrog) or reptiles (e.g., red-ear slider). | 0 |  |  |  |
|  |  | Carp. | 0 |  |  |  |
|  |  | Non-native fish that prey on tadpoles or turtles (e.g., bass, walleye, crappie, brook trout). | 0 |  |  |  |
|  |  | Non-native invertebrates (e.g., New Zealand mudsnail, mitten crab, rusty crayish). | 0 |  |  |  |
|  |  | Nutria. | 0 |  |  |  |
|  |  | None of above. | 0 |  |  |  |


| F30 | Shorebird Feeding Habitats (Shorebd) | The extent of mudflats, very shallow waters, or shortgrass meadows, within the AA, that meet the definition of shorebird habitat for at least 3 months during the period of late summer through the following May is: |  | Shorebird habitat - areas must have (a) grasses shorter than 6 ", or a mudflat, during any part of this period, AND (b) soils that either are saturated or covered with < 2 inches of water during any part of this period, AND (c) no detectable surrounding slope (e.g., not the bottom of an incised dry channel), AND (d) not shaded by shrubs or trees. See photograph in Appendix A of manual. This addresses needs of most migratory sandpipers, plovers, curlews, and godwits. [WBF] |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | None, or <100 sq. ft. | 0 |  |  |  |
|  |  | 100 to <1000 sq. ft. within AA. | 0 |  |  |  |
|  |  | 1000 to 10,000 sq. ft. within AA. | 0 |  |  |  |
|  |  | -10,000 sq. ft. within AA. | 0 |  |  |  |
| F31 | Outflow Duration (OutDura) | The most persistent surface water connection (outlet channel, pipe, ditch, or overbank water exchange) between the AA and the closest stream or lake located downslope is: [Note: If the AA represents only part of a wetland, answer this according to whichever is the least permanent surface connection: the one between the AA and the rest of its wetland, OR the surface connection between the AA's wetland and a mapped stream or lake located within 300 ft downslope from this wetland]. | W | The emphasis is on the connection to a mapped stream network. A larger difference in elevation between the wetland-upland boundary and the bottom of the wetland outlet (if any) indicates shorter outflow duration. <br> Do not rely only on topographic maps or NWI maps to show this; inspect while in field if possible, and ask landowner. The durations given are only approximate and are for a "normal" year. The connection need not occur during the growing season. Assume that depressions with effective nearby ditches or tile drains will connect for shorter periods. [WS,WCv,SR,PR,NR,CS,OE,FA,FR,Sens] |  |  |
|  |  | Persistent (>9 months/year). | 0 |  |  |  |
|  |  | Seasonal (14 days to 9 months/year, not necessarily consecutive). | 0 |  |  |  |
|  |  | Temporary (<14 days, not necessarily consecutive). | 0 |  |  |  |
|  |  | None -- no surface water flows out of the wetland except possibly during extreme events (<once per 10 years). Or, water flows only into a wetland, ditch, or lake that lacks an outlet. Enter 1 and SKIP TO F33. | 0 |  | NoOutlet |  |
| F32 | Outflow Confinement (Constric) | During major runoff events, in the places described above where surface water exits the AA , it: | W | Major runoff events - would include biennial high water caused by storms and/or rapid snowmelt. Impeded - means causing a delay or reduction in water velocity or volume. <br> [WS,SR,PR,NR,CS,OE,Sens,STR] |  |  |
|  |  | Is impeded as it mostly passes through a pipe, culvert, tidegate, narrowly breached dike, berm, beaver dam, or other partial obstruction (other than natural topography). | 0 |  |  |  |
|  |  | Leaves mainly through natural surface exits, not largely through artificial or temporary features which impede or accelerate outflow. | 0 |  |  |  |
|  |  | Is exported more quickly than usual as it mostly passes through ditches or pipes intended to accelerate drainage. They may be within the AA or connected to its outlet or within 30 ft of the AA's edge. | 0 |  |  |  |
| F33 | Tributary or Overbank Inflow (Inflow) | At least once annually, surface water from upstream or another water body moves into the AA. It may enter directly, or as unconfined overflow from a contiguous river or lake. If it enters only via a pipe, that pipe must be fed by a mapped stream or lake further upslope. Enter 1, if true. If false, SKIP to F36. | 0 | [SRv, PRv, PD] | Inflow |  |
| F34 | Input Channel Gradient (SlopelnChan) | The gradient of the tributary with the largest inflow, averaged over the 150 ft. before it enters the AA (but excluding any portion of the distance where water travels through a pipe) is: |  | [SRv, PRv] |  |  |
|  |  | $<1 \%$. | 0 |  |  |  |
|  |  | 1 to < $3 \%$. | 0 |  |  |  |
|  |  | 3 to 6\%. | 0 |  |  |  |
|  |  | >6\%. | 0 |  |  |  |
| F35 | Throughflow Complexity (ThruFIO) | [Skip this question if the AA lacks both an inlet and outlet.] During peak annual flow, water entering the AA in channels encounters which of the following conditions as it travels through the AA: Select the ONE encountered most. |  | This mainly refers to surface water that moves between the inlet and outlet. Some judgment is required in assessing straight vs. indirect flow path. <br> See ORWAP Manual Appendix B diagram. <br> [WS,SR,PR,NR,OE,INV,FA,FR,WBF,WBN,PD] |  |  |
|  |  | Does not bump into many plant stems as it travels through the AA. Nearly all the water continues to travel within unvegetated (often incised) channels and has minimal contact with wetland vegetation, or through a zone of open water such as an instream pond or lake. | 0 |  |  |  |
|  |  | Bumps into herbaceous vegetation but mostly remains in fairly straight channels. | 0 |  |  |  |
|  |  | $\begin{array}{l}\text { Bumps into herbaceous vegetation and mostly spreads throughout, or follows a fairly indirect path (in widely meandering, multi- } \\ \text { branched, or braided channels). }\end{array}$ | 0 |  |  |  |
|  |  | Bumps into tree trunks and/or shrub stems but mostly remains in fairly straight channels. | 0 |  |  |  |
|  |  | Bumps into tree trunks and/or shrub stems and follows a fairly indirect path (meandering, multi-branched, or braided) from entrance to exit. | 0 |  |  |  |



| F41 | Invasive or Non-native \% of Vegetative Cover (Invas) | Vegetative cover (annual maximum) is: |  | In the ORWAP Supplnfo, see P_Invas worksheet for list of invasives and P_Exo for non-native species list. Examples of woody invasives are Himalayan blackberry, English ivy, scotch broom, and gorse. <br> For known distributions of invasive plants in your area see: <br> http://inr.oregonstate.edu/orbic/invasive-species and http://www.weedmapper.org/maps.html but do not limit your answer based only on that information. Consider most crops to be non-native. [WBF,PD,POL,Sens,EC] |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Overwhelmingly (>80\% cover) non-native species AND $>10 \%$ of the herbaceous cover is invasive species. (See ORWAP Supplnfo file for species designations). | 0 |  | InvasDom |
|  |  | Overwhelmingly ( $>80 \%$ cover) non-native species AND $\leq 10 \%$ of the herbaceous cover is invasive species; OR $50-80 \%$ of cover is non-native species regardless of invasiveness. | 0 |  |  |
|  |  | Mostly (50-80\%) native species. | 0 |  |  |
|  |  | Overwhelmingly (>80\%) native species. | 0 |  |  |
| F42 | Mowing, Grazing, Fire (VegCut) | There is evidence that grazing by domestic or wild animals -- or mowing (multiple times per year), plowing, herbicides, harvesting, or fire -- has repeatedly reduced the AA's vegetation cover (plants that normally grows taller than 4 ") to less than 4 inches, or has created an obvious browse line, over the following extent: |  | Repeatedly - means the condition occurred in at least half of the last 10 years. [SR,AM,WBN,SBM,PD,EC] |  |
|  |  | 0\% ( No evidence of such activities). | 0 |  | NoMowGraze |
|  |  | Trace to $5 \%$ of the normally vegetated AA (grazing, mowing, or fire have occurred but vegetation height effects are mostly unnoticeable). | 0 |  |  |
|  |  | 5 to $<50 \%$ of the normally vegetated AA . | 0 |  |  |
|  |  | 50 to 95\% of the normally vegetated AA. | 0 |  |  |
|  |  | 295\% of the normally vegetated AA. | 0 |  |  |
| F43 | Historically Lacking Trees (HistVeg) | According to the ORWAP Report, the presettlement vegetation class in the vicinity of the AA was prairie, sagebrush, or other open lands not dominated by trees. In addition, the AA is not within the biennial floodplain of a river where trees and shrubs typically dominate when conditions are unaltered. Enter 1, if true. | 0 | In the ORWAP Report's Location Information table. This question is used as a classification variable mainly to set appropriate expectations for the extent of forest cover. | HistOpenland |
| F44 | Moss Wetland (Moss) | The AA's ground cover is primarily a deep layer of moss, and/or soils are mainly peat or organic muck. Also, the soil remains water-saturated to within 3 inches of the surface during most of a normal year. Surface water within the AA often is absent or confined to small scattered pools or ditches. Enter 1, if true. | 0 | Includes most bogs and fens. May be a floating island. <br> [NR,CS,OE,WBF,WBN,Sens] |  |
| F45 | Woody Extent (WoodyPct) | Within the vegetated part of the AA, woody vegetation (trees, shrubs, robust vines) taller than $3 \mathrm{ft} \mathrm{occupies:}$ |  | Robust vines - include Himalayan blackberry and others that are generally erect and taller than 1 ft. <br> Vegetated part - should not include floating-leaved or submersed aquatics. <br> For sites larger than 1 acre, this should be determined from aerial imagery rather than estimated only in the field. <br> [NR,WC,CS,SBM,PD,Sens] |  |
|  |  | -5\% of the vegetated AA, and fewer than 10 trees are present. Enter 1 and SKIP to F51. | 0 |  | NoWoody |
|  |  | 55\% of the vegetated AA, but more than 10 trees are present. | 0 |  |  |
|  |  | 5 to <25\% of the vegetated AA. | 0 |  |  |
|  |  | 25 to <50\% of the vegetated AA. | 0 |  |  |
|  |  | 50 to $95 \%$ of the vegetated AA . | 0 |  |  |
|  |  | >95\% of the vegetated part of the AA. | 0 |  |  |
| F46 | Woody Diameter Classes (TreeDiams) | Select All the types that comprise $>5 \%$ of the woody canopy cover in the AA or $>5 \%$ of its wooded upland edge if any: |  | Wooded upland edge- includes woody plants located within one tree-height of the wetla upland boundary. <br> DBH is the diameter of the tree measured at 4.5 ft above the ground. <br> [CS,SBM,POL,Sens] |  |
|  |  | Deciduous 1-4" diameter ( DBH ) and $>3 \mathrm{ft} \mathrm{tall}$. | 0 |  |  |
|  |  | Evergreen 1-4" diameter and $>3 \mathrm{ft} \mathrm{tall}$. | 0 |  |  |
|  |  | Deciduous 4-9" diameter. | 0 |  |  |
|  |  | Evergreen 4-9" diameter. | 0 |  |  |
|  |  | Deciduous 9-21" diameter. | 0 |  |  |
|  |  | Evergreen 9-21" diameter. | 0 |  |  |
|  |  | Deciduous >21" diameter. | 0 |  |  |
|  |  | Evergreen >21" diameter. | 0 |  |  |




| F58 | Soil Composition(SoilTex) | Based on digging into the substrate and examining the surface layer of the soil ( 2 inch depth) that was mapped as being predominant, its composition (excluding duff and living roots) is mostly: |  | Do not base the texture on soil maps unless the AA is inaccessible. See ORWAP Manual's protocol (Step 2 of section 5.3 and the soil chart in Appendix B). Judge which soil type is predominant only in the part of the AA that is not inundated at the time of your visit. <br> Duff - is loose organic surface material, e.g., dead plant leaves and stems). Organic soils are much less common in floodplains. [WS,PR,NR,CS, OE,PD,Sens] |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Loamy: includes silt, silt loam, loam, sandy loam. | 0 |  |  |
|  |  | Clayey: includes clay, clay loam, silty clay, silty clay loam, sandy clay, sandy clay loam. | 0 |  |  |
|  |  | Organic: includes muck, mucky peat, peat, and mucky mineral soils (blackish or grayish). Exclude live roots unless they are moss. | 0 |  |  |
|  |  | Coarse: includes sand, loamy sand, gravel, cobble, stones, boulders, fluvents, fluvaquents, fiverwash. | 0 |  |  |
| F59 | Cliffs or Banks (Cliff) | Within 300 ft of the AA, there are elevated terrestrial features such as cliffs, bluffs, talus slopes, or unarmored stream banks that extend at least 6 ft nearly vertically, are unvegetated, and potentially contain crevices or other substrate suitable for nesting or den areas. <br> Enter 1, if true. | 0 | [SBM,POL] |  |
| F60 | Restored or Created Wetland (NewWet) | The AA is (or is within, or contains) a "new" wetland resulting from human actions (e.g., excavation, impoundment) or other factors affecting what was upland (non-hydric) soil. Or, some part of the AA was originally a wetland, was artificially drained for many years, and has since had its water regime partly or wholly restored or rehabilitated (e.g., by ditch plugs, berms, tile breakage, non-maintenance). |  | Include wetlands whose area was likely expanded by road berms which impeded runoff, but do not include wetlands created by beaver dams except for the part where flooding affected uplands (not just existing wetlands and streams). Determine this using historical aerial photography, old maps, soil maps, consultation with landowners, and/or permit files as available. <br> See ORWAP Map Viewer's Hydric Soil layer (expend Soils). Also, locations of some restoration wetlands can be found in the ORWAP Map Viewer under Restoration. Another potential source is the Conservation Registry: https://oregonexplorer.info/content/conservation-registry?topic\&ptopic. <br> [PR,NR,CS,OE,PD,Sens] |  |
|  |  | Yes, and constructed or restored mostly within last 3 years. | 0 |  |  |
|  |  | Yes, and constructed or restored mostly 3-7 years ago. | 0 |  |  |
|  |  | Yes, and constructed or restored mostly $>7$ years ago. | 0 |  |  |
|  |  | Yes, but time of origin or restoration unknown. | 0 |  |  |
|  |  | No. | 0 |  | NotNewWet |
|  |  | Unknown if wetland is constructed, restored, or natural. | 0 |  |  |
| F61 | Ownership (Ownership) | Most of the AA is: |  | An initial indication of ownership can be found on the ORWAP Map Viewer under the Land Ownership layer (expand Land Classification). However, it is advisable to ask local sources or use local maps with higher precision.[PUv] |  |
|  |  | Publicly owned (municipal, county, state, federal). | 0 |  |  |
|  |  | Owned by non-profit conservation organization or easement holder who allows public access to this AA. | 0 |  |  |
|  |  | Other private ownership, including tribal. Enter 1 and SKIP to F63. | 0 |  | PrivateOwn |
| F62 | Special Protected Area Designation (Desig) | The AA is part of an area designated as a Special Protected Area according to the USGS Protected Areas Database of the U.S. <br> Enter 1, if true. | 0 | See the ORWAP Map Viewer Report under the Location Information section for "In Special Protected Area?" [PUv] |  |
| F63 | Conservation Investment (ConsInvest) | The AA is not a mitigation wetland, but public funds or community volunteer efforts have been applied to preserve, create, restore, or enhance the condition or functions of the wetland. (e.g. CRP or WRP wetlands, community projects). <br> Enter 1, if true. (If unknown, leave 0). | 0 | Locations of some restoration wetlands can be found in the ORWAP Map Viewer under Restoration. Another potential source is the Conservation Registry: https://oregonexplorer.info/content/conservation-registry?topic\&ptopic [PUV] |  |
| F64 | Compensation Wetland (MitWet) | The AA is all or part of a compensation site used explicitly to offset impacts elsewhere. Enter 1, if true. ( If unknown, leave 0). | 0 | Answer to the best of your knowledge. Sources for information include the property owner, DSL, and/or the ACOE. [PUv] |  |
| F65 | Sustained Scientific Use (SciUse) | 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. Enter 1, if true. (If unknown, leave 0) | 0 | [PUV] |  |
| F66 | Visibility (Visibil) | The maximum percentage of the wetland that is visible from the best vantage point on public roads, public parking lots, public buildings, or public maintained trails that intersect, adjoin, or are within 300 ft of the AA is (Select ONE): |  | [WBFv,WBNv,SBMv,PUv,STR] |  |
|  |  | <25\%. | 0 |  |  |
|  |  | 25-50\%. | 0 |  |  |
|  |  | >50\%. | 0 |  |  |


| F67 | Non-consumptive Uses Actual or Potential (RecPoten) | Select All statements that are true of this AA as it currently exists: |  | The question assumes access is allowed. [PUv] |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Walking is physically possible in $>5 \%$ of the AA during most of year (e.g., free of deep water and dense shrub thickets). | 0 |  |  |
|  |  | 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). | 0 |  |  |
|  |  | 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. | 0 |  |  |
|  |  | Within or near the AA, there is an interpretive center, trails with interpretive signs or brochures, and/or regular guided interpretive tours. | 0 |  |  |
| F68 | Core Area 1 (VisitNo) | The percentage of the AA almost never walked or driven by humans during an average growing season probably comprises: [Note: If more than half the wetland is visible from areas within 100 ft of the AA , include visits by people to those areas that are actually walked or driven (not simply viewed from). |  | 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. <br> Exclude visits that are not likely to continue and/or that are not an annual occurrence (e.g., by construction, maintenance, or monitoring crews). <br> [AM,WBF,WBN,SBM,PD,PUv,STR] |  |
|  |  | <5\% and no inhabited building is within 300 ft of the AA . | 0 |  |  |
|  |  | <5\% and inhabited building is within 300 ft of the AA. | 0 |  |  |
|  |  | 5 to <50\% and no inhabited building is within 300 ft of the AA. | 0 |  |  |
|  |  | 5 to $50 \%$ and inhabited building is within $300 \mathrm{ft} \mathrm{of} \mathrm{the} \mathrm{AA}$. | 0 |  |  |
|  |  | 50 to 95\% with or without inhabited building nearby. | 0 |  |  |
|  |  | 295\% of the AA with or without inhabited building nearby. | 0 |  |  |
| F69 | Core Area 2 (Visitoften) | The part of the AA visited by humans almost daily for several weeks during an average growing season probably comprises: [The Note in the preceding question applies here as well. |  | See note above. <br> [AM,WBF,WBN,SBM,PD,PUv,STR] |  |
|  |  | <5\%. | 0 |  |  |
|  |  | 5 to < $50 \%$. | 0 |  |  |
|  |  | 50 to 95\%. | 0 |  |  |
|  |  | 295\% of the AA. | 0 |  |  |
| F70 | Consumptive Uses(Provisioning Services)(Hunt) | Recent evidence was found within the AA of the following potentially-sustainable consumptive uses. Select All that apply. |  | Evidence of these consumptive uses may consist of direct observation, or presence of physical evidence (e.g., recently cut stumps, fishing lures, shell cases), or might be obtained from communication with the land owner or manager. <br> [FRv,WBFv,PUv] |  |
|  |  | Low-impact commercial timber harvest (e.g., selective thinning). | 0 |  |  |
|  |  | Commercial or traditional-use harvesting of native plants, their fruits, or mushrooms. | 0 |  |  |
|  |  | Waterfowl hunting. | 0 |  |  |
|  |  | Fishing. | 0 |  |  |
|  |  | Trapping of furbearers. | 0 |  |  |
|  |  | None of the above. | 0 |  |  |
| F71 | Domestic Wells (Wells) | Wells or water bodies that currently provide drinking water are: |  | If unknow, 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 other densely settled area). <br> [NRv] |  |
|  |  | <300 ft and downslope from the AA or at same elevation. | 0 |  |  |
|  |  | 300 to 1500 ft and downslope or at same elevation. | 0 |  |  |
|  |  | $>1500 \mathrm{ft} \mathrm{downslope} ,\mathrm{or} \mathrm{none} \mathrm{downslope} ,\mathrm{or} \mathrm{no} \mathrm{information}$. | 0 |  |  |


| F72 | Wetland Type of Conservation Concern (RareType) | Does the AA contain, or is it part of, any of these wetland types? Select All that apply. | W | Consult the ORWAP Report under the Location Information table for "Rare Wetland Types." But be aware that it may not apply to the exact AA you have delimited. <br> [PDv, Sens] |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Mature forested wetland (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. | 0 | To qualify, the diameter of $>18$ inches must be the mean measured from at least 10 trees. |  |  |
|  |  | Bog or Fen: 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. | 0 |  |  |  |
|  |  | Playa, Salt Flat, or Alkaline Lake: a nontidal ponded water body usually having saline (salinity $>1 \mathrm{ppt}$ or conductivity $>1000 \mu \mathrm{~S}$ ) or alkaline (conductivity $>2000 \mu \mathrm{~S}$ and $\mathrm{pH}>9$ ) 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., Distichlis, Atriplex) are common. | 0 | See ORWAP_Supplnfo file, worksheet P_Salt for species typically occurring in tidal or saline conditions. | Playa |  |
|  |  | Hot spring (anywhere): a wetland where discharging groundwater in summer is $>10$ degrees (F) warmer than the expected water temperature. | 0 |  |  |  |
|  |  | Native wet prairie (west of the Cascade crest): a seasonally inundated wetland, usually without a naturally-occurring inlet or outlet, and dominated primarily by native graminoids often including species in column E. | 0 | Deschampsia caespitosa, Danthonia californica, Camassia quamash, Triteleia hyacinthina, Carex densa, C. aperta, and/or C. unilateralis |  |  |
|  |  | Vernal pool (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 native plant species distinctly different from those in slightly higher areas, and often including species in column E . | 0 | Downingia elegans, Isoetes nuttallii, Triteleia hyacinthina, Eleocharis spp., Eryngium petiolatum, Plagiobothrys figuratus, Plagiobothrys scouleri, Grindelia nana, Veronica peregrina, Lasthenia glaberrima , Cicendia quadrangularis, Kickxia elatine, Gnaphalium palustre, and/or Callitriche spp. |  |  |
|  |  | Vernal pool (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 native vegetation, often including species in column E. | 0 | Downingia vina, Isoetes nuttalli, Pilularia americana, Triteleia hyacinthina, Eleocharis spp., Eryngium petiolatum, Plagiobothrys brachteatus, Plagiobothrys scouleri, Grindelia nana, Veronica peregrina, Alopecurus saccatus, Lasthenia californica, Deschampsia danthonioides, and/or |  |  |
|  |  | Vernal pool (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. | 0 | Blennosperma nanum, Camassia quamash, Epilobium densiflorum, Callitriche marginata, Cicendia quadrangularis, Eryngium vaseyi, Psilocarphus brevissimus, and/or Sedella pumila. |  |  |
|  |  | Interdunal wetland (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, blowout pond), and often with significant cover of the native species in column E . | 0 | Carex obnupta, Argentina egedii, Juncus lesueurii, J. nevadensis, J. falcatus, Sisyrinchium californicum, and/or Salix hookeriana |  |  |
|  |  | Ultramafic soil wetland (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. | 0 |  |  |  |
|  |  | None of above. | 0 |  |  |  |

