## Tom Duebendorfer - Biological Consultant, Professional Wetland Scientist

David Schuck Daher: Director - Customer and Network Care (208) 920-2780 D.Schuck@daher.com

# Re: Wetland Determination Letter Property for property north of Turbine Drive (near the Sandpoint Airport) City of Sandpoint, ID (portion of) RPS00000105804A; T57N, R2W, portion of Section 9/10 (LOT 6); portion north of Turbine Drive

Dear David:

Per your request for environmental services, I am submitting this Wetland Determination Letter Report for the property referenced above (Figure 1). On September 8, and 11, 2015, I visited the site and used the Regional Supplement to the Corps of Engineers (Corps) Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region U.S. Army Corps of Engineers 2010, to determine whether the three required wetland parameters (<u>hydrophytic vegetation, hydric soils</u>, and <u>wetland hydrology</u>) were present. Data Plots and Photographs are appended. I re-visited the site in May 2022 to ascertain any potential changes to the wetland extent.

### **Site Conditions**

The property presently contains a residence, with the remainder pasture and shrub vegetation. It is located north of Turbine Drive (near the airport), and bound by undeveloped property to the north, Great Northern (GN) Road to the west, and development to the east (Daher facilities). The property is essentially flat. The National Wetland Inventory (NWI) mapped a band of PEM1C (emergent, non-woody) wetland extending through the property. The 7.5' USGS quad map is Sandpoint.

### Vegetation

The vegetation consists of several associations:

(1) **upland forest**, (2) **upland meadow**, (3) **wetland pasture**, and (4) **scrub-shrub wetland**. The wetland indicator status of the dominant plant species are given in brackets and defined below.

The **upland forest** association exists in portions of the South Area (Figure 2). It is mostly open evergreen forest dominated by young lodgepole pine (*Pinus contorta* [FAC]), and ponderosa pine (*Pinus ponderosa* [FACU). The understory (where present) is snowberry (*Symphoricarpos albus* [FACU]), serviceberry (*Amelanchier alnifolia* [FACU]), and rose (*Rosa woodsii* [FACU]). Groundcover is weedy grasses including orchardgrass (*Dactylis glomerata* [FACU]), quackgrass (*Elymus repens* [FAC]), bentgrass (*Agrostis stolonifera* [FAC]), red fescue (*Festuca rubra* [FAC]), with some areas dominated by a significant amount of tansy (*Tanacetum vulgare* [FACU]). This association IS hydrophytic — but contains other weedy upland species.

The **upland** (**disturbed**) **meadow** association is present over most of the sites — having few native species: mostly orchardgrass, quackgrass, bentgrass, St. John's wort (*Hypericum perforatum* [FACU]), tansy, hawkweeds (*Hieracium* spp. [NL]), ox-eye daisy, dandelion (*Taraxacum officinale* [FACU]), plantain (*Plantago lanceolata* [FACU]), thistle (*Cirsium arvense* [FACU]), with some representation by aster (*Symphyotrichum foliaceous* [FACU]). This association would NOT be considered hydrophytic.

\* Wetland Indicator Status: OBL = obligate wetland; FACW = facultative wetland; FAC = facultative; FACU = facultative upland; UPL = upland

The **wetland pasture** association exists wheres evidence of short-term spring ponding was observed. It mostly contains the same types of species as in the upland meadow with major representation by canarygrass (*Phalaris arundinacea* [FACW]), occasional small patches of cattail (*Typha latifolia* [OBL]), slender rush (*Juncus tenuis* [FAC], and few sedges (*Carex utriculata* [OBL]). The vegetation in this association IS hydrophytic.

The **scrub-shrub wetland** association exists in the western portion of the property associated with ditches adjacent GN Rd. It contains spiraea (*Spiraea douglasii* [FACW]), and hawthorn (*Crataegus douglasii* [FAC]). Some areas also contain tansy (*Tanacetum vulgare* [FACU]). This association IS primarily hydrophytic.

These associations are generally heterogeneous and their separation artificial. Species fidelity to any described association is often low, with occasional occurrences of hydrophytic species in the upland areas (e.g., bentgrass) and occasional non-hydrophytic herbaceous species such as thistle, tansy, and quackgrass, in the moister areas.

### Soils

### General

The entire area was mapped by the National Resources Conservation Service (NRCS) as Odenson silt loam (Map Unit 34) occurring on 0-2% slopes. This series is poorly drained, located in low areas on terraces, and derived from silty glacial lake-laid sediments derived from mixed sources. Permeability of this soil series is slow and there is seasonal high water table at a depths of 6 to 24 inches from February to June. It is classified as an andaqueptic haplaquoll (which means it formed recently in andesitic-based areas in a groundwater-based hydrologic condition [aquic moisture regime], and is a mollisol [a soil with a surface horizon darkened by organic matter] that is seasonally saturated [anaerobic] due to groundwater). Largely because of its seasonally saturated conditions, it is considered hydric.

### Specific

On this property, two formal and numerous other undocumented soil data pits were excavated and inspected for hydric conditions. Profiles excavated during the field survey typically displayed two types. Typically, soils in the upland areas showed surface horizons of 10YR 3/3 silt loams over 10YR 3/3, or more commonly 2.5Y 5/3 silt loams or fine sandy loams. Generally lacking redoximorphic features, the chromas in these soils are too high to be considered a physical hydric soil indicator. Wetland soils were actually quite similar to the upland soils, often the chromas were slightly lower (generally still exceeding 2), but commonly had some percentage (2-10%) of redoximorphic features (either oxidized masses, or reduced depletions). The determination of whether the area contained hydric soil was largely a result of NTCHS Criterion #3 (ponding) which "trumps" any physical color indicator. Thus, areas showing evidence of surface ponding were considered to have hydric soils.

#### Hydrology

The National Wetlands Inventory (NWI) showed a swath through the property as palustrine, emergent, seasonally flooded wetland (PEM1C) (Figure 2). Hydrology to the site appears to derive from high spring runoff and likely snowmelt. Ponding is exacerbated by a hardpan layer in the soil which, from the surface, ranges from 4" to 14".

#### Wetland Determination

Jurisdictional wetlands were delineated where vegetation, soils, and hydrology all reflect anaerobic conditions as defined and described above. Topography, when diagnostic of hydrologic confines, was considered in refining the wetland boundary. Wetland boundaries were identified and flagged and/or staked (labeled with blue ribbon flagging), and mapped using ESRI ArcMap on a NAIP Bonner County 2013 aerial photograph. The wetland boundaries were located using a sub-meter handheld GPS unit.

Based on the formal data plots and the site survey, it was determined that four areas on the property showed indicators of all three required wetland parameters and were field flagged and staked (Figure 3). Table 1 identifies the wetlands, their size, classification, dominant vegetation, and the scores from the Montana Wetland Functional Assessment (which is used by the Valencia Wetland Mitigation Bank in Priest River should there be wetland fills proposed that exceed 0.1 acre [see Regulatory Requirements]). Figure 3 shows the delineation boundaries, data plot, and photograph locations. Photographs are appended.

Wetland	Areal Extent (ac)	Classification*	Vegetation	Functional Value**
D	0.25	PEM1C	canarygrass	1.2
Е	0.18	PEM1A	meadow foxtail, canarygrass	1.2
F	0.03	PSS1A	spiraea, hawthorn	1.2
G	0.02	PSS1A	spiraea	1.2
TOTALS	0.48			

Table 1. Summary of Wetlands on Subject Property

\* Cowardin System (Cowardin et al, 1979)

\*\* Montana Wetland Functional Assessment Score (Berglund 1999) - this rating is on a scale of 1-12 (the lower, the less functional value of the wetland)

#### **Regulatory Implications**

This property was initially investigated in 2015 for wetland extent. In 2016, Quest (now Daher) applied for and received authorization for filling 0.2-acre of wetland fill for the construction of Turbine Drive (Corps permit NWW No. 2007-821-C03). I have no documentation of whether Quest was required to mitigate this approved fill. However, after a meeting with Shane Slate (US Army Corps of Engineers), representatives from Quest, Idagon, and myself, it was determined that prior wetland fills by Quest (i.e., 0.2 acres, were filled for the construction of Turbine Drive) would need to be included in any total requested future wetland fill to maintain the total wetland fill under 0.5 acre (see Regulatory Requirements). This leaves a total of 0.3 acres of wetland that could be filled.

A Montana Wetland Functional Assessment (MWAM) was completed for the on-site wetland and the resulting score was 1.2 functional points (out of 12). This score is multiplied by the proposed area of fill (in acres) to arrive at the required number of credits to be purchased, if future wetland fills are proposed (MWAM forms attached). As described above, 0.3 acres of the remaining wetland may be filled if a JOINT application for fill is completed and submitted to the US Army Corps of Engineers.

Thank you for requesting my services. Let me know if you have any questions or need additional information.

Sincerely,

Deber Tom

Tom Duebendorfer, MA, PWS (Emeritus)



encls: Regulatory Requirements
Figure 1: Vicinity Map
Figure 2: National Wetland Inventory and NRCS Soils Map
Figure 3: Wetland Delineation, Data Plot, and Photograph Location Map
Photosheet
Montana Functional Assessment (5-page forms)
US Army Corps of Engineers Permit
Data Plots (2) 2-page forms
Résumé

References Used (not necessarily cited):

Berglund, J. 1999. MDT Montana Wetland Assessment Method. Document prepared for Montana Department of Transportation and Morrison-Maierle, Inc. Prepared by Western EcoTech. May 25, 1999. (This document is used by the Valencia Wetland Mitigation Bank (Valencia Wetland Trust) to calculate number of mitigation credits required for wetland fill in excess of 0.1 acre.)

Bonner County (on-line mapping tool Viewer 2.0).

- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. Office of Biological Services, Fish and Wildlife Service, U.S. Dept. of the Interior, FWS/OBS-79/31.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Miss.
- ESRI. ArcMap 10.5.1 GIS software. Arrow Series 100 GPS unit.
- Hitchcock, C.L., A. Cronquist, M. Ownbey, and J.W. Thompson. 1977 (and as updated 2018 in 2nd Edition). Vascular Plants of the Pacific Northwest. University of Washington Press. Seattle, Washington (five volumes).
- NAIP 2013. USDA Aerial photography of Bonner County, ID.
- NAIP 2021. USDA Aerial photography of Bonner County, ID.
- NRCS. US Department of Agriculture, National Resources Conservation Service. Soil Survey (website).
- NRCS. 2010. United States Department of Agriculture, Natural Resources Conservation Service. 2010. Field Indicators of Hydric Soils in the United States, Version 7.0. L.M. Vasilas, G.W. Hurt, and C.V. Noble (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.
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- Vepraskas, M.J. 1992. Redoximorphic Features for Identifying Aquic Conditions. North Carolina Agricultural Research Service. Raleigh, North Carolina.
- U.S. Army Corps of Engineers 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region.
- U.S. Army Corps of Engineers 2016. Permit NWW-2007-821. Document discussing permit implications and approved Wetland Delineation.
- USDI. National Wetland Inventory mapping (website).
- USGS. Sandpoint, ID 7.5' topographic quadrangle.

### **Regulatory Permitting Process: Types of Permits - Corps of Engineers**

Under the Clean Water Act, the Corps has the authority to regulate the discharge or fill or dredged material into "Waters of the US". There are three Permits the Corps uses to regulate fill into wetlands. The Regional General and Individual Permits (not described here) are probably not appropriate for your site.

(1) Nationwide General (NWP): This permit is authorized for specific activities nationwide with minimal impact and minimal evaluation time. The NWPs typically have a ½ acre limit for fill in wetlands and 300 linear foot limit for fill in stream channels. A Pre-Construction Notification application (PCN) must be submitted to the appropriate field office (Walla Walla District). Typically, *less than 1/10-acre (4,356 sf) of wetland fill does not require mitigation* (though a PCN is required), and up to ½ acre of wetland fill, requires mitigation. (See below for **compensation methods**). There are Regional Conditions for Nationwide Permits (www.nww.usace.army.mil/ Portals/28/Users/108/44/1644/Final%20NWW%20Regional%20Conditions%202017%20NWPs.pdf). There are 54 Nationwide Permits each regarding specific activities proposed in wetlands (www.nww.usace.army.mil/Business-With-Us/Regulatory-Division/Nationwide-Permits/).

When any permit application is received, it is evaluated based upon three criteria: <u>avoidance, minimization, and</u> <u>mitigation</u>. Once the applicant meets these criteria, a permit can be issued. It is taking Corps presently about 60 days to process permits.

### **Compensation Methods for unavoidable Wetland Impacts**

According to the 2008 Final Mitigation Rule (Federal Register/Vol. 73, No. 70 / Thursday, April 10, 2008 / Rules and Regulations), under § 332.1 (c) the Final Mitigation Rule maintains the requirements set forth in Section 404(b) (1) Guidelines at 40 CFR part 230 which state that *"the permit applicant [is required] to take all appropriate and practicable steps to avoid and minimize adverse impacts to waters of the United States. Practicable means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. Compensatory mitigation for unavoidable impacts may be required to ensure that an activity requiring a section 404 permit complies with the Section 404(b)(1) Guidelines" (emphasis mine). According to § 230.93 (a)(2), restoration of impacted wetland is the first priority in the compensation sequence followed by purchasing credits (employing the use of approved Wetland Mitigation Banks within the service area) § 230.93 (b) (2).* 

The 1999 Montana Wetland Assessment Method is used to calculate the number of Wetland Credits to be purchased from the Valencia Wetland Mitigation Bank (Bank) in Priest River *should there be any wetland impacts (fill* > 1/10 *acre) required as a result of the proposed development.* The Assessment will result in a score between 1 and 12. This score is multiplied by the area to be filled. That result is the number of credits required to be purchased from the Bank. Currently one credit costs \$28,000. Obviously, the smaller the area of wetland impact, the less it will cost in mitigation credits. The Assessment may take up to 6 hours to complete.

**The City of Sandpoint** does not impose any wetland setbacks (buffers). However, any wetland fill would require a permit from the Corps of Engineers.





NRCS So

Great-Northern Rd

N. Sec.

l Odenson silt loam



Figure 2 National Wetland Inventory and NRCS Soils Map Daher Property

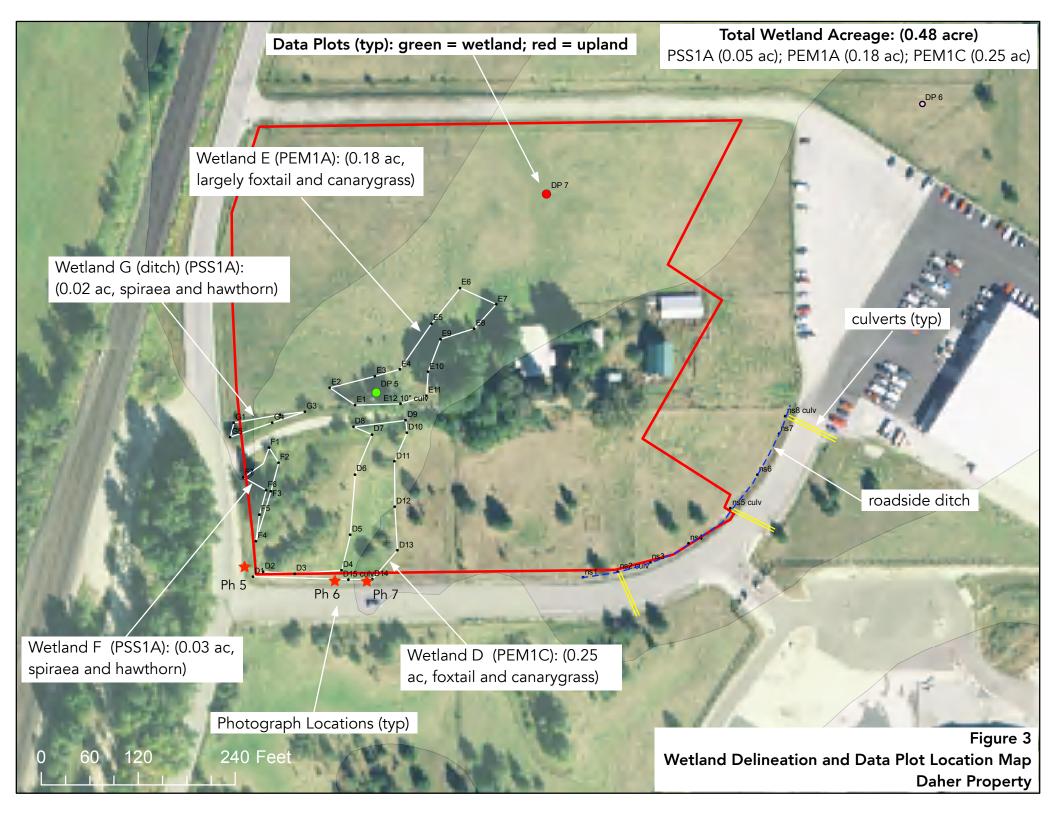




Photo 5: view east from Wetland Flag D1



Photo 7: view east into roadside ditch (not considered wetland)



Photo 6: view north and northeast into Wetland D. Canarygrass swale, few hawthorn and willow (< 20% overall cover in wetland —> PEM1A; short term (temporarily) flooded; soils unequivocal, chromas 2+); ponding "trumps" physical soil indicators by virtue of NTCHS Criterion #3

Photosheet 3 Quest Expansion Area WEST

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Comments: . General condition of AA: 1. Regarding disturbance Conditions with occurs and is managed in predomina zed, hayed, logged, or otherwise con ds or occupied buildings. not cultivated, but moderately grazed ged; or has been subject to relatively gement. or hydrological alteration; co cultivated or heavily grazed or logger stantial fill placement, grading, clear in road or building density. Comments: (types of dist ii. Provide brief description)	Vetland (SS), Forested Wetland L: Lower Perennial (2)/ Classes tently Flooded (F), Seasonally F tificial (A) HGM Classes: Rive ance: (of similarly classif Unknown ee: (use matrix below to d hin AA antly natural state; is not verted; does not contain d or hayed or selectively minor clearing, fill ntains few roads or buildings. d; subject to relatively ing, or hydrological alteration; urbance, intensity, seaso en, & introduced species tive summary of AA an bads, residence, ed on number of "Coward	I(FO)/ System: S: RB, UB, AB, US Nooded (C), Saturnine, Depressional Fied sites within Rare Intermine [circon Land manage natural state; i logged, or other does not contain low disturbain moderate d high disturt on, etc.): s (including developed din" vegetated	Lacustrine (L), Subsystem: Up rated (B), Temporarity F al, Slope, Mineral Soil F in the same Major cle] appropriate res <i>Prectorni</i> is in precominantly is not grazed, hayed, envise converted; ain roads or buildings. ance listurbance bance those not domest ing land use/habit ed and under d classes present	st: Limnetic (2)/ Class per Perennial (3)/ Class Per Perennial (3)/ Class Peoded (A), Intermitter Tats, Organic Soil Flat Montana Watersh Common Common Land not cultivated grazed or hayed or or has been subject contains few roads low disturbance moderate distur high disturbance sticated, feral): ( tat: eveloped p [do not include un ted classes (or	ses: RB, UB, Al isses: RB, UB, Al isses: RB, UB, Al ity Flooded (J) s, Lacustrine Fri- ned Basin, s djacent to (w but moderatel selectively logg at to minor clear or buildings. e rbance ce list)Cana ropertie nvegetated c	B/ Subsystem: Littoral AB, US/ Water Regim Modiffers: Excavated inge ee definitions) Abunda within 500 feet of) y Land cultivate subject to sub- clearing, or hy or building der moderate d high disturt high disturt rygrass, tansy S lasses], see #10 ed classes (or	AA dor heavily graze stantial fill placen drological alterati sity. bance bance	B, UB, AB, Flooded (H), (I), Diked ed or logged; nent, grading, ion; high road	

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#### SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

14A. Habitat for Federally Listed or Proposed Threatened or Endangered Plants or	Animals:
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AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions);

D D D

D

	Primary or critical habitat (list species
	Secondary habitat (list species)
	Incidental habitat (list species)
(	No usable habitat

		1 10 23 11 13		
1 197	LANKE T	197 AD111 Y	E. S. N. Sar I	10111111111111111111111111111111111111

II. Rating (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function)

Highest Habitat Level	doc./primary	sus/primary	doc./secondary	sus./secondary	doc./incidental	sus./incidental	None
Functional Points and Rating	1 (H)	.9 (H)	.8 (M)	.7 (M)	.5 (L)	.3 (L)	(0(L))
ources for documented use (e)	a observations r	acords ata):					$\overline{}$

servations, records, etc):

14B. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in14A above) AA is Documented (D) or Suspected (S) to contain (circle one based on def

Primary or critical habitat (list species)	DS				
Secondary habitat (list species)	DS	化化学 医外外的 化化合金	1 10-	1. B. 1. 1. B. 1. 4.	
Incidental habitat (list species)	DS				
No usable habitat	DS		1990 312 513		
2 Country and a second s				1 - 1 g +	-

II. Rating (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function)

Highest Habitat Level	doc./primary	sus/primary	doc./secondary	sus./secondary	doc./incidental	sus./incidental	None
Functional Points and Rating	1 (H)	.8 (H)	.7 (M)	.6 (M)	.2 (L)	.1 (L)	(0 (L))
Sources for documented use (e.c	a observations, rec	cords, etc.):					

#### 14C. General Wildlife Habitat Rating:

I. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):

Substantial (based on any of the following [check]):

- observations of abundant wildlife #s or high species diversity (during any period)
- abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.
- presence of extremely limiting habitat features not available in the surrounding area
- interviews with local biologists with knowledge of the AA
- (based on any of the following [check]): Low
- few or no wildlife observations during peak use periods
- little to no wildlife sign X
- sparse adjacent upland food sources
- interviews with local biologists with knowledge of the AA

Moderate (based on any of the following [check]):

- observations of scattered wildlife groups or individuals or relatively few species during peak periods
- common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
- adequate adjacent upland food sources
- interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (working from top to bottom, circle appropriate AA attributes in matrix to arrive at exceptional (E), high (H), moderate (M), or low (L) rating. Structural diversity is from #13. For class cover to be considered evenly distributed, vegetated classes must be within 20% of each other in terms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of these terms].)

Structural diversity (see #13)	den 17 para	- sus L		Hi	gh				50 B h	30	Genna		erate	× ′ .		6		Low	$\mathbf{v}$	
Class cover distribution (all vegetated classes)	1997 1997 1997	Eve	n		e de l	Unev	ven		4.47	Eve	'n			Une	ven		17	Eve	n)	
Duration of surface water in $\geq$ 10% of AA	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A
Low disturbance at AA (see #12i)	E	E	E	н	E	E	н	н	E	н	н	M	E	н	M	M	E	н	M	M
Moderate disturbance at AA (see #12i)	Н	н	н	Н	Н	н	н	M	Н	н	M	M	H H	M	M	L	н	м	L	L
High disturbance at AA (see #12i)	e M ca	м	M	L	M	M	L	L	M	M	L	L	M -	L	L	L	a Ly	L	L (	L

iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating [E = exceptional, H = high, M = moderate, or L = low] for this function)

Evidence of wildlife use (i)	Wildlife habitat features rating (ii)								
	Exceptional	High	Moderate	Low					
Substantial	1 (E)	.9 (H)	.8 (H)	.7 (M)					
Moderate	.9 (H)	.7 (M)	.5 (M)	3(4)					
Minimal	.6 (M)	.4 (M)	.2 (L)	(.1 (L))					

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14D. General Fish/Aquatic Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not or was not historically used by fish due to lack of habitat, excessive gradient, etc., circle NA here and proceed to the next function. If fish use occurs in the AA but is not desired from a resource management perspective [such as fish use within an irrigation canal], then Habitat Quality [i below] should be marked as "Low", applied accordingly in ii below, and noted in the comments.)

i. Habitat Quality (circle appropriate AA attributes in matrix to arrive at exceptional (E), high (H), moderate (M), or low (L) quality rating.

Duration of surface water in AA			Temporary / Ephemeral						
Cover - % of waterbody in AA containing cover objects such as submerged logs, large rocks & boulders, overhanging banks, floating-leaved vegetation, etc.	>25%	10–25%	<10%	>25%	10–25%	<10%	>25%	10–25%	<10%
Shading - >75% of streambank or shoreline within AA contains riparian or wetland scrub-shrub or forested communities	E	E	н	Н	н	М	М	М	м
Shading – 50 to 75% of streambank or shoreline within AA contains rip. or wetland scrub-shrub or forested communities	H	Н	М	М	М	М	М	L	L
Shading - < 50% of streambank or shoreline within AA contains rip. or wetland scrub-shrub or forested communities	n Hini Lacia	М	М	М	Land Land	L	L	L	

ii. Modified Habitat Quality (Circle the appropriate response to the following question. If answer is Y, then reduce rating in i above by one level [E = H, H = M, M = L, L = L]). Is fish use of the AA precluded or significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support? Y N Modified habitat quality rating = (circle) E H M L

iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating [E = exceptional, H = high, M = moderate, or L = low] for this function)

Types of fish known or		Modified Hab	vitat Quality (ii)	
suspected within AA	Exceptional	High	Moderate	Low
Native game fish	1 (E)	.9 (H)	.7 (M)	.5 (M)
Introduced game fish	.9 (H)	.8 (H)	.6 (M)	.4 (M)
Non-game fish	.7 (M)	.6 (M)	.5 (M)	.3(L)
No fish	.5 (M)	.3 (L)	.2 (L)	(.1(L))

#### Comments:

14E. Flood Attenuation: (applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle NA here and proceed to next function.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function)

Estimated wetland area in AA subject to periodic flooding		≥ 10 acres			<10, >2 acre	S		<2 acres	
% of flooded wetland classified as forested, scrub/shrub, or both	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%
AA contains no outlet or restricted outlet	1(H)	.9(H)	.6(M)	.8(H)	.7(H)	.5(M)	.4(M)	1.3(L)	(.2(L)
AA contains unrestricted outlet	.9(H)	.8(H)	.5(M)	.7(H)	.6(M)	.4(M)	.3(L)	.2(L)	.1(L)

ii. Are residences, businesses, or other features which may be significantly damaged by floods located within 0.5 miles downstream of the AA (circle)? Y N Comments:

14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle NA here and proceed with the evaluation.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions of these terms].)

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding		>5 acre fee	at in the second	<5, >1 acre feet			:	≤1 acre foot		
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E	
Wetlands in AA flood or pond ≥ 5 out of 10 years	1(H)	.9(H)	.8(H)	.8(H)	.6(M)	.5(M)	.4(M)	.3(L)	(.2(L))	
Wetlands in AA flood or pond < 5 out of 10 years	.9(H)	.8(H)	.7(M)	.7(M)	.5(M)	.4(M)	.3(L)	.2(L)	.1(L)	

#### Comments:

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive excess sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, circle NA here and proceed with the evaluation.)

Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function.

Sediment, nutrient, and toxicant input levels within AA	to moderate le bounds such the y impaired. Mit is or toxicants,	ling land use w evels of sedime hat other functi nor sedimental , or signs of eu resent.	ents, nutrients, ons are not ion, sources of	nutrients, or toxic use with poter nutrients, or co	r "probable caus cants or AA reco ntial to deliver hig ompounds such npaired. Major se	es" related to eives or surrou gh levels of se that other func- dimentation, s	sediment, inding land diments, ctions are sources of	
% cover of wetland vegetation in AA		70%	<	70%	> 70	1%	< 70%	
Evidence of flooding or ponding in AA	nding in AA Yes No		Yes	No	Yes	No	Yes	No
AA contains no or restricted outlet	1 (H) .8 (H)	.8 (H)	.7 (M)	.5 (M)	.5 (M)	.4 (M)	.3 (L)	2(1)
AA contains unrestricted outlet				.4 (M)	.4 (M)	.3 (L)	.2 (L)	(.1(L))

Comments:

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14H Sediment/Shoreline Stabilization: (applies only if AA occurs on or within the banks or a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If does not apply, circle NA here and proceed to next function)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [E = exceptional, H = high, M = moderate, or L = low] for this function.

% Cover of wetland streambank or	Duration of surface water adjacent to rooted vegetation						
shoreline by species with deep, binding rootmasses	permanent / perennial	seasonal / intermittent	Temporary / ephemeral				
≥ 65%	1 (H)	.9 (H)	.7 (M)				
35-64%	.7 (M)	.6 (M)	. <u>5 (M</u> )				
< 35%	.3 (L)	.2 (L)	(.1 (L))				

#### 14I. Production Export/Food Chain Support:

I. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function. Factor A = acreage of vegetated component in the AA; Factor B = structural diversity rating from #13; Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P = permanent/perennial; S/I = seasonal/intermittent; T/E /A= temporary/ephemeral or absent [see instructions for further definitions of these terms].)

A	in states	Vegeta	ited comp	>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	5 acres	-		Vegetated component 1-5 acres				Vegetated component <1 acre				)		
В	Hi	gh	Mode	erate		.ow	H	igh	Mod	erate	Lo	W	Hi	gh	Mod	erate	La	W
C	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
P/P	1H	.9H	.9H	.8H	.8H	.7M	.9H	.8H	.8H	.7M	.7M	.6M	.7M	.6M	.6M	.4M	.4M	.3L
S/I	.9H	.8H	.8H	.7M	.7M	.6M	.8H	.7M	.7M	.6M	.6M	.5M	.6M	.5M	.5M	.3L	.3L	.2L
T/E/	.8H	.7M	.7M	.6M	.6M	.5M	.7M	.6M	.6M	.5M	.5M	.4M	.5M	.4M	.4M	.2L	.2L	(.1L

#### Comments:

nts and l	= low] for th	S TUTICUOT.
	Raung	
H)		
L)		
known)		,
AA does not contain previously cited rare types or associations and structural diversity (#13) is low-moderate		
Contractor of the local division of the loca	STATISTICS INCOMES IN LABOR OF STATISTICS.	The second s
		.3 (L) .2 (L)
		(.1(L))
	oderate	AA does not contain tited rare types or a not structural diver- low-modera rare common o 5 (M) .4 (M) 4 (M) .3 (L)

iv. Rating (use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function.

Ownership		Disturbance at AA (#12i)					
	low	moderate	high				
public ownership	1 (H)	.5 (M)	.2 <u>(L</u> )				
private ownership	.7 (M)	.3 (L)	(.1 (L))				

Function & Value Variables	unction & Value Variables Rating Actual Possible Functional Units; Functional Function (Actual Points x Estimated A Points al Points							
A. Listed/Proposed T&E Species Habitat	L	0	1	0				
B. MT Natural Heritage Program Species Habitat	L	0	1	0				
C. General Wildlife Habitat	L	0.1	1	0.1138				
D. General Fish/Aquatic Habitat L 0.1 1 0.1138								
E. Flood Attenuation	L	0.2	1	0.2276				
F. Short and Long Term Surface Water Storage	L	0.2	1	0.2276				
G. Sediment/Nutrient/Toxicant Removal	L	0.1	1	0.1138				
H. Sediment/Shoreline Stabilization	L	0.1	1	0.1138				
I. Production Export/Food Chain Support	L	0.1	1	0.1138				
J. Groundwater Discharge/Recharge	L	0.1	1	0.1138				
K. Uniqueness	L	0.1	1	0.1138				
L. Recreation/Education Potential	L	0.1	1	0.1138				
Totals:	L SE	1.2	12	1.3656				
OVERALL ANALYSIS AREA (AA) RATING: (Circle appro Category I Wetland: (Must satisfy one of the following Score of 1 functional point for Listed/Proposed T Score of 1 functional point for Uniqueness; or Score of 1 functional point for Flood Attenuation Total actual functional points > 80% (round to ne	g criteria; if do hreatened or l and answer to	es not meet crit Endangered Sp o Question 14E	teria, go to Ca ecies; or .ii is "yes"; or	ategory II)				
Total actual functional points > 80% (round to nearest whole #) of total possible functional points.         Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; if not satisfied, go to Category IV)								
Category III Wetland: (Criteria for Categories I, II or IV	not satisfied	)						
Category III Wetland: (Criteria for Categories I, II or IV not satisfied)         Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; if does not satisfy criteria go to Category III)         X       "Low" rating for Uniqueness; and         X       "Low" rating for Production Export/Food Chain Support; and         X       Total actual functional points < 30% (round to nearest whole #) of total possible functional points								

# FUNCTION & VALUE SUMMARY & OVERALL RATING

#### APPROVED JURISDICTIONAL DETERMINATION FORM U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

#### SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): February 22, 2016

#### B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Walla Walla District; NWW-2007-00821, Quest Expansion Areas

#### C. PROJECT LOCATION AND BACKGROUND INFORMATION: .

State: Idaho County/parish/borough: Bonner City: Sandpoint

Center coordinates of site (lat/long in degree decimal format): 48.29888° Lat. -116.56445° Long.

Universal Transverse Mercator: Zone 11 Northing 5349612.401 N, Easting 532301.961 E.

Name of nearest waterbody: Chucks Slough

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: N/A

Name of watershed or Hydrologic Unit Code (HUC): 1701021402

- Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
- Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

#### D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

- Office (Desk) Determination. Date: January 29, 2016
- Field Determination. Date(s): September 18, 2015

### SECTION II: SUMMARY OF FINDINGS

### A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There Are no "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain:

### B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There Are no "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

#### 1. Waters of the U.S.

- a. Indicate presence of waters of U.S. in review area (check all that apply): <sup>1</sup>
  - TNWs, including territorial seas
  - Wetlands adjacent to TNWs
  - Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs
  - Non-RPWs that flow directly or indirectly into TNWs
  - Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
  - Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
  - Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
  - Impoundments of jurisdictional waters
  - Isolated (interstate or intrastate) waters, including isolated wetlands
- **b.** Identify (estimate) size of waters of the U.S. in the review area: Non-wetland waters: linear feet: width (ft) and/or acres. Wetlands: acres.
- **c. Limits (boundaries) of jurisdiction** based on: **1987 Delineation Manual** Elevation of established OHWM (if known):
- 2. <u>Non-regulated waters/wetlands (check if applicable)</u>:<sup>3</sup>
  - Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: On September 25, 2015 the Corps received a delineation report titled Wetland Delineation of the Proposed Quest Expansion Areas City of Sandpoint, Bonner County, Idaho dated September 24, 2015 prepared by Tom Duebendorfer. The report identifies three small wetlands located immediately adjacent the north and east sides of the Quest Aircraft building as shown on wetland map 3 of 4. The wetlands are identified as Wetlands A, B, and C and total 0.66 acre. Per the September 24, 2015 wetland delineation, these areas meet the three parameters to be a wetland.

<sup>&</sup>lt;sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>&</sup>lt;sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>&</sup>lt;sup>3</sup> Supporting documentation is presented in Section III.F.

Hydrology in Wetlands A, B, and C was determined by two secondary wetland hydrology indicators, Drainage Patterns and Geomorphic Position, and all three wetlands are dominated by hydrophytic vegetation. The entire Sandpoint Airport area was mapped by the National Resources Conservation Service (NRCS) as Odenson silt loam (Map Unit 34) occurring on 0-2% slopes. This series is poorly drained, located in low areas on terraces, and derived from silty glacial lake-laid sediments derived from mixed sources. Permeability of this soil series is low and there is seasonal high water table at a depths of 6 to 24 inches from February to June. It is classified as an andaqueptic haplaquoll (which means it formed recently in andesitic-based areas in a groundwater-based hydrologic condition [aquic moisture regime], and is a mollisol [a soil with a surface horizon darkened by organic matter] that is seasonally saturated [anaerobic] due to groundwater. Largely because of its seasonally saturated conditions, it is considered hydric.

- A review of the National Wetand Inventory Map for the area shows that prior to the extensive development which has occurred in the area over the past 20 to 25 years these wetlands were part of a large wetland complex that was adjacent to a drainage located to the west and known locally as Chucks Slough which flows to Turnipseed Creek and then to Lake Pend Oreille a Section 10 water. However with the construction of the Quest Aircraft building, aircraft hangers, parking lots and various roads, these wetlands are now separated from what remains of the large complex. It also appears that during construction of the Quest Aircraft building or just from maintenance activities around the building that the top soil from these wetlands has been partially removed resulting in these areas being lower than the surrounding ground. There is also evidence that surface water collected from the roof of the Quest building during rain events or from snow melt drains to Wetland A causing periodic ponding. However there is no evidence that Wetland A has any connection to another water.
- Wetland B is small, approximately 100 foot long, wetland ditch-like feature that originates east of Wetland A, then flows west, under a foot path via a culvert and ends in Wetland A.
- Wetland C is positioned along the east side of the Quest building and is roughly 0.08 acre in size and vegetated with beggers tick, bentgrass and wild mint. Hydrology supporting the site is likely from a seasonal high water table and surface run-off into the wetland from adjacent uplands and paved areas. Wetland C although close to Wetland B is separated by dry land.
- Based on the delineation report and an on-site inspection of the area by the Corps on September 18, 2015 prior to submission of the report, these wetlands are isolated depressional features with no surface water connection to another surface water, does not cross state lines, does not support inter-state foreign commerce or recreation, is not within a reasonable distance to another water to be considered adjacent (1600 east of Chucks Slough; 3000 feet west of Sand Creek) and thus is not subject to regulation under section 404 of the Clean Water Act.

Provide estimates for jurisdictional waters in the review area (check all that apply):

.

Tributary waters: linear feet width (ft).

Other non-wetland waters: acres.

- Identify type(s) of waters:
- Wetlands: acres.

#### F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in *"SWANCC*," the review area would have been regulated based <u>solely</u> on the *"Migratory Bird Rule"* (MBR).
  - Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:

Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the <u>sole</u> potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

Non-wetland waters (i.e., rivers, streams): linear feet width (ft).

Lakes/ponds: acres.

Other non-wetland waters: acres. List type of aquatic resource:

Wetlands: 0.66acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).

Lakes/ponds: acres.

Other non-wetland waters: acres. List type of aquatic resource:

Wetlands: acres.

#### SECTION IV: DATA SOURCES.

A.	SUP	PORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked
	and	requested, appropriately reference sources below):
	$\boxtimes$	Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:September 25, 2015 Wetland Delineation prepared
	by 🛛	Fom Duebendorfer.
	$\boxtimes$	Data sheets prepared/submitted by or on behalf of the applicant/consultant.
		Office concurs with data sheets/delineation report.
		Office does not concur with data sheets/delineation report.
		Data sheets prepared by the Corps: .
		Corps navigable waters' study:
		U.S. Geological Survey Hydrologic Atlas:
		USGS NHD data.
	_	USGS 8 and 12 digit HUC maps.
	$\boxtimes$	U.S. Geological Survey map(s). Cite scale & quad name:1:24K, ID-SANDPOINT.
		USDA Natural Resources Conservation Service Soil Survey. Citation:
	$\boxtimes$	National wetlands inventory map(s). Cite name:Sandpoint.
		State/Local wetland inventory map(s):
		FEMA/FIRM maps: .
		100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
	$\boxtimes$	Photographs: 🛛 Aerial (Name & Date):Google Earth, imagery date: 7/11/2014.
	_	or $\Box$ Other (Name & Date):
	$\bowtie$	Previous determination(s). File no. and date of response letter:NWW-2007-821(AJD/letter for different section of Quest property),
	Aug	gust 16, 2007 and NWW-2013-423 (AJD/Letter for surrounding Sandpoint Airport area), August 23, 2013.
		Applicable/supporting case law:
	Ц	Applicable/supporting scientific literature:
		Other information (please specify):

**B. ADDITIONAL COMMENTS TO SUPPORT JD:** Wetlands A, B, and C are isolated depressional features that have no direct surface connection with any other waters of the United States. These isolated wetlands total 0.66 acres and are completely surrounded by uplands.

Based on the review of the September 24, 2015 delineation report, a site vist conducted on September 18, 2015, it has been determined that Wetlands A, B, and C are isolated and not subject to regulation under Section 404 of the Clean water Act.

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### DEPARTMENT OF THE ARMY

WALLA WALLA DISTRICT, CORPS OF ENGINEERS COEUR D'ALENE REGULATORY OFFICE 1910 NORTHWEST BOULEVARD, SUITE 210 COEUR D'ALENE, IDAHO 83814-5699

REPLY TO ATTENTION OF

February 22, 2016

**Regulatory Division** 

SUBJECT: NWW-2007-821, Quest Aircraft

Mr. Paul Schuck Quest Aircraft Company, LLC 1200 Turbine Drive Sandpoint, Idaho 83864

Dear Mr. Schuck:

Enclosed is our Department of Army (DA) Approved Jurisdictional Determinations (AJD) indicating that there are both waters of the United States (U.S.), including wetlands, and non-jurisdictional isolated wetlands within your proposed project area. This decision is based upon our review of the information your agent provided, additional information available to our office, and our September 18, 2015 site visit. Your proposed project site is located at 1200 Turbine Drive, within Section 10 of Township 57 North, Range 2 West, near latitude 48.29888 and longitude -116.56445, in Bonner County, in near Sandpoint, Idaho. Your request has been assigned file number NWW-2007-821, which should be referred to in future correspondence with our office regarding this site.

The wetland boundaries, as shown on the enclosed wetland delineation maps, dated September 22, 2015, prepared by Mr. Tom Duebendorfer have been approved. This decision is based upon the U.S. Army Corps of Engineers' 1987 Wetland Delineation Manual and the Interim Western Mountains, Valleys, and Coast Regional Supplement to the 1987 Delineation Manual.

Wetland areas "A, B, and C" as designated on the enclosed wetland delineation map, dated September 22, 2015, are isolated, intrastate, non-navigable, wetlands which have no connection to interstate or foreign commerce. Therefore, pursuant to federal guidance on the *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* and the consolidated *Rapanos v. United States and Carabell v. United States* cases, the discharge of dredged and/or fill material into these non-regulated isolated wetlands will not require a DA permit. Please be advised, this jurisdictional determination does not establish any precedent with respect to any other jurisdictional determination under Section 404 of the Clean Water Act.





Wetland areas "D, E, F, and G" as designated on the enclosed wetland delineation map, dated September 22, 2015, are jurisdictional waters of the U.S., including wetlands. The DA exerts regulatory jurisdiction over waters of the U.S., including wetlands, pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344). Section 404 of the Clean Water Act requires a DA permit be obtained prior to discharging dredged or fill material into Waters of the U.S., which includes most perennial and intermittent rivers and streams, natural and man-made lakes and ponds, irrigation and drainage canals and ditches that are tributaries to other waters, and wetlands.

Please be advised that discharges considered placement of dredged or fill material under our jurisdiction may include those associated with mechanized land-clearing involving vegetation removal with equipment such as front-end loaders, backhoes, or bulldozers with sheer blades, rakes, or discs, windrowing of vegetation, land leveling, or other soil disturbances in wetlands and excavation activities which result in a discharge of dredged material that destroys or degrades a Waters of the United States.

This approved JD is valid for a period of 5-years from the date of this letter, unless new information supporting a revision is provided to this office before the expiration date. Also enclosed, you will find the Approved Jurisdictional Determination Forms addressing wetlands and waters of the U.S. located within the JD review area, and a *Notification of Administrative Appeals Options and Process and Request for Appeal Form* (RFA) regarding this DA Approved Jurisdictional Determination. Should you disagree with certain terms and/or conditions of this DA Approved JD, the Notification of Administrative Appeal Options form outlines the steps to take to file your objection. Please note, the RFA form must be received by the Northwest Division Office no later than April 22, 2016.

Nothing in this letter shall be construed as excusing you from compliance with other Federal, state, or local statutes, ordinances or regulations which may affect this work.

We are interested in your thoughts and opinions concerning the quality of service you received from the Walla Walla District, Corps of Engineers Regulatory Division. Please visit us online at <u>http://corpsmapu.usace.army.mil/cm\_apex/f?p=regulatory\_survey</u> and complete an electronic version of our Customer Service Survey form, which will be automatically submitted to us. Alternatively, you may call and request a paper copy of the survey, which you may complete and return to us by mail. For additional information about our Regulatory program please visit us at <u>http://www.nww.usace.army.mil/BusinessWithUs/RegulatoryDivision.aspx</u>. Your responses are appreciated and will allow us to improve our services.

We appreciate your cooperation with the Corps of Engineers' Regulatory Program. If you have any questions about this determination, please contact me by telephone at 208-433-4474, by mail at the address in the above letterhead, or via email at <u>shane.p.slate@usace.army.mil</u>.

Sincerely,

Have Mat

Shane Slate Project Manager Regulatory Division

Enclosures:

Wetland Delineation Maps, dated September 22, 2015 Approved Jurisdictional Determination Forms Notification of Administrative Appeal Options and Request for Appeal Form

### WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Quest Expansion	City/County: City of Sandpoin	Sampling Date: <u>11-Sep-15</u>			
Applicant/Owner: Quest Aircraft Company		State: ID	Sampling Point:	DP5	
Investigator(s): Tom Duebendorfer, PWS	Section, Township, Range	: <b>S</b> _10 Т	<u>57N</u> <b>R</b> 2W		
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, conv	ex, none): flat	Slope:	<u>0.0</u> % / <u>0.0</u> °	
Subregion (LRR): LRR E Lat.:	48.2984362147222 Lo	ng.:116.568317	7175 Date	Im: WGS 84	
Soil Map Unit Name: Odenson silt loam		NWI clas	ssification: <u>PEM1C</u>		
Are climatic/hydrologic conditions on the site typical for this time of ye	ear? Yes 🖲 No 🔾	(If no, explain	in Remarks.)		
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significant	ly disturbed? Are "Norm	al Circumstances	" present? Yes 🖲	No $\bigcirc$	
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally p	problematic? (If needed	, explain any ans	wers in Remarks.)		
Summary of Findings - Attach site map showing	sampling point location	ons, transec	ts, important fe	atures, etc.	

Hydrophytic Vegetation Present?			Is the Sampled Area				
Hydric Soil Present?	Yes 🖲	No $\bigcirc$		Yes 🖲 No 🔿			
Wetland Hydrology Present?	Yes 🖲	No 🔿	within a Wetland?				
Remarks:							

Vegetation hydrophytic; soils hydric; hydrology likely (evidence of ponding)

VEGETATION - Use scientific names of plant	:s.	Dominant Species?		
Tree Stratum (Plot size:)	Absolute % Cover	Rel.Strat.	Indicator Status	
1. Populus tremuloides	15	<ul><li>✓ 100.0%</li></ul>	FACU	Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)
2		0.0%		
3		0.0%		Total Number of Dominant
<u>4</u>	0	0.0%		Species Across All Strata: (B)
Sapling/Shrub Stratum (Plot size:)	15	= Total Cove	er	Percent of dominant Species That Are OBL, FACW, or FAC:50.0% (A/B)
1.	0	0.0%		Prevalence Index worksheet:
-		0.0%		
2 3		0.0%		
		0.0%		
4 5		0.0%		FACW species $10 \times 2 = 20$
3				FAC species $\frac{70}{10}$ x 3 = $\frac{210}{10}$
Herb Stratum (Plot size: )	0	= Total Cove	er	FACU species $15 \times 4 = 60$
d Alexandra and a state	70	77.8%	FAC	UPL species $-\frac{0}{x} \times 5 = -\frac{0}{x}$
		11.1%	FACW	Column Totals: <u>105</u> (A) <u>300</u> (B)
2 Phalaris arundinacea 3 Carex nebrascensis	10	11.1%	OBL	Prevalence Index = $B/A = 2.857$
4		0.0%		
4 5	-	0.0%		Hydrophytic Vegetation Indicators:
6		0.0%		1 - Rapid Test for Hydrologic Vegetation
8 7		0.0%		2 - Dominance Test is > 50%
8		0.0%		✓ 3 - Prevalence Index is ≤3.0 $^1$
8		0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9 10		0.0%		data in Remarks or on a separate sheet)
10		0.0%		<b>5</b> - Wetland Non-Vascular Plants <sup>1</sup>
11,	90	= Total Cov	er	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
1/	0	0.0%		be present, unless disturbed or problematic.
2	0	0.0%		Hydrophytic
<u>ــــــــــــــــــــــــــــــــــــ</u>	0	= Total Cove	er	Vegetation Present? Yes No
% Bare Ground in Herb Stratum: ∩				
Remarks:				
Vegetation is hydrophytic. Prevalence test met.				
vegetation is hydrophydici i revalence test met.				

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

### DP5

5011										Sampling Point: <u>DP5</u>
Profile Desc	ription: (De	scribe to t	the depth	needed to	document	t the ind	icator or c	onfirm the	absence of indicator	·s.)
Depth		Matrix				lox Featu				- •
(inches)	Color (	moist)	%	Color	(moist)	_%		Loc <sup>2</sup>	Texture	Remarks
0-8	10YR	3/3	100						Silt Loam	
8-14	10YR	2/2	90	10YR	3/1	10	D	M	Silt Loam	
14-18		4/6	100	-					Fine Sandy Loam	platy structure
										,
<sup>1</sup> Type: C=Con		=Depletior	n. RM=Redu	iced Matrix	, CS=Cover	ed or Coa	ted Sand G	rains <sup>2</sup> Loc	ation: PL=Pore Lining.	M=Matrix
Hydric Soil	Indicators:	(Applicat	ole to all Li	RRs, unles	s otherwis	se noted	.)		Indicators for Pr	oblematic Hydric Soils <sup>3</sup> :
Histosol (	A1)			🗌 Sa	andy Redox	(S5)			🗌 2 cm Muck (A	10)
	pedon (A2)				ripped Matri	• •			Red Parent Ma	aterial (TF2)
Black His	. ,				amy Mucky		,, ,	in MLRA 1)	Other (Explain	n in Remarks)
	n Sulfide (A4)				amy Gleyed		-2)			
_ ·	Below Dark	•	11)		edox Dark Si	• •	5)			
	rk Surface (A	,			epleted Dark	•	,			phytic vegetation and
	uck Mineral (S	,			edox depres		. ,		unless disturbed	gy must be present, or problematic
	eyed Matrix (				uox uepres	3013 (10)				
Restrictive L	ayer (if pre	sent):								
Туре:									Undria Cail Brasser	t? Yes 🖲 No 🔿
Depth (inc	ches):								Hydric Soil Presen	
Remarks:										
Soil hydric by	physical in	dicators (	low chrom	a with re	doximorph	ic featur	es), and a	rea appear	s to become ponded	(NTCHS Criterion 3)
	• •				•			••		
Hydrolog Wetland Hyd	-	icators:								
Primary Ind			one requir	ed; check	all that an	(ylac			Secondary I	ndicators (minimum of two required)
	Water (A1)				Water-Stain	ed Leaves	s (B9) (exce	ept MLRA	Water-St	ained Leaves (B9) (MLRA 1, 2,
	ter Table (A2	2)		_	1, 2, 4A, and				4A, and ·	
Saturatio	on (A3)				Salt Crust (E	,				e Patterns (B10)
	arks (B1)				Aquatic Inve		• •		Dry Seas	on Water Table (C2)
	t Deposits (B	2)			Hydrogen S	ulfide Odo	or (C1)		Saturatio	on Visible on Aerial Imagery (C9)
	osits (B3)				Oxidized Rh			Roots (C3)	🗹 Geomorp	phic Position (D2)
Algal Mat	t or Crust (B4	4)			Presence of	Reduced	Iron (C4)		Shallow /	Aquitard (D3)
Iron Dep	osits (B5)				Recent Iron	Reductio	n in Tilled S	oils (C6)	✓ FAC-neut	tral Test (D5)
Surface 9	Soil Cracks (B	36)			Stunted or S	Stressed F	lants (D1)	(LRR A)	Raised A	nt Mounds (D6) (LRR A)
Inundatio	on Visible on	Aerial Ima	gery (B7)		Other (Expla		• • •	· /		ave Hummocks (D7)
Sparsely	Vegetated C	oncave Sur	face (B8)				iaino)			
Field Observ	ations:		<u> </u>	_						
Surface Water	r Present?	Yes	○ No (	●	Depth (inc	hes):				
Water Table F	Present?	Yes	O No (	•	Depth (inc	thes):				
Saturation Pro			~ ~	~		,		Wetla	and Hydrology Prese	nt? Yes 🖲 No 🔾

Wetland Hydrology Present? Saturation Present? (includes capillary fringe) Yes 🔿 No 🖲 Depth (inches): Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Hydrology considered to be present due to evidence of spring ponding.

US Army Corps of Engineers

#### WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Quest Expansion	City/County: City of Sand	point, Bonner Co.	Sampling Date: <u>11-</u>	Sep-15
Applicant/Owner: Quest Aircraft Company		State: ID	Sampling Point:	DP7
Investigator(s): Tom Duebendorfer, PWS	Section, Township, Ra	nge: S 10	<b>T</b> <u>57N</u> <b>R</b> <u>2W</u>	
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, co	onvex, none): flat	Slope:	<u>0.0</u> % / <u>0.0</u> °
Subregion (LRR): LRR E Lat.: 4	48.2991057893823	Long.: -116.5674	4634882 Datu	m: WGS 84
Soil Map Unit Name: Odenson silt loam		NWI cla	assification: <u>PEM1C</u>	
Are climatic/hydrologic conditions on the site typical for this time of year	ar? Yes $oldsymbol{igodol}$ No $igodol{igodol}$	) (If no, explain	n in Remarks.)	_
Are Vegetation . , Soil , or Hydrology significant	ly disturbed? Are "No	ormal Circumstance	es" present? Yes 🖲	No 🔿
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally p	roblematic? (If nee	ded, explain any an	swers in Remarks.)	

### Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes 🖲	No O	Is the Sampled Area	
Hydric Soil Present?	Yes $\bigcirc$	No 🖲	•	Yes 🔿 No 🖲
Wetland Hydrology Present?	Yes $\bigcirc$	No 🖲	within a Wetland?	
Remarks:				

Dominant

Vegetation NOT hydrophytic; soils hydric; hydrology unlikely (no evidence of ponding)

**VEGETATION** - Use scientific names of plants.

		_Species? .		-
Tree Stratum (Plot size: )	Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test worksheet:
	% Cover		Sidius	Number of Dominant Species
1		0.0%		That are OBL, FACW, or FAC: (A)
2,	0	0.0%		Tatal Number of Deminent
3	0	0.0%		Total Number of Dominant Species Across All Strata: 2 (B)
4.	0	0.0%		
	0	= Total Cove		Percent of dominant Species
Sapling/Shrub Stratum (Plot size:)		- 10001 0010	-	That Are OBL, FACW, or FAC:(A/B)
1,	0	0.0%		Prevalence Index worksheet:
2	0	0.0%		
		0.0%		
3	0	0.0%		
4				FACW species $0 \times 2 = 0$
5	0	0.0%		<b>FAC species</b> <u>115</u> <b>x 3</b> = <u>345</u>
	0	= Total Cove	er	FACU species $0 \times 4 = 0$
Herb Stratum (Plot size:)				UPL species $-\frac{0}{x} \times 5 = -\frac{0}{x}$
1. Agrostis stolonifera	65	56.5%	FAC	Column Totals: 115 (A) 345 (B)
2, Phleum pratense	35	✓ 30.4%	FAC	······
3. Alopecurus pratensis	15	13.0%	FAC	Prevalence Index = $B/A = 3.000$
4	-	0.0%		Hydrophytic Vegetation Indicators:
5		0.0%		1 - Rapid Test for Hydrologic Vegetation
6		0.0%		✓ 2 - Dominance Test is > 50%
7		0.0%		
8	0	0.0%		$\checkmark$ 3 - Prevalence Index is $\leq$ 3.0 <sup>1</sup>
9	0	0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
10	0	0.0%		data in Remarks or on a separate sheet)
11	0	0.0%		$\Box$ 5 - Wetland Non-Vascular Plants $^1$
117	115	= Total Cove	er	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)	_			<sup>1</sup> Indicators of hydric soil and wetland hydrology must
1.	0	0.0%		be present, unless disturbed or problematic.
2	0	0.0%		Hydrophytic
-		= Total Cove		Vegetation Ver A No O
	0		50	Present? Yes VNO U
% Bare Ground in Herb Stratum: <u>0</u>				
Remarks:				

Vegetation is hydrophytic - dominated by FAC pasture grasses in an area that is regularly cropped. Both tests met.

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: DP7

Depth		Matrix			dox Feat			absence of indicators.)	
(inches)	Color (I		%	Color (moist)	<u>wox real</u>	_Tvpe <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-8	10YR	3/3	100					Silt Loam	
8-11	10YR	3/2	100					Silt Loam	
11-17	10YR	5/3	100					Fine Sandy Loam	no redox
			. <u> </u>						
							·		
<sup>1</sup> Type: C=Cond		=Depletior	n. RM=Redu		red or Coa	ted Sand G	rains <sup>2</sup> Loc	ation: PL=Pore Lining. M=	Matrix
,.				RRs, unless otherw				-	ematic Hydric Soils <sup>3</sup> :
Histosol (A	A1)			Sandy Redox	(S5)			2 cm Muck (A10)	
	edon (A2)			Stripped Mat	. ,			Red Parent Mater	ial (TF2)
Black Histi	. ,			Loamy Muck	, ,	,	in MLRA 1)	Other (Explain in	Remarks)
_ · ·	Sulfide (A4)			Loamy Gleye	•	-2)			
	Below Dark S	•	.1)	Redox Dark	. ,	5)		2	
	k Surface (Al	,		Depleted Da	•	,		<sup>3</sup> Indicators of hydrophy wetland hydrology m	
	ck Mineral (S yed Matrix (S	,		Redox depre		• •		unless disturbed or p	
Restrictive La	· ·	,							
Type:									
Type: Depth (inch	nes):							Hydric Soil Present?	Yes 🔿 No 🖲
	nes):							Hydric Soil Present?	Yes 🔾 No 🖲
Depth (inch Remarks:		al indicato	)rs (chrom	a too high and lacl	<s redoxin<="" td=""><td>norphic fea</td><td>atures)</td><td>Hydric Soil Present?</td><td>Yes 🔿 No 🖲</td></s>	norphic fea	atures)	Hydric Soil Present?	Yes 🔿 No 🖲
Depth (inch Remarks:		al indicato	ors (chrom	a too high and lacl	<s redoxin<="" td=""><td>norphic fea</td><td>atures)</td><td>Hydric Soil Present?</td><td>Yes 🔿 No 🖲</td></s>	norphic fea	atures)	Hydric Soil Present?	Yes 🔿 No 🖲
Depth (inch Remarks:		al indicato	ors (chrom	a too high and lac	<s redoxin<="" td=""><td>norphic fea</td><td>atures)</td><td>Hydric Soil Present?</td><td>Yes 🔿 No 🖲</td></s>	norphic fea	atures)	Hydric Soil Present?	Yes 🔿 No 🖲
Depth (inch Remarks:		al indicato	ors (chrom	a too high and lacl	ks redoxin	norphic fea	atures)	Hydric Soil Present?	Yes 🔿 No 🖲
Depth (inch Remarks: Soil not hydric	c by physica	al indicato	ors (chrom	a too high and lacl	<s redoxin<="" td=""><td>norphic fea</td><td>atures)</td><td>Hydric Soil Present?</td><td>Yes 🔾 No 🖲</td></s>	norphic fea	atures)	Hydric Soil Present?	Yes 🔾 No 🖲
Depth (incl Remarks: Soil not hydric Hydrology	c by physica		ors (chrom	a too high and lacl	<s redoxin<="" td=""><td>norphic fea</td><td>atures)</td><td>Hydric Soil Present?</td><td>Yes O No O</td></s>	norphic fea	atures)	Hydric Soil Present?	Yes O No O
Depth (inch Remarks: Soil not hydrid Hydrology Wetland Hyd	c by physica / rology Indi	cators:				norphic fea	atures)		
Depth (inch Remarks: Soil not hydrid Hydrology Wetland Hyd Primary India	c by physica / rology Indi cators (min	cators:		ed; check all that a	apply)				ators (minimum of two required
Depth (inch Remarks: Soil not hydrid Hydrology Wetland Hyd Primary India Surface W	c by physica rology Indi cators (min Vater (A1)	cators: imum of		ed; check all that a	apply)	norphic fea			
Depth (inch Remarks: Soil not hydrid Hydrology Wetland Hyd Primary India Surface W	c by physica rology Indi cators (min Vater (A1) er Table (A2)	cators: imum of		ed; check all that a Water-Stai 1, 2, 4A, a	apply) ned Leaves nd 4B)			_ <u>Secondary India</u> Water-Staine 4A, and 4B)	ators (minimum of two required d Leaves (B9) (MLRA 1, 2,
Depth (inch Remarks: Soil not hydrid Hydrology Wetland Hyd Primary India Surface W High Wate Saturation	c by physica rology Indi cators (min Vater (A1) er Table (A2) n (A3)	cators: imum of		ed; check all that a Water-Stai 1, 2, 4A, a Salt Crust	apply) ned Leaves nd 4B) (B11)	6 (B9) (exce			cators (minimum of two required ed Leaves (B9) (MLRA 1, 2, terns (B10)
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Depth (incl Remarks: Soil not hydrid Hydrology Wetland Hyd Primary India Surface W High Wate Saturatior Water Ma Sediment Drift depc	c by physica rology Indi cators (min Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) sits (B3)	<b>cators:</b> imum of . ) 2)		ed; check all that a Water-Stai 1, 2, 4A, a Salt Crust Aquatic Im Hydrogen Oxidized R	apply) ned Leaves nd 4B) (B11) vertebrates Sulfide Odd hizosphere	s (B9) (exce s (B13) or (C1) s on Living	pt MLRA		ators (minimum of two required ed Leaves (B9) (MLRA 1, 2, terns (B10) Nater Table (C2) isible on Aerial Imagery (C9) Position (D2)
Depth (incl Remarks: Soil not hydrid Hydrology Wetland Hyd Primary India Surface W High Wata Saturatior Water Ma Sediment Drift depc	c by physica rology Indi cators (min Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B3) or Crust (B4	<b>cators:</b> imum of . ) 2)		ed; check all that a Water-Stai 1, 2, 4A, a Salt Crust Aquatic In Hydrogen Oxidized R	apply) ned Leaves nd 4B) (B11) vertebrates Sulfide Odd hizosphere of Reduced	s (B9) (exce s (B13) or (C1) s on Living	pt MLRA Roots (C3)		ators (minimum of two required d Leaves (B9) (MLRA 1, 2, terns (B10) Nater Table (C2) isible on Aerial Imagery (C9) Position (D2) tard (D3)

Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes 🔘 No 🖲 Depth (inches): Surface Water Present? Yes 🔘 No 🖲 Water Table Present? Depth (inches): Yes 🔿 No 🖲 Wetland Hydrology Present? Saturation Present? Yes 🔘 No 🖲 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks: Hydrology considered to be absent due to lack of evidence of spring ponding.

US Army Corps of Engineers

# *Tom Duebendorfer* - Professional Wetland Scientist (#000157), Biologist, Botanist OBJECTIVE

Provide botanical and ecological services to a wide range of organizations and individuals for projects involving land development, wetland delineation, vegetation mapping, rare plant surveys, resource inventories, Environmental Assessments, Biological Evaluations and Assessments, and research-level studies on specific habitats or species.

### EDUCATION

WSPSS, SWS Hydric Soils Workshop, Soils and Hydrology, June 2009
Wetland Training Institute, Soils and Hydrology, August 1990
Humboldt State University, Arcata, California
M.A. Biology May 1987
California State Teaching Credential May 1987
B.A. Biology June 1977
University of California, Irvine (2 years - biology major)

### EMPLOYMENT

### • Self-employed wetland and botanical consultant (1981 to present)

Provided botanical and wildlife surveys, floristic research, habitat characterization, ecological sampling, synecological analysis, aerial photo mapping, wetland delineation, impact analysis, restoration and mitigation, resource planning, permitting, rare and endangered plant surveys, plant taxonomy, soil analysis, computer-aided multivariate analyses and statistics, computer-aided graphics and drafting. Involved with design (as part author/editor) of Washington Dept of Ecology Hydrogeomorphic approach to wetland function assessment program (Assessment Team). Trained in E WA DOE Assessment Methodology (assisted in development of the methodology). Wetland Mitigation Bank preparation. Teaches wetland delineation and plant identification courses to Tribes, agencies, and groups.

Project locations include rare plant surveys/studies and wetland work in southern, central, northern and coastal California; coastal, southwestern, and northeastern Oregon; north, east-central, and southwest Idaho; eastern and western Washington; and northwest Montana.

### • Senior Wetland Ecologist, Client/Project Manager, Corporate Botanist (1989-1994)

David Evans and Associates, Inc. Bellevue, Washington

Provided wetland delineation, impact assessment, conceptual and final mitigation design, monitoring, cumulative impact assessment, wetland permitting, habitat characterization, rare plant and T&E animal surveys, Biological Evaluations and Assessments, as well as instruction and guidance in systematics and classification to staff in 7 west coast offices. Maintained excellent rapport with clients and other project team members (both in office and as field crew leader). Managed projects from proposals, contracting, budgeting, scheduling and invoicing, to collections.

Project locations include: Pacific Northwest, from central and coastal Oregon to eastern, western, and coastal Washington, and northwest Montana.

#### CERTIFICATIONS

Professional Wetland Scientist, Society of Wetland Scientists (#000157) Certified Wetland Delineator, Corps of Engineers (Seattle District) Qualified Wetland Specialist, Spokane County, Washington Qualified Wetland Specialist, City of Spokane, Washington Completed Training in NEPA/EPA Process Completed Soils and Hydrology workshops (WTI); Hydric Soils (WSSPSS - Updates 2009)

### Tom Duebendorfer - Professional Wetland Scientist (#000157), Biologist, Botanist

#### SPECIFIC EXPERIENCE

Habitats include: dune coastline, coastal and inland forested, scrub, and marsh wetlands, oak woodlands, steppe scrubland, grasslands, sagebrush, agricultural areas (wetlands), coniferous and deciduous montane, alpine, bog (fen), and serpentine vegetation.

Permitting knowledge and direct use of wetland methodologies (USFWS, US Army Corps of Engineers, WA Dept of Ecology, and local county and city jurisdictions); knowledge of Corps Permit process. Restoration activities. Biological Assessments (BA), USFS Evaluations (BE), Environmental Assessments (EA); SEPA/NEPA; T&E species monitoring, Raptor Monitoring, Wetland Mitigation Bank Design.

Rare plant studies include approximately 45 sensitive plant and vegetation surveys on private, state, and federal lands for small to medium scale hydroelectric plants, stream corridors, sewage treatment facilities, water treatment facilities, prison site, seeding experiments, road and highway construction, transmission corridors (utilities), fiber optic cable routes, and mining companies. Biological Evaluations for USFS-listed sensitive species in four states.

<u>Clients</u> (independently and during tenure as employee) include:

#### Small- and Large-scale Developers:

Burlington-Northern, Puget Western, Glacier Park Company, Trillium Corporation, Quadrant, Blackhawk/Port Blakely Communities, Coldwater Creek, Valencia Wetlands Trust, Waterfront Property Mgmt., Kirk-Hughes Development, Fortress LLC, & others

#### Public Entities:

Washington Department of Ecology, Benewah County (through EDA), Federal Highways Administration, Bureau of Reclamation, King Co., US Army Corps of Engineers, Spokane County Engineering and Public Works, Oregon Nature Conservancy, Humboldt County Planning, Humboldt State University Research Program; Benewah County; Idaho Soil and Conservation District, City of Winchester, Idaho Transportation Department, Washington Department of Transportation, Kalispell Indian Tribe, City of Colville, Rathdrum

#### Communications (fiber optic projects): AT&T, MCI/WorldCom, Cascade Utilities

Exploratory and Active Mining Companies:

Emerald Creek Garnet Company, American Gold Resources, Cal Nickel Corp., Baretta, Noranda

Assisting other Consulting Firms and Numerous Private Landowners.

The Soils Group, Intermountain Resources, Inc., Hart-Crowser, Inc., Welch-Comer Eng., Land Profile, Inc., Selkirk Environmental, David Evans and Associates, J.A. Sewell and Assoc., EarthTech, ALSC Architects; Ecological Resources, Forsgren Assoc., JUB Eng., Adolfson Assoc. Copper Basin Constr., Toothman-Orton Eng., Rocky Point Investments, HAWKEFA, Tate Engineering.

#### PUBLICATIONS

- Duebendorfer, T.E. 1990. "An Integrated Approach to Enhancing Rare Plant Populations through Habitat Restoration: II. Habitat Characterization through Classification of Dune Vegetation." Pp. 478-487 in: Bonnicksen, T.M. and H.G. Hughes, eds. Proceedings of the first annual meeting of the Society for Ecological Restoration and Management. Also presented at Society of Wetland Scientists, May 1993.
- Pickart, A.J., L.M. Miller, and T.E. Duebendorfer. 1998. "Yellow bush lupine invasion in northern California coastal dunes. I. Ecological impacts and manual restoration techniques". Restoration Ecology Vol 6 No 1, pp59-68.
- Seattle Audubon Series, "Wetland Plants of the Western Washington and NW Oregon" (Cooke 1997, editor): My role was as a contributor and technical editor.
- Hruby, T., S. Stanley, T. Granger, T. Duebendorfer, R. Friesz, B. Lang, B. Leonard, K. March, and A. Wald. 2000. Methods for Assessing Wetlands Functions. Volume II, Part 1: Assessment Methods - Depressional Wetlands in the Columbia Basin of Eastern Washington, WA State Department of Ecology Publication #00-06-47.

Fieldbook of Plant Uses (North Idaho) - self published field booklet (2019)

David Schuck Daher: Director - Customer and Network Care (208) 920-2780 D.Schuck@daher.com

## Re: Wetland Determination Letter Property for property south of Turbine Drive (near the Sandpoint Airport) City of Sandpoint, ID (portion of) RPS00000105804A; T57N, R2W, portion of Section 9/10 (LOT 6); portion south of Turbine Drive

Dear David:

Per your request for environmental services, I am submitting this Wetland Determination Letter Report for the approximately 2.06 -acre property referenced above (Figure 1). In November 2021, and June 6, 2022, I visited the site and used the Regional Supplement to the Corps of Engineers (Corps) Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region U.S. Army Corps of Engineers 2010, to determine whether the three required wetland parameters (hydrophytic vegetation, hydric soils, and wetland hydrology) were present. The November site visit identified areas as potentially wetland, but I waited until Spring 2022 to observe wetland hydrology. Data Plots and Photographs are appended.

### **Site Conditions**

The property presently is undeveloped, with pasture, shrub, and forested vegetation. It is located south of Turbine Drive (near the airport), and bound by undeveloped property to the north, west, and development to the east (Silverwings). The property is essentially flat, with some minor depressions and a ponded area (swale) which exists in the northwestern portion of the property. The National Wetland Inventory (NWI) much of the property as PEM1C (emergent, non-woody). The 7.5' USGS quad map is Sandpoint.

### Vegetation

The vegetation consists of several associations:

(1) **upland forest**, (2) **upland meadow**, (3) **wetland pasture**, and (4) **scrub-shrub wetland**. The wetland indicator status of the dominant plant species are given in brackets and defined below.

The **upland forest** association exists in portions of the property (Figure 2). It is mostly open evergreen forest dominated by young lodgepole pine (*Pinus contorta* [FAC]), ponderosa pine (*Pinus ponderosa* [FACU), and western white pine (*Pinus monticola* [FACU]). The understory (where present) is snowberry (*Symphoricarpos albus* [FACU]), serviceberry (*Amelanchier alnifolia* [FACU]), and rose (*Rosa woodsii* [FACU]). Groundcover is weedy pasture grasses including meadow foxtail (*Alopecurus pratensis* [FAC]) and occasionally canarygrass (*Phalaris arundinacea* [FACW]), bentgrass (*Agrostis stolonifera* [FAC]), red fescue (*Festuca rubra* [FAC]), with some areas dominated by a significant amount of tansy (*Tanacetum vulgare* [FACU]). This association is not often hydrophytic — and contains many FACU species.

The **upland meadow** association is present over some of the property, on slightly higher topography. It contains meadow foxtail and occasionally canarygrass. Upland weeds including St. John's wort (*Hypericum perforatum* [FACU]), tansy, hawkweeds (*Hieracium* spp. [NL]), ox-eye daisy, dandelion (*Taraxacum officinale* [FACU]), plantain (*Plantago lanceolata* [FACU]), and thistle (*Cirsium arvense* [FACU]) attest to the lack of wetland hydrology. This association would NOT be considered hydrophytic.

\* Wetland Indicator Status: OBL = obligate wetland; FACW = facultative wetland; FAC = facultative; FACU = facultative upland; UPL = upland

The **wetland pasture** association exists where evidence of spring ponding was observed. It mostly contains the same types of species as in the upland meadow with major representation by canarygrass, meadow foxtail and occasional small patches of cattail (*Typha latifolia* [OBL]), slender rush (*Juncus tenuis* [FAC], and few sedges (*Carex utriculata* [OBL]). The vegetation in this association is hydrophytic.

The **scrub-shrub wetland** association is associated with the banks of the ponded area and contains hawthorn (*Crataegus douglasii* [FAC]) and aspen (*Populus tremuloides* [FACU). This association is primarily hydrophytic.

These associations are generally heterogeneous and their separation artificial. Species fidelity to any described association is often low, with occasional occurrences of hydrophytic species in the upland areas (e.g., bentgrass) and occasional non-hydrophytic herbaceous species such as thistle, tansy, and quackgrass, in the moister areas.

#### Soils

#### General

The entire area was mapped by the National Resources Conservation Service (NRCS) as Odenson silt loam (Map Unit 34) occurring on 0-2% slopes. This series is poorly drained, located in low areas on terraces, and derived from silty glacial lake-laid sediments derived from mixed sources. Permeability of this soil series is slow and there is seasonal high water table at a depths of 6 to 24 inches from February to June. It is classified as an andaqueptic haplaquoll (which means it formed recently in andesitic-based areas in a groundwater-based hydrologic condition [aquic moisture regime], and is a mollisol [a soil with a surface horizon darkened by organic matter] that is seasonally saturated [anaerobic] due to groundwater). Largely because of its seasonally saturated conditions, it is considered hydric.

#### Specific

On this property, six formal and numerous other undocumented soil data pits were excavated and inspected for hydric conditions. Profiles excavated during the field survey typically displayed two types. Typically, soils in the upland areas showed horizons of 10YR 3/2 silt loams (without ponding or saturation). Generally lacking redoximorphic features, the chromas in these soils are too high to be considered a physical hydric soil indicator. Wetland soils were actually quite similar to the upland soils, often the chromas were slightly lower (2/1), and were saturated to fully inundated. The determination of whether the area contained hydric soil was largely a result of NTCHS Criterion #3 (ponding) which "trumps" any physical color indicator. Thus, areas showing evidence of surface ponding were considered to have hydric soils.

### Hydrology

The National Wetlands Inventory (NWI) showed a large swath of palustrine, emergent, seasonally flooded wetland (PEM1C) through the property (Figure 2). Hydrology to the site appears to derive from high spring runoff and likely snowmelt. Ponding is exacerbated by a hardpan layer in the soil which, from the surface, ranges from 4" to 14". There is a ponded area (likely excavated years ago as it is near an upland mound, which appears to be dredged materials) identified within the wetland as an "inclusion".

#### Wetland Determination

Jurisdictional wetlands were delineated where vegetation, soils, and hydrology all reflect anaerobic conditions as defined and described above. Topography, when diagnostic of hydrologic confines, was considered in refining the wetland boundary. Wetland boundaries were identified and flagged (labeled with blue ribbon flagging), and mapped using ESRI ArcMap on a NAIP Bonner County 2013 aerial photograph. The wetland boundaries were located using a sub-meter handheld GPS unit.

Based on the formal data plots and the site survey, it was determined that one main area on the property showed indicators of all three required wetland parameters and was field flagged (Figure 3). There is an upland "mound" mapped within the wetland (as described above - potentially dredge spoils). The entire wetland extent is approximately 52,273 sf (1.2 acres) with the small upland area encompassing 2,601 sf — thus **the total wetland area on the 2.06-acre property is 49,672 sf (1.14 acres)**. The wetland would be classified as PEM1C (palustrine, emergent, persistent, seasonally flooded). Figure 3 shows the delineation boundaries, data plot, and photograph locations. Photographs are appended.

#### **Regulatory Implications**

At this point in the development process there is no proposed wetland fill. If the property is in separate ownership, however, under the Corps of Engineers Nationwide Permit Program, up to 0.5 acre of wetland may be filled. If wetland fills exceed 0.1 acre, wetland mitigation credits would have to be purchased from the Valencia Wetland Mitigation Bank.

A Montana Wetland Functional Assessment (MWAM; Berglund 1999) was completed for the on-site wetland and the resulting score was 2.6 functional points (out of 12) for a Category III wetland. If proposed wetland fills exceed 0.1 acre, this score is multiplied by the total proposed area of fill (in acres) to arrive at the required number of credits to be purchased — if future wetland fills are proposed (MWAM forms attached).

Thank you for requesting my services. Let me know if you have any questions or need additional information.

Sincerely,

Tom Debend

Tom Duebendorfer, MA, PWS (Emeritus)

encls: Regulatory Requirements
Figure 1: Vicinity Map
Figure 2: National Wetland Inventory and NRCS Soils Map
Figure 3: Wetland Delineation, Data Plot, and Photograph Location Map
Photosheet
Montana Functional Assessment (5-page forms)
Data Plots (6) 2-page forms
Résumé



References Used (not necessarily cited):

Berglund, J. 1999. MDT Montana Wetland Assessment Method. Document prepared for Montana Department of Transportation and Morrison-Maierle, Inc. Prepared by Western EcoTech. May 25, 1999. (This document is used by the Valencia Wetland Mitigation Bank (Valencia Wetland Trust) to calculate number of mitigation credits required for wetland fill in excess of 0.1 acre.)

Bonner County (on-line mapping tool Viewer 2.0).

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### **Regulatory Permitting Process: Types of Permits - Corps of Engineers**

Under the Clean Water Act, the Corps has the authority to regulate the discharge or fill or dredged material into "Waters of the US". There are three Permits the Corps uses to regulate fill into wetlands. The Regional General and Individual Permits (not described here) are probably not appropriate for your site.

(1) Nationwide General (NWP): This permit is authorized for specific activities nationwide with minimal impact and minimal evaluation time. The NWPs typically have a ½ acre limit for fill in wetlands and 300 linear foot limit for fill in stream channels. A Pre-Construction Notification application (PCN) must be submitted to the appropriate field office (Walla Walla District). Typically, *less than 1/10-acre (4,356 sf) of wetland fill does not require mitigation* (though a PCN is required), and up to ½ acre of wetland fill, requires mitigation. (See below for **compensation methods**). There are Regional Conditions for Nationwide Permits (www.nww.usace.army.mil/ Portals/28/Users/108/44/1644/Final%20NWW%20Regional%20Conditions%202017%20NWPs.pdf). There are 54 Nationwide Permits each regarding specific activities proposed in wetlands (www.nww.usace.army.mil/Business-With-Us/Regulatory-Division/Nationwide-Permits/).

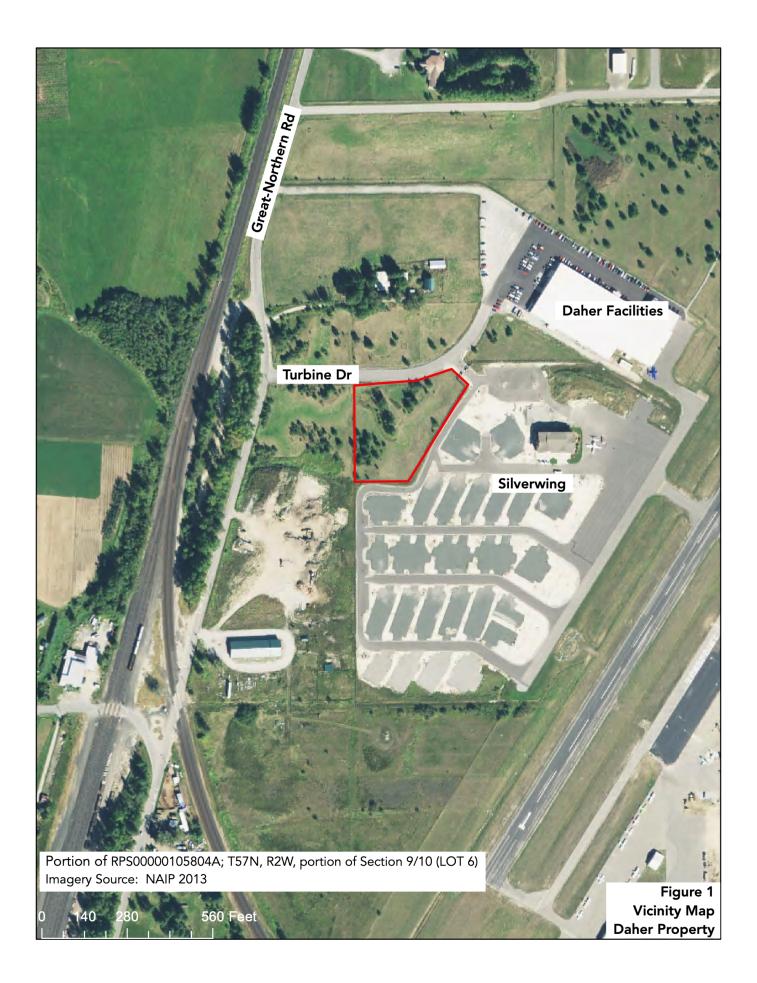
When any permit application is received, it is evaluated based upon three criteria: <u>avoidance, minimization, and</u> <u>mitigation</u>. Once the applicant meets these criteria, a permit can be issued. It is taking Corps presently about 60 days to process permits.

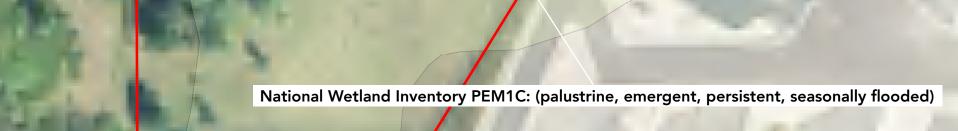
### **Compensation Methods for unavoidable Wetland Impacts**

According to the 2008 Final Mitigation Rule (Federal Register/Vol. 73, No. 70 / Thursday, April 10, 2008 / Rules and Regulations), under § 332.1 (c) the Final Mitigation Rule maintains the requirements set forth in Section 404(b) (1) Guidelines at 40 CFR part 230 which state that *"the permit applicant [is required] to take all appropriate and practicable steps to avoid and minimize adverse impacts to waters of the United States. Practicable means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. Compensatory mitigation for unavoidable impacts may be required to ensure that an activity requiring a section 404 permit complies with the Section 404(b)(1) Guidelines" (emphasis mine). According to § 230.93 (a)(2), restoration of impacted wetland is the first priority in the compensation sequence followed by purchasing credits (employing the use of approved Wetland Mitigation Banks within the service area) § 230.93 (b) (2).* 

The 1999 Montana Wetland Assessment Method is used to calculate the number of Wetland Credits to be purchased from the Valencia Wetland Mitigation Bank (Bank) in Priest River *should there be any wetland impacts (fill* > 1/10 *acre) required as a result of the proposed development.* The Assessment will result in a score between 1 and 12. This score is multiplied by the area to be filled. That result is the number of credits required to be purchased from the Bank. Currently one credit costs \$28,000. Obviously, the smaller the area of wetland impact, the less it will cost in mitigation credits. The Assessment may take up to 6 hours to complete.

**The City of Sandpoint** does not impose any wetland setbacks (buffers). However, any wetland fill would require a permit from the Corps of Engineers.





NRCS Soils: all Odenson silt loam (hy

Portion of RPS00000105804A; T57N, R2W, portion of Section 9/10 (LOT 6) Imagery Source: NAIP 2013

50 100 Feet

25

Turbine Dr

Figure 2 National Wetland Inventory and NRCS Soils Map Daher Property





Photo 1: View east from near wetland boundary flag A42. Area well ponded with meadow foxtail, canarygrass, and some rush.



Photo 2:). View north outside wetland from near wetland boundary flag A40. Area higher here, approximate wetland boundary shown as blue line (toward deeper pond area

> Photosheet Daher Property (south of Turbine Drive)

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mergent Wetland (EM), Scrub-Shrub V S, EM/ System: Riverine (R) Subays termittently Exposed (G), Semipermar )), Partly Drained (PD), Farmed (F), Ar <b>1. Estimated relative abunds</b> (Circle one) Comments: <b>2. General condition of AA:</b> <b>1. Regarding disturbance</b> <i>Conditions wit</i> A occurs and is managed in predomin razed, hayed, logged, or otherwise con ads or occupied buildings. A not cultivated, but moderately grazed gged; or has been subject to relatively acement, or hydrological alteration: con A cultivated or heavily grazed or logge bistantial fill placement, grading, clear gh road or building density. Comments: (types of dist II. Provide brief descrip	Wetland (SS), Forested Wetland At: Lower Perennial (2)/ Classes nently Flooded (F), Seasonally Fi trifficial (A) HGM Classes: River ance: (of similarly classifi Unknown Dete: (use matrix below to de thin AA mantly natural state; is not hverted; does not contain d or hayed or selectively rminor clearing, fill ontains few roads or buildings. d; subject to relatively ring, or hydrological alteration; turbance, intensity, seaso en, & introduced specie otive summary of AA an oodeveloped an ed on number of "Coward	(FO)' System: a: RB, UB, AB, UB, Ionological (C), Saturnine, Depressional index states in the second state of the second states in the second state of the second state o	Lacustrine (LV, Subsystem: Up IS, EM/ Subsystem: Up Irated (B), Temporarily F Ial, Slope, Mineral Soil F in the same Major cle] appropriate res Predomi ed in predominantly is not grazed, hayed, nerwise converted; lain roads or buildings. Nance disturbance bance g those not domesting veloped prop ed classes present	st: Limnetic (2)/ Class per Perennial (3)/ Class per Perennial (3)/ Class looded (A), Intermitten liats, Organic Soil Flat Montana Watersh Common ponse) inant conditions ad Land not cultivated grazed or hayed or or has been subject contains few roads low disturbance moderate distur high disturbance sticated, feral): (1 tat: Derties [do not include un ted classes (or	Asses: RB, UB, A asses: RB, UB, A asses: RB, UB, A asses: RB, UB, A thy Flooded (J) s, Lacustrine Fi- med Basin, s <i>djacent to</i> (M <i>but moderatel</i> selectively log t to minor clear or buildings.	B/ Subsystem: Littoral AB, US/ Water Regime Modifiers: Excavated ringe ee definitions) Abundar within 500 feet of / by Land cultivated subject to subsi- clearing, or hyd or building dens moderate dis high disturbs high disturbs high disturbs cleares, tansy	(4) Classes: RE as: Permanently (E), Impounded (E), Impounded AA or heavily graze tantial fill placent rological alteration sity. sturbance ance	3, UB, AB, Flooded (t (t), Diked

# Daher SOUTH of Turbine Dr p2

(based on any of the following [check]):

sparse adjacent upland food sources

little to no wildlife sign

few or no wildlife observations during peak use periods

interviews with local biologists with knowledge of the AA

# SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

<ol> <li>Habitat for Federally Listed or Propose</li> <li>AA is Documented (D) or Suspected (S) to</li> </ol>	d Threatened	or Endangered Pl one based on defi	lants or Ani	mals: ined in instructions):
Primary or critical habitat (list species)	DS			
Secondary habitat (list species)	DS		10020	ういう たいらう 酸 不り こうさい
Incidental habitat (list species)	DS	VI WINE C	and the second second	the Other I was a strategy
No usable habitat	DS	A STATE OF MORE	1997 - 19	1 - 20 1
	19 - 19 - 19 - 19 - 19 - 19 - 19 - 19 -			

II. Rating (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function)

Highest Habitat Level	doc./primary	sus/primary	doc./secondary	sus./secondary	doc./incidental	sus./incidental	None
Functional Points and Rating	1 (H)	.9 (H)	.8 (M)	.7 (M)	.5 (L)	.3 (L)	(0(L))
ources for documented use (e)	a observations m	ecords atc).	1				$\overline{\mathbf{\nabla}}$

Sources for documented use (e.g. observations, records, et

14B. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in14A above)
I. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions);

Primary or critical habitat (list species)		S				
Secondary habitat (list species)	D	S	经公司数据 化分子子 化	a la se la la se	19	5.8 J 4 1
Incidental habitat (list species)	D	S				
No usable habitat	D	S		1. 19	Cherry Control	
The second se						1 - 1 A A

II. Rating (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function)

Highest Habitat Level	doc./primary	sus/primary	doc./secondary	sus./secondary	doc./incidental	sus./incidental	None
Functional Points and Rating	1 (H)	.8 (H)	.7 (M)	.6 (M)	.2 (L)	.1 (L)	(0 (L))
Sources for documented use (e.c	a observations, rec	cords, etc.):					

Low

X

#### 14C. General Wildlife Habitat Rating:

I. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):

Substantial (based on any of the following [check]):

- \_\_\_\_ observations of abundant wildlife #'s or high species diversity (during any period)
- abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.
- \_\_\_\_ presence of extremely limiting habitat features not available in the surrounding area
- \_\_\_\_\_ interviews with local biologists with knowledge of the AA

Moderate (based on any of the following [check]):

- \_\_\_\_ observations of scattered wildlife groups or individuals or relatively few species during peak periods
- common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
- \_\_\_\_\_ adequate adjacent upland food sources
- \_\_\_\_ interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (working from top to bottom, circle appropriate AA attributes in matrix to arrive at exceptional (E), high (H), moderate (M), or low (L) rating. Structural diversity is from #13. For class cover to be considered evenly distributed, vegetated classes must be within 20% of each other in terms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; T/E = temporary/ephemeral: and A = absent [see instructions for further definitions of these terms].)

Structural diversity (see #13)	ine esta port	sais L		Hi		h				£7	Gennia		erate	ð 14	2			Lov	$\mathbf{v}$	
Class cover distribution (all vegetated classes)	1997 1997 1997 1997	Eve	n			Unev	ven		4.47	Eve	n			Unev	en		7	Eve	n)	
Duration of surface water in $\geq$ 10% of AA	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A
Low disturbance at AA (see #12i)	E	E	E	н	E	E	н	н	E	н	н	M	E	н	M	M	E	н	M	N
Moderate disturbance at AA (see #12i)	Н	н	н	Н	Н	н	н	M	Н	, H	M	M	H H	M	M	L	Н	м	L	L
High disturbance at AA (see #12i)	e Mica	M	M	L	M	M	L	L	M	M	L	L	M	L	L	L	a Ly	L	L (	Ľ

iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating [E = exceptional, H = high, M = moderate, or L = low] for this function)

Evidence of wildlife use (i)		atures rating (ii)				
	Exceptional	High	Moderate	Low		
Substantial	1 (E)	.9 (H)	.8 (H)	.7 (M)		
Moderate	.9 (H)	.7 (M)	.5 (M)	3(4)		
Minimal	.6 (M)	.4 (M)	.2 (L)	(.1 (L))		

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14D. General Fish/Aquatic Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not or was not historically used by fish due to lack of habitat, excessive gradient, etc., circle NA here and proceed to the next function. If fish use occurs in the AA but is not desired from a resource management perspective [such as fish use within an irrigation canal], then Habitat Quality [i below] should be marked as "Low", applied accordingly in ii below, and noted ih the comments.)

i. Habitat Quality (circle appropriate AA attributes in matrix to arrive at exceptional (E), high (H), moderate (M), or low (L) quality rating.

Duration of surface water in AA	Perm	anent / Pere	ennial	Seas	onal / Interm	nittent	Tem	porary / Ephe	meral
Cover - % of waterbody in AA containing cover objects such as submerged logs, large rocks & boulders, overhanging banks, floating-leaved vegetation, etc.	>25%	10–25%	<10%	>25%	10–25%	<10%	>25%	10–25%	<10%
Shading - >75% of streambank or shoreline within AA contains riparian or wetland scrub-shrub or forested communities	E	E	н	н	н	М	М	М	М
Shading – 50 to 75% of streambank or shoreline within AA contains rip. or wetland scrub-shrub or forested communities	H	н	М	М	М	M	М	. L	L
Shading - < 50% of streambank or shoreline within AA contains rip. or wetland scrub-shrub or forested communities	се <b>Н</b> – 1 асти	М	М	М	lan <b>L</b> ist Lan Vian - ∦	L	L	L	L

ii. Modified Habitat Quality (Circle the appropriate response to the following question. If answer is Y, then reduce rating in i above by one level [E = H, H = M, M = L, L = L]). Is fish use of the AA precluded or significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support? Y N Modified habitat quality rating = (circle) E H M L

iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating [E = exceptional, H = high, M = moderate, or L = low] for this function)

Types of fish known or		Modified Hab	vitat Quality (ii)	
suspected within AA	pected within AA         Exceptional         High           ive game fish         1 (E)         .9 (H)           oduced game fish         .9 (H)         .8 (H)           n-game fish         .7 (M)         .6 (M)	High	Moderate	Low
Native game fish	1 (E)	.9 (H)	.7 (M)	.5 (M)
Introduced game fish	Acted within AA     Exceptional       e game fish     1 (E)       luced game fish     .9 (H)       game fish     .7 (M)	.8 (H)	.6 (M)	.4 (M)
Non-game fish	.7 (M)		.5 (M)	.3(L)
No fish	.5 (M)	.3 (L)	.2 (L)	(.1(L))

#### Comments:

14E. Flood Attenuation: (applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle NA here and proceed to next function.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function)

Estimated wetland area in AA subject to periodic flooding		≥ 10 acres <10, >2 acres				S	≤2 acres			
% of flooded wetland classified as forested, scrub/shrub, or both	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%	
AA contains no outlet or restricted outlet	1(H)	.9(H)	.6(M)	.8(H)	.7(H)	.5(M)	.4(M)	1.3(L)	(.2(L)	
AA contains unrestricted outlet	.9(H)	.8(H)	.5(M)	.7(H)	.6(M)	.4(M)	.3(L)	.2(L)	.1(L)	

ii. Are residences, businesses, or other features which may be significantly damaged by floods located within 0.5 miles downstream of the AA (circle)? Y N Comments:

14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle NA here and proceed with the evaluation.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions of these terms].)

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding	>5 acre feet		<5	, >1 acre f	eet				
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/L	T/E
Wetlands in AA flood or pond ≥ 5 out of 10 years	1(H)	.9(H)	.8(H)	.8(H)	.6(M)	.5(M)	.4(M)	1(.3(L))	.2(L)
Wetlands in AA flood or pond < 5 out of 10 years	.9(H)	.8(H)	.7(M)	.7(M)	.5(M)	.4(M)	.3(L)	.2(L)	.1(L)

#### Comments:

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive excess sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, circle NA here and proceed with the evaluation.)

Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function.

Sediment, nutrient, and toxicant input levels within AA	deliver low or comp substantial	ver low to moderate levels of sediments, nutrients, or compounds such that other functions are not stantially impaired. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.				diments, nutrients, unctions are not entation, sources of					
% cover of wetland vegetation in AA		70%	<	70%	> 70	1%	<7	0%			
Evidence of flooding or ponding in AA	Yes	No	Yes	No	Yes No Yes			No			
AA contains no or restricted outlet	1 (H)	.8 (H)	.7 (M)	.5 (M)	.5 (M) .4 (M) .3			2(1)			
AA contains unrestricted outlet	.9 (H)	.7 (M)	.6 (M)	.4 (M)	.4 (M)	.3 (L)	.2 (L)	(.1(L))			

Comments:

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14H Sediment/Shoreline Stabilization: (applies only if AA occurs on or within the banks or a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If does not apply, circle NA here and proceed to next function)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [E = exceptional, H = high, M = moderate, or L = low] for this function.

		tion of surface water adjacent to rooted vegetation				
shoreline by species with deep, binding rootmasses	permanent / perennial	seasonal / intermittent	Temporary / ephemeral			
≥ 65%	1 (H)	.9 (H)	.7 (M)			
35-64%	.7 (M)	.6 (M)	.5 (M)			
< 35%	.3 (L)	.2 (L)	.1 (L)			

# Not applicable

#### 14I. Production Export/Food Chain Support:

I. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function. Factor A = acreage of vegetated component in the AA; Factor B = structural diversity rating from #13; Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P = permanent/perennial; S/I = seasonal/intermittent; T/E /A= temporary/ephemeral or absent [see instructions for further definitions of these terms].)

A		Vegeta	ited comp	oonent >	5 acres			Vegetated component 1-5 acres				Vegetated component <1 acre						
B	Hi	gh	Mode	erate	L	W	H	igh	Mod	erate	L	W	Hi	gh	Mod	erate	Lo	W
C	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
P/P	1H	.9H	.9H	.8H	.8H	.7M	.9H	.8H	.8H	.7M	.7M	(.6M	.7M	.6M	.6M	.4M	.4M	.3L
S/I	.9H	.8H	.8H	.7M	.7M	.6M	.8H	.7M	.7M	.6M	.6M	.5M	.6M	.5M	.5M	.3L	.3L	.2L
T/E/ A	.8H	.7M	.7M	.6M	.6M	.5M	.7M	.6M	.6M	.5M	.5M	.4M	.5M	.4M	.4M	.2L	.2L	.1L

#### Comments:

i. Discharge Indicators	& ii below that apply to the AA) ii. Recharge Indicators					
Springs are known or observed	Permeable substrate present without underlying impeding layer Wetland contains inlet but no outlet Other					
X_Vegetation growing during dormant season/drought Wetland occurs at the toe of a natural slope						
Seeps are present at the wetland edge						
AA permanently flooded during drought periods						
Wetland contains an outlet, but no inlet						
Other						
iii. Rating: Use the information from i and ii above and the table be	ow to arrive at [circle] the functional points and rating [H = high, L = low] for this function					
Criteria	Functional Points and Rating					
AA is known Discharge/Recharge area or one or more indicators of D	V/R present (1 (H)					
No Discharge/Recharge indicators present	.1 (L)					
Available Discharge/Recharge information inadequate to rate AA D/R	potential N/A (Unknown)					
Content of the state of the sta						
Comments:						

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function.

Replacement potential	mature (>80 yr- plant associati		en, bog, warm springs or -old) forested wetland or tion listed as "S1" by the MNHP		AA does not contain previously cited rare types and structural diversity (#13) is high or contains plant association listed as "S2" by the MNHP			AA does not contain previously cited rare types or associations and structural diversity (#13) is low-moderate		
Estimated relative abundance (#11)	rare	common	abundant	rare	common	abundant	rare	common	abundant	
Low disturbance at AA (#12i)	1 (H)	.9 (H)	.8 (H)	.8 (H)	.6 (M)	.5 (M)	.5 (M)	.4 (M)	.3 (L)	
Moderate disturbance at AA (#12i)	.9 (H)	.8 (H)	.7 (M)	.7 (M)	.5 (M)	.4 (M)	.4 (M)	.3 (L)	.2 (L)	
High disturbance at AA (#12i)	.8 (H)	.7 (M)	.6 (M)	.6 (M)	.4 (M)	.3 (L)	.3 (L)	.2 (L)	(.1 (L))	

#### Comments:

14L. Recreation/Education Potential: i. Is the AA a known rec./ed. site: (circle) Y(N) If yes, rate as [circle] High [1] and go to ii; if no go to iii)

ii. Check categories that apply to the AA: \_\_\_\_Educational/scientific study; \_\_\_Consumptive rec.; \_\_\_Non-consumptive rec.; \_\_\_Other

iii. Based on the location, diversity, size, and other site attributes, is there strong potential for rec./ed. use? Y(N)

(If yes, go to ii, then proceed to iv; if no, then rate as [circle] Low [0.1])

iv. Rating (use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function.

Ownership		Disturbance at AA (#12i)	
	low	moderate	high
public ownership	1 (H)	.5 (M)	.2 <u>(L</u> )
private ownership	.7 (M)	.3 (L)	(.1 (L))

Function & Value Variables	Functional     Function     (Actual Points x Estimated AA       Points     al Points											
A. Listed/Proposed T&E Species Habitat	L	0	1									
B. MT Natural Heritage Program Species Habitat	L	0	1									
C. General Wildlife Habitat	L	0.1	1									
D. General Fish/Aquatic Habitat	L	0.1	1									
E. Flood Attenuation	L	0.2	1									
. Short and Long Term Surface Water Storage L 0.3 1												
G. Sediment/Nutrient/Toxicant Removal L 0.1 1												
H. Sediment/Shoreline Stabilization												
I. Production Export/Food Chain Support M 0.6 1												
J. Groundwater Discharge/Recharge H 1.0 1												
K. Uniqueness L 0.1 1												
L. Recreation/Education Potential	L	0.1	1									
Totals: L 2.6 11												
OVERALL ANALYSIS AREA (AA) RATING: (Circle appropriate category based on the criteria outlined below) I II (III) IV Category I Wetland: (Must satisfy one of the following criteria; if does not meet criteria, go to Category II) Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or Score of 1 functional point for Uniqueness; or Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or												
Total actual functional points > 80% (round to nearest whole #) of total possible functional points.         Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; if not satisfied, go to Category IV)         Score of 1 functional point for Species Rated S1, S2, or S3 by the MT Natural Heritage Program; or Score of .9 or 1 functional point for General Wildlife Habitat; or         Score of .9 or 1 functional point for General Fish/Aquatic Habitat; or         "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or Score of .9 functional point for Uniqueness; or         Total Actual Functional Points > 65% (round to nearest whole #) of total possible functional points.												
Category III Wetland: Criteria for Categories I, II or IV												
Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; if does not satisfy criteria go to Category III) X "Low" rating for Uniqueness; and "Low" rating for Production Export/Food Chain Support; and X Total actual functional points < 30% (round to nearest whole #) of total possible functional points												

# FUNCTION & VALUE SUMMARY & OVERALL RATING

Project/Site: Daher (south of Turbine Dr)	City/County: Sandpoint		Sampling Date: 06-Jun-22			
Applicant/Owner: Daher		State: ID	Sampl	ling Point:	DP 1	
Investigator(s): Tom Duebendorfer, PWS	Section, Township, R	ange: S 9	<b>T</b> _57N	<b>R</b> _2W		
Landform (hillslope, terrace, etc.): Lowland	Local relief (concave,	convex, none): flat	t	Slope:	0.0 % /	0.0 °
Subregion (LRR): LRR E	48°17'50.9"N	Long.: 116°34'0	4.3'''W	Datu	m: WGS 84	ł
Soil Map Unit Name: Odenson silt loam		NWI	classification:	PEM1C		
Are climatic/hydrologic conditions on the site typical for this time of y	ear? Yes 🖲 No 🤇	) (If no, expl	ain in Remarks			
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significant	tly disturbed? Are "N	lormal Circumstan	ces" present?	Yes 🖲	No $\bigcirc$	
Are Vegetation, Soil, or Hydrology naturally	problematic? (If ne	eded, explain any a	answers in Ren	narks.)		

# Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydric Soil Present? Yes No	Hydrophytic Vegetation Present?	Yes 🖲	No O	Is the Sampled Area	
	Hydric Soil Present?	Yes 🖲	No 🔿	•	Yes 🔍 No 🔿
Wetland Hydrology Present? Yes  No  No  No  No  No  No  No  No  No  No	Wetland Hydrology Present?	Yes 🖲	No O	within a Wetland?	

Remarks:

All three parameters met - plot is in wetland.

<b>/EGETATION -</b> Use scientific names of pla	Absolute	_Species? Rel.Strat.		Dominance Test worksheet:
Tree Stratum (Plot size: 30' )	% Cover	Cover	Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC: (A)
2	0	0.0%		
3,	0	0.0%		Total Number of Dominant Species Across All Strata: 2 (B)
4		0.0%		
Sapling/Shrub Stratum (Plot size: 20' )	0	= Total Cov	er	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
	0	0.0%		
1			·	Prevalence Index worksheet:
2		0.0%		Total % Cover of: Multiply by:
3		0.0%		OBL species $0 \times 1 = 0$
4		0.0%	·	FACW species $30 \times 2 = 60$
5	0	0.0%	·	<b>FAC species X 3 =</b>
Herb Stratum (Plot size: 0.1 ac )	0	= Total Cov	er	FACU species $\frac{7}{28}$ x 4 = $\frac{28}{28}$
	70	✔ 63.6%	510	UPL species $\underbrace{0}{}$ x 5 = $\underbrace{0}{}$
1 Alopecurus pratensis			FAC	Column Totals: $110$ (A) $307$ (B)
2. Phalaris arundinacea	<u> </u>	<ul><li>✓ 27.3%</li><li>3.6%</li></ul>	FACW FACU	Prevalence Index = $B/A = 2.791$
3_Fragaria virginiana 4_Tanacetum vulgare		2.7%	FACU	
4 Janacetum vulgare 5 Equisetum arvense	3	2.7%	FAC	Hydrophytic Vegetation Indicators:
0.		0.0%		1 - Rapid Test for Hydrologic Vegetation
6		0.0%		✓ 2 - Dominance Test is > 50%
7		0.0%	·	✓ 3 - Prevalence Index is ≤3.0 $^1$
8		0.0%	·	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9		0.0%	·	data in Remarks or on a separate sheet)
10		0.0%	·	$\square$ 5 - Wetland Non-Vascular Plants $^1$
11		= Total Cov		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
	110		er	
Woody Vine Stratum (Plot size:)	0			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1		0.0%		
2	0	0.0%		Hydrophytic Vegetation
	0	= Total Cov	er	Present? Yes No
% Bare Ground in Herb Stratum: ()				
Remarks:				1

Profile Descr	iption: (De	scribe to	the depth r	needed to document	the indi	cator or c	onfirm the	absence of indicators.)				
Depth		Matrix		Red	ox Featı	ires						
(inches)	Color (	moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks			
0-11	10YR	2/1	100%					Silt Loam				
					-							
,,				ced Matrix, CS=Covere			rains <sup>2</sup> Loca	ation: PL=Pore Lining. M=				
		(Applica	ble to all LF	RRs, unless otherwis		)		_	ematic Hydric Soils <sup>3</sup> :			
Histosol (/	,			Sandy Redox (				2 cm Muck (A10)				
	bedon (A2)			Stripped Matri	. ,	-1) (avecant	in MIDA 1)	Red Parent Mater	( )			
Black Hist	Sulfide (A4)			Loamy Mucky	•	,, ,	III MLKA I)	Other (Explain in Remarks)				
_ · •	Below Dark		11)	Depleted Matr	```	2)						
	k Surface (A	•	11)	Redox Dark Su	. ,	5)		<sup>3</sup> Indicators of hydrophytic vegetation and				
	ck Mineral (	,		Depleted Dark	Surface	(F7)		wetland hydrology n				
'	eyed Matrix (	,		Redox depress	ions (F8)			unless disturbed or p	problematic.			
Restrictive L	,											
Type:	-,	<b>,</b> .										
Depth (inc	hes):							Hydric Soil Present?	Yes 🔍 No 🔾			
Remarks:												
	low chrom	a and ful	. coturator	I (NTCHC Critorian d	4 <b>2</b> )							
Soli is flyuric,	low chroni	a anu tui	y saturated	d (NTCHS Criterion #	+5).							

# Hydrology

Wetland Hydrology Indicators:				
Primary Indicators (minimum of one req	uired; check all that apply)	Secondary Indicators (minimum of two required)		
Surface Water (A1)	Water-Stained Leaves (B9) (except MLRA	Water-Stained Leaves (B9) (MLRA 1, 2,		
✓ High Water Table (A2)	1, 2, 4A, and 4B)	4A, and 4B)		
Saturation (A3)	Salt Crust (B11)	Drainage Patterns (B10)		
Water Marks (B1)	Aquatic Invertebrates (B13)	Dry Season Water Table (C2)		
Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)	Saturation Visible on Aerial Imagery (C9)		
Drift deposits (B3)	Oxidized Rhizospheres on Living Roots (C3)	Geomorphic Position (D2)		
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Shallow Aquitard (D3)		
Iron Deposits (B5)	Recent Iron Reduction in Tilled Soils (C6)	FAC-neutral Test (D5)		
Surface Soil Cracks (B6)	Raised Ant Mounds (D6) (LRR A)			
Inundation Visible on Aerial Imagery (B7	) Other (Explain in Remarks)	Frost Heave Hummocks (D7)		
Sparsely Vegetated Concave Surface (B8				
Field Observations:				
Surface Water Present? Yes • N	o Depth (inches): 0			
Water Table Present? Yes • N	o O Depth (inches): 0	lydrology Present? Yes $ullet$ No $igodoldsymbol{ imes}$		
Saturation Present? (includes capillary fringe) Yes • N	Depth (inches): 0	lydrology Present? Yes 🔍 No 🔾		
Describe Recorded Data (stream gauge,	monitor well, aerial photos, previous inspections), if avai	lable:		
Remarks:				
Hydrology observed, area fully saturated				

Project/Site: Daher (south of Turbine Dr)	City/County: Sandpoint		Sampling Date: 06-Jun-22			
Applicant/Owner: Daher		State: ID	Sampl	ing Point:	DP 2	
Investigator(s): Tom Duebendorfer, PWS	Section, Township, Ra	ange: S 9	<b>T</b> _57N	<b>R</b> _2W		
Landform (hillslope, terrace, etc.): Lowland	Local relief (concave, o	convex, none): fla	t	Slope:	0.C % /	0.0 °
Subregion (LRR): LRR E	48°17'50.6"N	Long.: 116°34'(	)4.4'''W	Datu	Im: WGS 84	1
Soil Map Unit Name: Odenson silt loam		NWI	classification:	PEM1C		
Are climatic/hydrologic conditions on the site typical for this time of ye	ear? Yes 🖲 No 🤇	) (If no, expl	ain in Remarks.	.)		
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significant	tly disturbed? Are "N	ormal Circumstan	ces" present?	Yes 🖲	No $\bigcirc$	
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally j	problematic? (If nee	eded, explain any	answers in Rem	narks.)		

# Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	$_{ m Yes}$ $\bigcirc$	No 🖲	Is the Sampled Area
Hydric Soil Present?	Yes $\bigcirc$	No 🖲	
Wetland Hydrology Present?	Yes $\bigcirc$	No 🖲	within a Wetland? Tes $\bigcirc$ NO $\bigcirc$

Remarks:

None of three required parameters observed - plot not located in wetland.

Free Stratum (Plot size: 30')	Absolute % Cover	Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1	0	0.0%		Number of Dominant Species           That are OBL, FACW, or FAC:         1         (A)
2	_	0.0%		
3		0.0%		Total Number of Dominant Species Across All Strata: 2 (B)
4.		0.0%		
apling/Shrub Stratum (Plot size: 20')	0	= Total Cov	er	Percent of dominant Species That Are OBL, FACW, or FAC:
1 Crataegus douglasii	3	100.0%	FAC	Prevalence Index worksheet:
2.		0.0%		Total % Cover of: Multiply by:
3	0	0.0%	·	$\begin{array}{c} \hline \textbf{OBL species} & 0 & \textbf{x 1} = 0 \end{array}$
4.		0.0%		FACW species $0 \times 2 = 0$
5.		0.0%		
erb Stratum (Plot size: 0.1 ac )	3	= Total Cov	er	
1. Tanacetum vulgare	50	✔ 47.2%	FACU	UPL species X 5 =
2. Alopecurus pratensis	40	✔ 37.7%	FAC	Column Totals: <u>109</u> (A) <u>393</u> (B)
3 Fragaria virginiana	10	9.4%	FACU	Prevalence Index = $B/A = 3.606$
4. Hypericum perforatum	3	2.8%	FACU	Underschutig Vogstation Tradicatory
5. Solidago canadensis	3	2.8%	FACU	Hydrophytic Vegetation Indicators:
6	0	0.0%		☐ 1 - Rapid Test for Hydrologic Vegetation ☐ 2 - Dominance Test is > 50%
7	0	0.0%		
8	0	0.0%		3 - Prevalence Index is ≤3.0 <sup>1</sup>
9	0	0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
0	0	0.0%		$\Box$ 5 - Wetland Non-Vascular Plants <sup>1</sup>
11	0	0.0%		
	106	= Total Cov	er	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Voody Vine Stratum (Plot size:)		_		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1	0	0.0%		be present, unless disturbed of problematic.
2	0	0.0%		Hydrophytic Vegetation
	0	= Total Cov	er	Present? Yes O No O
% Bare Ground in Herb Stratum: 0				
Remarks:				1

Depth		Matrix		Rec	lox Featu	ires		_	
(inches)	Color (r	noist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks	
0-11	10YR	3/2	100%					Silt Loam	
/1				ced Matrix, CS=Cover			ains <sup>2</sup> Loc	cation: PL=Pore Lining. M=Matrix	
_		(Applica	ble to all Li	Rs, unless otherwis		.)		Indicators for Problematic Hydric Soils <sup>3</sup> : $\Box$ 2 and $H$ (440)	
Histosol (	A1) Dedon (A2)			Sandy Redox	• •			2 cm Muck (A10)	
Black Hist	. ,			Loamy Mucky	. ,	F1) (excent	in MIRA 1)	Red Parent Material (TF2)	
	Sulfide (A4)			Loamy Gleyed	`	,		Other (Explain in Remarks)	
	Below Dark S		11)	Depleted Mat	•	-)			
<b>-</b> ·	k Surface (Al	•	11)	Redox Dark S	. ,	5)		3	
_	•	,		Depleted Darl	•	,		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present,	
- ·	ick Mineral (S	,		Redox depres		. ,		unless disturbed or problematic.	
,	eyed Matrix (	,			510115 (1 0)			· ····	
	ayer (if pre	sent):							
Туре:								Hydric Soil Present? Yes 🔿 No 🖲	
Depth (inc	hes):								
emarks:									
oil is not hyd	dric								
ydrolog	/								
/etland Hyd	Iroloav Indi	cators:							
•	•••		one require	ed: check all that an	nlv)			Secondary Indicators (minimum of two re	auir

Primary Indicators (minimum of one required; c	heck all that apply)	Secondary Indicators (minimum of two required)
Surface Water (A1)	Water-Stained Leaves (B9) (except MLRA	Water-Stained Leaves (B9) (MLRA 1, 2,
High Water Table (A2)	1, 2, 4A, and 4B)	4A, and 4B)
Saturation (A3)	Salt Crust (B11)	Drainage Patterns (B10)
Water Marks (B1)	Aquatic Invertebrates (B13)	Dry Season Water Table (C2)
Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Oxidized Rhizospheres on Living Roots (C3)	Geomorphic Position (D2)
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Shallow Aquitard (D3)
Iron Deposits (B5)	Recent Iron Reduction in Tilled Soils (C6)	FAC-neutral Test (D5)
Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) (LRR A)	Raised Ant Mounds (D6) (LRR A)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Frost Heave Hummocks (D7)
Sparsely Vegetated Concave Surface (B8)		
Field Observations:		
Surface Water Present? Yes 🔾 No 🖲	Depth (inches):	
Water Table Present? Yes $\bigcirc$ No $\bigcirc$	Depth (inches):	rdrology Present? Yes $\bigcirc$ No $\bigcirc$
Saturation Present? Yes O No O	Depth (inches): Wetland Hy	rdrology Present? Yes 🔾 No 🖲
Describe Recorded Data (stream gauge, monitor	well, aerial photos, previous inspections), if availa	able:
Remarks:		
Hydrology not observed - plot dry, no water tabl	le	
Hydrology not observed - plot dry, no water tabl	e	

Project/Site: Daher (south of Turbine Dr)	City/County: Sandpoint	s	Sampling Date: 06-	Jun-22
Applicant/Owner: Daher		State: ID	Sampling Point:	DP 3
Investigator(s): Tom Duebendorfer, PWS	Section, Township, Range	e: <b>S</b> 9 <b>T</b> <u>57</u>	<u>'N R_2W</u>	
Landform (hillslope, terrace, etc.): Lowland	Local relief (concave, conv	vex, none): flat	Slope:	0.C % /00 °
Subregion (LRR): LRR E Lat.:	48°17'50.0"N Lo	ong.: <u>116°34'04.2</u> "'W	Datu	m: WGS 84
Soil Map Unit Name: Odenson silt loam		NWI classifi	cation: <u>PEM1C</u>	
Are climatic/hydrologic conditions on the site typical for this time of ye	ear? Yes $oldsymbol{O}$ No $oldsymbol{O}$	(If no, explain in R	Remarks.)	
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significant	tly disturbed? Are "Norm	nal Circumstances" pr	esent? Yes 🖲	No 🔿
Are Vegetation, Soil, or Hydrology naturally p	problematic? (If needed	d, explain any answer	rs in Remarks.)	

# Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes 🔾 No 🖲	Is the Sampled Are	2
Hydric Soil Present?	Yes 🔿 🛛 No 🖲		Yes 🔿 No 🖲
Wetland Hydrology Present?	Yes 🔾 No 🖲	within a Wetland?	

Remarks:

None of three required parameters observed - plot not located in wetland.

Tree Stratum (Plot size: 30')	Absolute % Cover	_Species? Rel.Strat. Cover	Indicator Status	Dominance Test wor				
1. Pinus ponderosa	40	✓ 50.0%	FACU	Number of Dominant S That are OBL, FACW, o			2	(A)
2. Pinus contorta	40	✓ 50.0%	FAC			-		
3	0	0.0%		Total Number of Domin Species Across All Strat			4	(B)
4	-	0.0%				-		(2)
apling/Shrub Stratum (Plot size: 20')	80	= Total Cov	ver	Percent of dominant That Are OBL, FACW			50.0%	(A/B)
1 Amelanchier alnifolia	15	✔ 100.0%	FACU	Prevalence Index wo	rkchoot			
2.		0.0%		Total % Cover		Multiply	bv.	
3		0.0%	·	OBL species	0		0	_
4		0.0%		· · –	0	x 2 =	0	
5.		0.0%		-			330	
				_	70	x 3 =	280	
lerb Stratum (Plot size: 0.1 ac)	15	= Total Cov	ver	FACU species _	0	x 4 =	0	
1. Tanacetum vulgare	15	17.6%	FACU	UPL species —		x 5 =	-	
2. Alopecurus pratensis	70	✔ 82.4%	FAC	Column Totals: _	180	(A)	610	(B)
3		0.0%		Prevalence Inde	ex = B/A	. =	3.389	
4		0.0%		Hydrophytic Vegetat	ion Indi	icotore:		
5		0.0%		1 - Rapid Test for			tation	
6	0	0.0%		2 - Dominance Te			lation	
7	0	0.0%		3 - Prevalence In				
8	0	0.0%						
9	0	0.0%		4 - Morphologica data in Remai	l Adapta rks or or	itions ± (Pi 1 a senara	rovide sup ite sheet)	porting
		0.0%		5 - Wetland Non-		-	-	
11	0	0.0%	·	Problematic Hydr				:)
	85	= Total Cov	er			-		-
Noody Vine Stratum (Plot size:)		_		<sup>1</sup> Indicators of hydrid be present, unless d				y must
1		0.0%			istui bet		ematic.	
2	0	0.0%		Hydrophytic Vegetation	-	-		
	0	= Total Cov	ver	Present? Yes	ON	lo 🖲		
% Bare Ground in Herb Stratum: ()								
Remarks:				•				

Depth		Matrix		Rec	lox Featu	ures		_	
(inches)	Color (n	noist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks	
0-11	10YR	3/2	100%					Silt Loam	
								·	
			· ·						
			· ·	······ ·				·	
/1				ced Matrix, CS=Cover			ains <sup>2</sup> Loc	cation: PL=Pore Lining, M=Matrix	
Histosol (/	A1) Dedon (A2)	(Applica	ble to all LF	RRs, unless otherwis     Sandy Redox     Stripped Matr     Loamy Mucky     Loamy Gleyed	(S5) ix (S6) Mineral (	F1) (except	in MLRA 1)	Indicators for Problematic Hydric Soils <sup>3</sup> : 2 cm Muck (A10) Red Parent Material (TF2) Other (Explain in Remarks)	
Thick Dar Sandy Mu	Below Dark S k Surface (A1 ck Mineral (S eyed Matrix (S	2) 1)	11)	Depleted Matu Redox Dark S Depleted Dark Redox depres	urface (F6 Surface	(F7)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
Restrictive L	ayer (if pres	sent):							
Type: Depth (inc	hes):							Hydric Soil Present? Yes 🔿 No 🖲	
Remarks:									
Soil is not hyd	dric								
lydrology	/								
Wetland Hyd		cators:							
Primary Indi	cators (mini	mum of	one require	ed; check all that ap	ply)			Secondary Indicators (minimum of two	requ
Surface V	Vater (A1)			Water-Stain	ed Leaves	s (B9) (exce	pt MLRA	Water-Stained Leaves (B9) (MLRA 1, 2,	

Surface Water (A1)	Water-Stained Leaves (B9) (except MLRA	Water-Stained Leaves (B9) (MLRA 1, 2,		
High Water Table (A2)	1, 2, 4A, and 4B)	4A, and 4B)		
Saturation (A3)	Salt Crust (B11)	Drainage Patterns (B10)		
Water Marks (B1)	Aquatic Invertebrates (B13)	Dry Season Water Table (C2)		
Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)	Saturation Visible on Aerial Imagery (C9)		
Drift deposits (B3)	Oxidized Rhizospheres on Living Roots (C3)	Geomorphic Position (D2)		
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Shallow Aquitard (D3)		
Iron Deposits (B5)	Recent Iron Reduction in Tilled Soils (C6)	FAC-neutral Test (D5)		
Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) (LRR A)	Raised Ant Mounds (D6) (LRR A)		
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Frost Heave Hummocks (D7)		
Sparsely Vegetated Concave Surface (B8)				
Field Observations:				
Field Observations:       Surface Water Present?   Yes O No O	Depth (inches):			
· · · · · · · · · · · · · · · · · · ·	Depth (inches):			
Surface Water Present? Yes No •	Depth (inches):	ydrology Present? Yes 🔿 No 🖲		
Surface Water Present?     Yes     No       Water Table Present?     Yes     No       Saturation Present?     Yes     No       (includes capillary fringe)     Yes     No	Depth (inches): Wetland H			
Surface Water Present?     Yes     No       Water Table Present?     Yes     No       Saturation Present?     Yes     No       (includes capillary fringe)     Yes     No	Depth (inches): Wetland H			
Surface Water Present? Yes No Water Table Present? Yes No Saturation Present? Yes No Describe Recorded Data (stream gauge, monitor	Depth (inches): Wetland H			
Surface Water Present? Yes No Water Table Present? Yes No Saturation Present? Yes No Saturation Present? Yes No Cincludes capillary fringe) Yes No Describe Recorded Data (stream gauge, monitor Remarks:	Depth (inches): Wetland H Depth (inches): Wetland H r well, aerial photos, previous inspections), if avail			
Surface Water Present?     Yes     No       Water Table Present?     Yes     No       Saturation Present?     Yes     No       (includes capillary fringe)     Yes     No	Depth (inches): Wetland H Depth (inches): Wetland H r well, aerial photos, previous inspections), if avail			

Project/Site: Daher (south of Turbine Dr)	City/County: Sandpoint		Sampling Date: 06-	Jun-22
Applicant/Owner: Daher		State: ID	Sampling Point:	DP 4
Investigator(s): Tom Duebendorfer, PWS	Section, Township, Rang	e: S 9 T 5	7N <b>R</b> _2W	
Landform (hillslope, terrace, etc.): Lowland	Local relief (concave, con	vex, none): flat	Slope:	0.C % /00 °
Subregion (LRR): LRR E	48°17'49.3"N	.ong.: 116°34'03.6"'\	N Datu	Im: WGS 84
Soil Map Unit Name: Odenson silt loam		NWI classi	fication: <u>PEM1C</u>	
Are climatic/hydrologic conditions on the site typical for this time of ye	ear? Yes 🖲 No 🔾	(If no, explain in	Remarks.)	
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significant	tly disturbed? Are "Norr	nal Circumstances" p	oresent? Yes 🖲	No $\bigcirc$
Are Vegetation . , Soil , or Hydrology naturally	problematic? (If neede	d, explain any answe	ers in Remarks.)	

# Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Ye	es 🔾 🛛 No 🔍	Is the Sampled Area
Hydric Soil Present? Ye	es 🔿 🛛 No 🖲	
Wetland Hydrology Present? Ye	es 🔘 No 🖲	within a Wetland? Tes $\bigcirc$ NO $\bigcirc$

Remarks:

None of three required parameters observed - plot not located in wetland.

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1. Pinus monticola	40	<b>✓</b> 40.0%	FACU	Number of Dominant Species           That are OBL, FACW, or FAC:         3         (A)
2, Pinus contorta	40	<b>4</b> 0.0%	FAC	
3, Pinus ponderosa	20	20.0%	FACU	Total Number of Dominant Species Across All Strata: 6 (B)
4	0	0.0%		
Sapling/Shrub Stratum (Plot size: 20' )	100	= Total Cov	er	Percent of dominant Species That Are OBL, FACW, or FAC:
1. Amelanchier alnifolia	5	✓ 50.0%	FACU	Prevalence Index worksheet:
2. Crataegus douglasii	-	✓ 50.0%	FAC	Total % Cover of: Multiply by:
3		0.0%		$\begin{array}{c} \hline \\ \textbf{OBL species} & 0 & \textbf{x} \ \textbf{1} = 0 \end{array}$
4		0.0%		FACW species $0 \times 2 = 0$
5		0.0%		<b>FAC species</b> $135 \times 3 = 405$
	10	= Total Cov	ver	FACU species $\frac{75}{75} \times 4 = \frac{300}{300}$
lerb Stratum (Plot size: 0.1 ac )				UPL species $0 \times 5 = 0$
1 Alopecurus pratensis	90	90.0%	FAC	Column Totals: 210 (A) 705 (B)
2. Tanacetum vulgare	10	10.0%	FACU	
3		0.0%	·	Prevalence Index = B/A = <u>3.357</u>
4		0.0%		Hydrophytic Vegetation Indicators:
5		0.0%	·	1 - Rapid Test for Hydrologic Vegetation
6		0.0%	·	□ 2 - Dominance Test is > 50%
7		0.0%		□ 3 - Prevalence Index is ≤3.0 $^1$
89		0.0%	·	4 - Morphological Adaptations $^1$ (Provide supporting
9		0.0%		data in Remarks or on a separate sheet)
10	0	0.0%		5 - Wetland Non-Vascular Plants <sup>1</sup>
11	100	= Total Cov	er	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
1	0	0.0%		be present, unless disturbed or problematic.
2		0.0%		Hydrophytic
	0	= Total Cov	er	Vegetation Present? Yes O No •
% Bare Ground in Herb Stratum: ()				
Remarks:				1

Depth		Matrix		Ree	lox Featu	ures			
(inches)	Color (		%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks	
0-11	10YR	3/2	100%					Silt Loam	
			· ·						
			· ·	=					
			· ·						
			· ·						
<sup>1</sup> Type: C=Cor	centration. D	=Depletic	n. RM=Redu	ced Matrix, CS=Cover	ed or Coa	ted Sand G	rains <sup>2</sup> Loc	cation: PL=Pore Lining. M=Matrix	
Hydric Soil	Indicators:	(Applica	ble to all LF	Rs, unless otherwi	se noted	.)		Indicators for Problematic Hydric Soils <sup>3</sup> :	
Histosol (	(A1)			Sandy Redox	(S5)	-		2 cm Muck (A10)	
Histic Epi	pedon (A2)			Stripped Matr	ix (S6)			Red Parent Material (TF2)	
Black His	tic (A3)			Loamy Mucky	Mineral (	F1) (except	in MLRA 1)		
Hydroger	n Sulfide (A4)	)		Loamy Gleyed	l Matrix (F	-2)			
Depleted	Below Dark	Surface (A	.11)	Depleted Mat	rix (F3)				
Thick Da	rk Surface (A	12)		Redox Dark S		,		<sup>3</sup> Indicators of hydrophytic vegetation and	
Sandy Mu	uck Mineral (	S1)		Depleted Dar		. ,		wetland hydrology must be present,	
Sandy Gl	eyed Matrix (	S4)		Redox depres	sions (F8)	)		unless disturbed or problematic.	
Restrictive L	.ayer (if pre	sent):							
Type:									
Depth (ind	ches):							Hydric Soil Present? Yes $\bigcirc$ No $ullet$	
Remarks:									
Soil is not hy	dric								
	unc								
Hydrolog	v								
Wetland Hyd	-	icators							
•			ono roquir	d, chock all that a	anhu)			Secondary Indicators (minimum of two road	uirad
				ed; check all that ap	,	(50) (		Secondary Indicators (minimum of two requ	uneu
	Water (A1)			Water-Stain 1, 2, 4A, an		s (BA) (exce	pt MLKA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A. and 4B)	

High Water Table (A2)			1, 2, 4A, and 4B)	prinkk	4A, and 4B)
Saturation (A3)			Salt Crust (B11)		Drainage Patterns (B10)
Water Marks (B1)			Aquatic Invertebrates (B13)	[	Dry Season Water Table (C2)
Sediment Deposits (B2)			Hydrogen Sulfide Odor (C1)		Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)			Oxidized Rhizospheres on Living	Roots (C3)	Geomorphic Position (D2)
Algal Mat or Crust (B4)			Presence of Reduced Iron (C4)		Shallow Aquitard (D3)
Iron Deposits (B5)			Recent Iron Reduction in Tilled S	oils (C6)	FAC-neutral Test (D5)
Surface Soil Cracks (B6)			Stunted or Stressed Plants (D1) (	(LRR A)	Raised Ant Mounds (D6) (LRR A)
Inundation Visible on Aeria	al Imagery	(B7)	Other (Explain in Remarks)		Frost Heave Hummocks (D7)
Sparsely Vegetated Conca	ve Surface	(B8)			
Water Table Present? Saturation Present? (includes capillary fringe)	Yes Yes Yes ream gaug	No No No Je, monito	Depth (inches): Depth (inches): Depth (inches): r well, aerial photos, previous insp	Wetland Hydro	
Remarks:					
Hydrology not observed - pl	lot dry, no	water tab	le		

Project/Site: Daher (south of Turbine Dr)	City/County: Sandpoint		Sampling Date: 06	Jun-22
Applicant/Owner: Daher		State: ID	Sampling Point:	DP 5
Investigator(s): Tom Duebendorfer, PWS	Section, Township, Rang	e: S 9 T 57	7N <b>R</b> _2W	
Landform (hillslope, terrace, etc.): Lowland	Local relief (concave, con	vex, none): flat	Slope:	0.C % / 0.0 °
Subregion (LRR): LRR E Lat.:	48°17'49.3"N	.ong.: <u>116°34'02.4</u> "'W	/ Datu	m: WGS 84
Soil Map Unit Name: Odenson silt loam		NWI classif	ication: PEM1C	
Are climatic/hydrologic conditions on the site typical for this time of y	rear? Yes $\bullet$ No $\bigcirc$	(If no, explain in I	Remarks.)	
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significan	tly disturbed? Are "Nori	nal Circumstances" pi	resent? Yes 🖲	No 🔿
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally	problematic? (If neede	d, explain any answe	rs in Remarks.)	

# Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

	rophytic Vegetation Present? Ye	● No ○	Is the Sampled Area
	ric Soil Present? Ye	🖻 No 🔿	
Wetland Hydrology Present? Yes  No  within a Wetland? Yes  No	land Hydrology Present? Ye	● No ○	within a Wetland?

Remarks:

All three parameters met - plot is in wetland.

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover		Indicator Status	
1,	0	0.0%		Number of Dominant Species           That are OBL, FACW, or FAC:         2         (A)
2		0.0%		
3		0.0%		Total Number of Dominant Species Across All Strata: 2 (B)
4	_	0.0%		
Sapling/Shrub Stratum (Plot size: 20' )	0	= Total Cov	er	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
1,	0	0.0%		Prevalence Index worksheet:
2		0.0%		Total % Cover of: Multiply by:
3		0.0%		$\begin{array}{c} \hline \textbf{OBL species} & 0 & \textbf{x 1} = 0 \end{array}$
4.		0.0%		FACW species $30 \times 2 = 60$
5		0.0%		FAC species $80 \times 3 = 240$
	0	= Total Cov	er	FACU species $0 \times 4 = 0$
lerb Stratum (Plot size: 0.1 ac )				UPL species $\frac{0}{x 5} = \frac{0}{x 5}$
1. Alopecurus pratensis	80	✓ 72.7%	FAC	Column Totals: 110 (A) 300 (B)
2. Phalaris arundinacea		✓ 27.3%	FACW	
3		0.0%		Prevalence Index = $B/A = 2.727$
4				Hydrophytic Vegetation Indicators:
5	•	0.0%		1 - Rapid Test for Hydrologic Vegetation
6	•	0.0%		✓ 2 - Dominance Test is > 50%
7		0.0%		✓ 3 - Prevalence Index is $\leq$ 3.0 <sup>1</sup>
8		0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9		0.0%		data in Remarks or on a separate sheet)
10		0.0%		$\square$ 5 - Wetland Non-Vascular Plants $^1$
11,	<u>0</u>	= Total Cov		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Voody Vine Stratum (Plot size:)				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
<u>1.</u> ,	0	0.0%		be present, unless disturbed or problematic.
2		0.0%		Hydrophytic
	0	= Total Cov	er	Vegetation Present? Yes • No ·
% Bare Ground in Herb Stratum: ()				
				1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth		Matrix		Red	ox Featu	ires			
(inches)	Color (	moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks	
0-11	10YR	2/1	100%					Silt Loam	
		-	······· ·	<u> </u>					
	-		······· ·		-				
<sup>1</sup> Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup> Location: PL=Pore Lining. M=Matrix									
Hydric Soil I	Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils <sup>3</sup> :								
Histosol (A	A1)			Sandy Redox (	S5)			2 cm Muck (A10)	
Histic Epip	. ,			Stripped Matrix	. ,			Red Parent Material (TF2)	
Black Histi				Loamy Mucky	•	,, ,	in MLRA 1)	Other (Explain in Remarks)	
	Sulfide (A4			Loamy Gleyed	•	2)			
	Below Dark	•	11)	Depleted Matri	. ,	`			
	Surface (A	,		Depleted Dark	``	,		<sup>3</sup> Indicators of hydrophytic vegetation and	
<i>`</i>	ck Mineral (	,		Redox depress		. ,		wetland hydrology must be present, unless disturbed or problematic.	
· · · · ·	yed Matrix	. ,							
Restrictive La	ayer (if pre	esent):							
Туре:								Hydric Soil Present? Yes $ullet$ No $igodot$	
Depth (inch	nes):							Hydric Soli Present? Fes Son No C	
Remarks:									
Soil is hydric,	low chrom	a and ful	ly saturated	I (NTCHS Criterion #	±3).				

# Hydrology

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one requ	iired; check all that apply)	Secondary Indicators (minimum of two required)
Surface Water (A1)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<ul> <li>Saturation (A3)</li> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift deposits (B3)</li> <li>Algal Mat or Crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Surface Soil Cracks (B6)</li> <li>Inundation Visible on Aerial Imagery (B7)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> </ul>		<ul> <li>Drainage Patterns (B10)</li> <li>Dry Season Water Table (C2)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> <li>Shallow Aquitard (D3)</li> <li>FAC-neutral Test (D5)</li> <li>Raised Ant Mounds (D6) (LRR A)</li> <li>Frost Heave Hummocks (D7)</li> </ul>
Field Observations: Surface Water Present? Yes • No	Depth (inches): 2	
	Depth (inches): 2 Wetland	Hydrology Present? Yes $ullet$ No $igodoldsymbol{ imes}$
Saturation Present? (includes capillary fringe) Yes • No	Depth (inches): 2	
Describe Recorded Data (stream gauge, n	nonitor well, aerial photos, previous inspections), if ava	ailable:
Remarks:		
Hydrology observed, area fully saturated		

Project/Site: Daher (south of Turbine Dr)	City/County: Sandpoint		Sampling D	ate: 06-Jun-	22
Applicant/Owner: Daher		State: _ID	Sampling	g Point:	DP 6
Investigator(s): Tom Duebendorfer, PWS	Section, Township, Ran	ge: S 9 T	57N R	2W	
Landform (hillslope, terrace, etc.):	Local relief (concave, co	nvex, none): flat	S	lope: 0.0	%/0.0 °
Subregion (LRR): LRR E Lat.:	48°17'51.3"N	Long.: <u>116°34'00.2</u>	"'W	Datum:	WGS 84
Soil Map Unit Name: Odenson silt loam		NWI clas	sification: <u>PE</u>	M1C	
Are climatic/hydrologic conditions on the site typical for this time of y	rear? Yes $\odot$ No $\bigcirc$	(If no, explain	in Remarks.)		
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significan	tly disturbed? Are "Nor	mal Circumstances	" present?	Yes 💿 🛛 N	<b>o</b> O
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally	problematic? (If need	ed, explain any ans	wers in Remar	rks.)	

# Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes 🖲	No O	Is the Sampled Area	
Hydric Soil Present?	Yes 🖲	No $\bigcirc$	•	Yes 🖲 No 🔾
Wetland Hydrology Present?	Yes 🖲	No 🔿	within a Wetland?	

Remarks:

All three parameters met - plot is in wetland.

1.       0         2.       0         3.       0         4.       0         5.       0         1.       0         2.       0         3.       0         4.       0         3.       0         4.       0         5.       0         1.       0         2.       0         3.       0         4.       0         5.       0         1.       0         1.       0         2.       0         3.       0         4.       0         5.       0         6.       0         7.       0         8.       0         9.       0         10.       0         11.       0				Number of Dominant Species That are OBL, FACW, or FAC:2(A)Total Number of Dominant Species Across All Strata:2(B)Percent of dominant Species That Are OBL, FACW, or FAC:100.0%(A/B)Prevalence Index worksheet: Total % Cover of:100.0%(A/B)Prevalence Index worksheet: Total % Cover of:0x 1 =Multiply by: OBL species0x 2 =0FACW species0x 3 =300FAC species0x 4 =0UPL species0x 5 =0Column Totals:100(A)300Prevalence Index = B/A =3.000X 1 =
2.       0         3.       0         4.       0         Sapling/Shrub Stratum (Plot size: 20' )       0         1.       0         2.       0         3.       0         4.       0         5.       0         1.       0         5.       0         1.       0         5.       0         1.       0         6.       0         7.       0         8.       0         9.       0         10.       0         11.       0		0.0% 0.0% otal Cov 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%		Species Across All Strata:2(B)Percent of dominant Species That Are OBL, FACW, or FAC: $100.0\%$ (A/B)Prevalence Index worksheet: Total % Cover of:Multiply by:(A/B)OBL species0x 1 =0FACW species0x 2 =0FACW species0x 3 = $300$ FACU species0x 4 =0UPL species0x 5 =0Column Totals: $100$ (A) $300$ Prevalence Index = B/A = $3.000$
4.       0         5apling/Shrub Stratum       (Plot size: 20'         1.       0         2.       0         3.       0         4.       0         5.       0         Herb Stratum       (Plot size: 0.1 ac         1.       0         2.       0         3.       0         4.       0         5.       0         1. Alopecurus pratensis       60         2. Agrostis stolonifera       40         3.       -         4.       -         5.       0         6.       0         7.       0         8.       0         9.       0         10.       0         11.       0		0.0% otal Cov 0.0% 0.0% 0.0% 0.0% 0.0% otal Cov 60.0% 40.0% 0.0%		Species Across All Strata:2(B)Percent of dominant Species That Are OBL, FACW, or FAC: $100.0\%$ (A/B)Prevalence Index worksheet: Total % Cover of:Multiply by:(A/B)OBL species0x 1 =0FACW species0x 2 =0FACW species0x 3 = $300$ FACU species0x 4 =0UPL species0x 5 =0Column Totals: $100$ (A) $300$ Prevalence Index = B/A = $3.000$
Sapling/Shrub Stratum       (Plot size: 20')       0         1.       0         2.       0         3.       0         4.       0         5.       0         1 Alopecurus pratensis       60         2. Agrostis stolonifera       40         3.       0         4.       0         5.       0         6.       0         7.       0         8.       0         9.       0         10.       0         11.       0		Ook         Ook           0.0%         0.0%           0.0%         0.0%           0.0%         0.0%           0.0%         0.0%		That Are OBL, FACW, or FAC:100.0% (A/B)Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species0x 1 =0FACW species0x 2 =0FAC species100x 3 =300FACU species0x 4 =0UPL species0x 5 =0Column Totals:100(A)300Prevalence Index = B/A =3.000
Sapling/Shrub Stratum       (Plot size: 20')         1.       0         2.       0         3.       0         4.       0         5.       0         1.       0         5.       0         1.       0         6.       0         7.       0         8.       0         9.       0         10.       0         11.       0		0.0% 0.0% 0.0% 0.0% <b>otal Cov</b> 60.0% 40.0% 0.0%		That Are OBL, FACW, or FAC:100.0% (A/B)Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species0x 1 =0FACW species0x 2 =0FAC species100x 3 =300FACU species0x 4 =0UPL species0x 5 =0Column Totals:100(A)300Prevalence Index = B/A =3.000
2.       0         3.       0         4.       0         5.       0         1. Alopecurus pratensis       60         2. Agrostis stolonifera       40         3.       4         5.       0         6.       0         7.       0         8.       0         9.       0         10.       0		0.0% 0.0% 0.0% <b>otal Cov</b> 60.0% 40.0% 0.0%	FAC	Total % Cover of:Multiply by:OBL species $0$ $x \ 1 =$ $0$ FACW species $0$ $x \ 2 =$ $0$ FAC species $100$ $x \ 3 =$ $300$ FACU species $0$ $x \ 4 =$ $0$ UPL species $0$ $x \ 5 =$ $0$ Column Totals: $100$ (A) $300$ Prevalence Index = B/A = $3.000$
2.       0         3.       0         4.       0         5.       0         1. Alopecurus pratensis       60         2. Agrostis stolonifera       40         3.       4         5.       0         6.       0         7.       0         8.       0         9.       0         10.       0         11.       0		0.0% 0.0% 0.0% 60.0% 40.0% 0.0% 0.0%	FAC	Total % Cover of:Multiply by:OBL species $0$ $x \ 1 =$ $0$ FACW species $0$ $x \ 2 =$ $0$ FAC species $100$ $x \ 3 =$ $300$ FACU species $0$ $x \ 4 =$ $0$ UPL species $0$ $x \ 5 =$ $0$ Column Totals: $100$ (A) $300$ Prevalence Index = B/A = $3.000$
3.       0         4.       0         5.       0         1       Alopecurus pratensis       60         2.       Agrostis stolonifera       40         3.       4       40         4.       60       0         5.       0       0         6.       0       0         7.       0       0         8.       0       0         9.       0       0         11.       0       0		0.0% 0.0% <b>Fotal Cov</b> 60.0% 40.0% 0.0%	FAC	OBL species $0$ $x \ 1 =$ $0$ FACw species $0$ $x \ 2 =$ $0$ FAC species $100$ $x \ 3 =$ $300$ FACU species $0$ $x \ 4 =$ $0$ UPL species $0$ $x \ 5 =$ $0$ Column Totals: $100$ $(A)$ $300$ $(B)$ Prevalence Index = $B/A =$ $3.000$
4.       0         5.       0         5.       0         1       Alopecurus pratensis       60         2.       Agrostis stolonifera       40         3.       4       40         5.       0       0         6.       0       0         7.       0       0         8.       0       0         9.       0       0         10.       0       0		0.0% Fotal Cov 60.0% 40.0% 0.0%	FAC	FACw species $0$ x 2 = $0$ FAC species $100$ x 3 = $300$ FACU species $0$ x 4 = $0$ UPL species $0$ x 5 = $0$ Column Totals: $100$ (A) $300$ (B)Prevalence Index = B/A = $3.000$
5.       0         Herb Stratum       (Plot size: 0.1 ac)         1. Alopecurus pratensis       60         2. Agrostis stolonifera       40         3.       4         5.       0         6.       0         7.       0         8.       0         9.       0         10.       0         11.       0		Fotal Cov           60.0%           40.0%           0.0%           0.0%	FAC	FAC species       100       x 3 =       300         FACU species       0       x 4 =       0         UPL species       0       x 5 =       0         Column Totals:       100       (A)       300       (B)         Prevalence Index = $B/A =$ 3.000       3.000       3.000
Herb Stratum       (Plot size: 0.1 ac)		60.0% 40.0% 0.0%	FAC	FACU species $0$ x 4 = $0$ UPL species $0$ x 5 = $0$ Column Totals: $100$ (A) $300$ (B)Prevalence Index = B/A = $3.000$
1. Alopecurus pratensis       60         2. Agrostis stolonifera       40         3		40.0% 0.0% 0.0%		UPL species $x \ 5 =$ $x \ 5 =$ Column Totals:100(A)300Prevalence Index = B/A = $3.000$
2. Agrostis stolonifera       40         3.       -         4.       -         5.       -         6.       0         7.       0         8.       0         9.       0         1.       0		40.0% 0.0% 0.0%		Prevalence Index = $B/A = 3.000$
3.		0.0%		
4.       .         5.       .         6.       .         7.       .         8.       .         9.       .         10.       .         11.       .		0.0%		
6     0       7     0       8     0       9     0       10     0       11     0				
6     0       7     0       8     0       9     0       10     0       11     0				Hydrophytic Vegetation Indicators:
0     0       7     0       8     0       9     0       10     0       11     0		0.0%		1 - Rapid Test for Hydrologic Vegetation
8 0 9 0 0 0 1 0	· 🗆	0.0%		$\checkmark$ 2 - Dominance Test is > 50%
9 0 10 0 11 0	·	0.0%		✓ 3 - Prevalence Index is $\leq$ 3.0 <sup>1</sup>
0 0 11 0		0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
10		0.0%		data in Remarks or on a separate sheet)
		0.0%		$\Box$ 5 - Wetland Non-Vascular Plants $^1$
100	= T	otal Cov	er	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Voody Vine Stratum (Plot size:)				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
1. 0		0.0%		be present, unless disturbed or problematic.
20	·	0.0%		Hydrophytic
0	_ = T	otal Cov	er	Vegetation Present? Yes  No
% Bare Ground in Herb Stratum: ()				

Profile Descri	ption: (De	scribe to	the depth I	needed to document	the indi	cator or c	onfirm the	absence of indicators.)	
Depth		Matrix			ox Featı	ires			
(inches)	Color (	moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-11	10YR	2/1	100%					Silt Loam	
					-			·	
			· ·						
								,	
								,	
			· ·					·	
			· ·						
<sup>1</sup> Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup> Location: PL=Pore Lining. M=Matrix									
Hydric Soil I	ndicators:	(Applica	ble to all LF	RRs, unless otherwis	e noted	)		_	ematic Hydric Soils <sup>3</sup> :
Histosol (A	,			Sandy Redox (				2 cm Muck (A10)	
Histic Epip	. ,			Stripped Matri	• •	-1) (avecant		Red Parent Materi	
Black Histi	. ,	<b>`</b>		Loamy Mucky	•	,, ,	III MLKA I)	Other (Explain in I	Remarks)
Depleted E	•	,	11)	Depleted Matr	•	2)			
Thick Dark		•	11)	Redox Dark Su	• •	5)		<sup>3</sup> Indicators of hydrophyl	tio
Sandy Muc	``	,		Depleted Dark	Surface	, (F7)		wetland hydrology m	
Sandy Gley		,		Redox depress	sions (F8)			unless disturbed or p	
Restrictive La		. ,							
Type:		Joint).							
Depth (inch	مد)،							Hydric Soil Present?	Yes 🔍 No 🔾
Remarks:									
Soil is hydric,	ow chrom	ia and ful	ly saturated	d (NTCHS Criterion #	‡3) <b>.</b>				

# Hydrology

Wetland Hydrology Indicators:							
Primary Indicators (minimum of one required; che	eck all that apply)	Secondary Indicators (minimum of two required)					
Surface Water (A1)	Water-Stained Leaves (B9) (except MLRA	Water-Stained Leaves (B9) (MLRA 1, 2,					
High Water Table (A2)	1, 2, 4A, and 4B)	4A, and 4B)					
Saturation (A3)	Salt Crust (B11)	Drainage Patterns (B10)					
Water Marks (B1)	Aquatic Invertebrates (B13)	Dry Season Water Table (C2)					
Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)	Saturation Visible on Aerial Imagery (C9)					
Drift deposits (B3)	Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3)						
Algal Mat or Crust (B4)	Shallow Aquitard (D3)						
Iron Deposits (B5)	FAC-neutral Test (D5)						
Surface Soil Cracks (B6)	Raised Ant Mounds (D6) (LRR A)						
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Frost Heave Hummocks (D7)					
Sparsely Vegetated Concave Surface (B8)							
Field Observations:							
Surface Water Present? Yes   No	Depth (inches): 1						
Water Table Present? Yes  No	Depth (inches): 1	rdrology Present? Yes $\odot$ No $\bigcirc$					
Saturation Present? (includes capillary fringe) Yes  • No	Depth (inches): 1	rdrology Present? Yes 🔍 No 🔾					
Describe Recorded Data (stream gauge, monitor w	vell, aerial photos, previous inspections), if availa	able:					
Remarks:							
Hydrology observed, area fully saturated to shallo	wly inundated						

# *Tom Duebendorfer* - Professional Wetland Scientist (#000157), Biologist, Botanist OBJECTIVE

Provide botanical and ecological services to a wide range of organizations and individuals for projects involving land development, wetland delineation, vegetation mapping, rare plant surveys, resource inventories, Environmental Assessments, Biological Evaluations and Assessments, and research-level studies on specific habitats or species.

### EDUCATION

WSPSS, SWS Hydric Soils Workshop, Soils and Hydrology, June 2009
Wetland Training Institute, Soils and Hydrology, August 1990
Humboldt State University, Arcata, California
M.A. Biology May 1987
California State Teaching Credential May 1987
B.A. Biology June 1977
University of California, Irvine (2 years - biology major)

# EMPLOYMENT

#### • Self-employed wetland and botanical consultant (1981 to present)

Provided botanical and wildlife surveys, floristic research, habitat characterization, ecological sampling, synecological analysis, aerial photo mapping, wetland delineation, impact analysis, restoration and mitigation, resource planning, permitting, rare and endangered plant surveys, plant taxonomy, soil analysis, computer-aided multivariate analyses and statistics, computer-aided graphics and drafting. Involved with design (as part author/editor) of Washington Dept of Ecology Hydrogeomorphic approach to wetland function assessment program (Assessment Team). Trained in E WA DOE Assessment Methodology (assisted in development of the methodology). Wetland Mitigation Bank preparation. Teaches wetland delineation and plant identification courses to Tribes, agencies, and groups.

Project locations include rare plant surveys/studies and wetland work in southern, central, northern and coastal California; coastal, southwestern, and northeastern Oregon; north, east-central, and southwest Idaho; eastern and western Washington; and northwest Montana.

#### • Senior Wetland Ecologist, Client/Project Manager, Corporate Botanist (1989-1994)

David Evans and Associates, Inc. Bellevue, Washington

Provided wetland delineation, impact assessment, conceptual and final mitigation design, monitoring, cumulative impact assessment, wetland permitting, habitat characterization, rare plant and T&E animal surveys, Biological Evaluations and Assessments, as well as instruction and guidance in systematics and classification to staff in 7 west coast offices. Maintained excellent rapport with clients and other project team members (both in office and as field crew leader). Managed projects from proposals, contracting, budgeting, scheduling and invoicing, to collections.

Project locations include: Pacific Northwest, from central and coastal Oregon to eastern, western, and coastal Washington, and northwest Montana.

#### CERTIFICATIONS

Professional Wetland Scientist, Society of Wetland Scientists (#000157) Certified Wetland Delineator, Corps of Engineers (Seattle District) Qualified Wetland Specialist, Spokane County, Washington Qualified Wetland Specialist, City of Spokane, Washington Completed Training in NEPA/EPA Process Completed Soils and Hydrology workshops (WTI); Hydric Soils (WSSPSS - Updates 2009)

#### Tom Duebendorfer - Professional Wetland Scientist (#000157), Biologist, Botanist

#### SPECIFIC EXPERIENCE

Habitats include: dune coastline, coastal and inland forested, scrub, and marsh wetlands, oak woodlands, steppe scrubland, grasslands, sagebrush, agricultural areas (wetlands), coniferous and deciduous montane, alpine, bog (fen), and serpentine vegetation.

Permitting knowledge and direct use of wetland methodologies (USFWS, US Army Corps of Engineers, WA Dept of Ecology, and local county and city jurisdictions); knowledge of Corps Permit process. Restoration activities. Biological Assessments (BA), USFS Evaluations (BE), Environmental Assessments (EA); SEPA/NEPA; T&E species monitoring, Raptor Monitoring, Wetland Mitigation Bank Design.

Rare plant studies include approximately 45 sensitive plant and vegetation surveys on private, state, and federal lands for small to medium scale hydroelectric plants, stream corridors, sewage treatment facilities, water treatment facilities, prison site, seeding experiments, road and highway construction, transmission corridors (utilities), fiber optic cable routes, and mining companies. Biological Evaluations for USFS-listed sensitive species in four states.

<u>Clients</u> (independently and during tenure as employee) include:

#### Small- and Large-scale Developers:

Burlington-Northern, Puget Western, Glacier Park Company, Trillium Corporation, Quadrant, Blackhawk/Port Blakely Communities, Coldwater Creek, Valencia Wetlands Trust, Waterfront Property Mgmt., Kirk-Hughes Development, Fortress LLC, & others

#### Public Entities:

Washington Department of Ecology, Benewah County (through EDA), Federal Highways Administration, Bureau of Reclamation, King Co., US Army Corps of Engineers, Spokane County Engineering and Public Works, Oregon Nature Conservancy, Humboldt County Planning, Humboldt State University Research Program; Benewah County; Idaho Soil and Conservation District, City of Winchester, Idaho Transportation Department, Washington Department of Transportation, Kalispell Indian Tribe, City of Colville, Rathdrum

#### Communications (fiber optic projects): AT&T, MCI/WorldCom, Cascade Utilities

Exploratory and Active Mining Companies:

Emerald Creek Garnet Company, American Gold Resources, Cal Nickel Corp., Baretta, Noranda

Assisting other Consulting Firms and Numerous Private Landowners.

The Soils Group, Intermountain Resources, Inc., Hart-Crowser, Inc., Welch-Comer Eng., Land Profile, Inc., Selkirk Environmental, David Evans and Associates, J.A. Sewell and Assoc., EarthTech, ALSC Architects; Ecological Resources, Forsgren Assoc., JUB Eng., Adolfson Assoc. Copper Basin Constr., Toothman-Orton Eng., Rocky Point Investments, HAWKEFA, Tate Engineering.

#### PUBLICATIONS

- Duebendorfer, T.E. 1990. "An Integrated Approach to Enhancing Rare Plant Populations through Habitat Restoration: II. Habitat Characterization through Classification of Dune Vegetation." Pp. 478-487 in: Bonnicksen, T.M. and H.G. Hughes, eds. Proceedings of the first annual meeting of the Society for Ecological Restoration and Management. Also presented at Society of Wetland Scientists, May 1993.
- Pickart, A.J., L.M. Miller, and T.E. Duebendorfer. 1998. "Yellow bush lupine invasion in northern California coastal dunes. I. Ecological impacts and manual restoration techniques". Restoration Ecology Vol 6 No 1, pp59-68.
- Seattle Audubon Series, "Wetland Plants of the Western Washington and NW Oregon" (Cooke 1997, editor): My role was as a contributor and technical editor.
- Hruby, T., S. Stanley, T. Granger, T. Duebendorfer, R. Friesz, B. Lang, B. Leonard, K. March, and A. Wald. 2000. Methods for Assessing Wetlands Functions. Volume II, Part 1: Assessment Methods - Depressional Wetlands in the Columbia Basin of Eastern Washington, WA State Department of Ecology Publication #00-06-47.

Fieldbook of Plant Uses (North Idaho) - self published field booklet (2019)