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DEPARTMENT OF THE ARMY ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS REGULATORY DIVISION P.O. BOX 22270 JUNEAU, AK 99802-2270

August 5, 2020

Regulatory Division POA-2020-00370

City and Borough of Sitka 100 Lincoln Street Sitka, AK 99835

Dear Mr. Grabel,

This letter is in response to your July 23, 2020 request for a Department of the Army (DA) Jurisdictional Determination (JD) for your proposed seaplane base. The project is located within Section 35 T. 55 S., R. 63 E., Copper River Meridian; at Latitude 57.055418° N., Longitude -135.363889° W.; Sitka Borough, in Sitka, Alaska. The project are would include 0.06 acres of Palustrine, scrub-shrub wetlands and 0.01 acres of intertidal marine waters. Your project has been assigned number POA-2020-00370, Sitka Harbor, which should be referred to in all correspondence with us.

Based on our review of the information you provided and available to our office, we have preliminarily determined the subject project area contains waters of the United States (U.S.), and/or wetlands, under the Corps of Engineers (Corps) regulatory jurisdiction. See the attached Preliminary Jurisdictional Determination (PJD) Forms. Please sign and return the forms to our office. A PJD is not appealable, however, if you have additional information you would like the Corps to consider you may submit at any time. In addition, at any time you have the right to request and obtain an Approved Jurisdictional Determination (AJD), which can be appealed. If it is your intent to request an AJD, we recommend that work not commence until one is obtained.

Department of the Army authorization is required if you propose to place dredged and/or fill material into waters of the U.S., including wetlands. You can find a copy of the DA permit application online at: www.poa.usace.army.mil/Missions/Regulatory. You can refer to the sample drawing on our website at:

www.poa.usace.army.mil/Portals/34/docs/regulatory/guidetodrawings2012.pdf.

Section 404 of the Clean Water Act requires that a DA permit be obtained for the placement or discharge of dredged and/or fill material into waters of the U.S., including jurisdictional wetlands (33 U.S.C. 1344). The Corps defines wetlands as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Section 10 of the Rivers and Harbors Act of 1899 requires that a DA permit be obtained for structures or work in or affecting navigable waters of the U.S. (33 U.S.C. 403). Section 10 waters are those waters subject to the ebb and flow of the tide shoreward to the mean High Water Mark, and/or other waters identified by the Alaska District.

Nothing in this letter excuses you from compliance with other Federal, State, or local statutes, ordinances, or regulations.

If you have questions or to request a hard copy of the DA permit application, please contact me via email at: Delana.P.Wilks@usace.army.mil, by mail at the address above, or by phone at (907) 790-4494. For more information about the Regulatory Program, please visit our website at: www.poa.usace.army.mil/Missions/Regulatory.

Sincerely,

Delarent_

Delana Wilks Regulatory Specialist

Enclosures

Preliminary Jurisdictional Determination Form Page 1 of 2						
This preliminary JD find that there " <i>may be</i> " waters of the United s activity based on th	This preliminary JD find that there "may be" waters of the United States on the subject project site that could be affected by the proposed activity based on the following information:					
District Office Juneau Field Office File/ORM # PC	A-2020-00370		PJD Date	Aug 3, 2020		
State AK City/County City and Borough of Sitka	Name and	DOWL				
Nearest Waterbody Sitka Harbor	Address of	ATTN: Josl 4041 B Str	n Grabel eet			
Project Location Section(s) 35 Township 55 S	Requesting	auesting Anchorage, AK 99503				
Meridian Cooper River Range 63 E	DIA					
USGS Quad Map Latitude 57.055418	1	N Longit	ude -135.3638	89	W	
Subdivision Name, Block, Lot, Directions to Project Site						
Identify (Estimate) Amount of Waters in the Review Area <u>Non-Wetland Waters:</u> Str	ream Flow Wat	ne of Any ter Bodies on	Tidal: Sitka H	arbor		
Linear ft Width 0.01 Acres Pere	nnial the	Site Identified ection 10	d Non-Tidal:			
Wetlands	wat X	Office (Desk)	_ Determination ر	Date of		
0.06 Acres Cowardin Class: Palustrine, scrub-sl	nrub	Field Determi	nation	Site Visit:		
SUPPORTING DATA: Data Review for Preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested appropriately reference sources below)						
X Maps, plans, plots or plat submitted by or on behalf of th	ne applicant/consi	ultant: _{Supplie}	d by consultant on	July 24, 2020]	
Data sheets prepared/submitted by or on behalf of the approximation o	oplicant/consultar	nt.				
Office concurs with data sheets/delineation report.						
Office does not concur with data sheets/delineation	report.					
Data Sheet prepared by the Corps						
Corps navigable waters'study:						
USGS NHD Data.						
USGS 8 and 12 digit HUCmaps.						
U.S. Geological Survey map(s) Cite quadname:						
USDA Natural Resources Conservation Service Soil Survey. (Citation:]		
National Wetlands Inventory map(s):						
State/Local Wetland Inventory map(s):						
FEMA/FIRM map(s):						
100-year Floodplain Elevation:						
X Photographs:						
Aerial (Name & Date) Google Earth Imagery 5/15/2020						
Other (Name & Date)						
Previous determination(s). File # and date of response letter:						
Other Information:						

Page 2 of 2

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Delarent

Signature and Date of Regulatory Project Manager (REQUIRED)

8/3/2020

Patrino And

8/5/2020

Signature and Date of Person Requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS: 1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time. 2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a nonreporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.



ARC-FS\anc-projects\23\63021-01\600GIS\ENV\Wetland Delineation\Location Vicinity Map.mxd Jun 02, 2020 12:47:23 PM User: jgrabel Service Layer Credits: USS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic James Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset, USS Gold Ecosystems; U.S. Census Bureau TIGER/Line data; USS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed October 2018. Sources: Esri, Garmin, USSS, NPS

Wetland Boundaries are approximated based on wetland delineation GPS data. Boundaries will need to be surveyed by professional surveyors to accurately depict limits under dense tree canopy.	De la comparación de la compar	MHW7
Cowardin Code	Wetland D	elineation
🥙 Mean High Water 🛄 Study Area 🗯 M2USN 🔨 Mean High Water 📔 Photo 🥌 PSS1B [- Fence 🧄	Sitka SPB Wetl	and Delineation
2 Test Holes Vpland		Date: June 03, 2020
0 40 80	DOWL	Figure 3

C:\23\63021-01\60GIS\ENV\Wetland Delineation\Wetland Delineation.mxd Jun 03, 2020 9:33:12 AM User: tjameson Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

CITY AND BOROUGH OF SITKA New Sitka Seaplane Base



Wetland Delineation/ Functions & Values Report

June 2020

Prepared for:

City and Borough of Sitka 100 Lincoln Street Sitka, Alaska 99835

Prepared by:

DOWL 4041 B Street Anchorage, AK 99503

SITKA SEAPLANE BASE

Wetland Delineation/Functions and Values Report

Prepared for:

City and Borough of Sitka 100 Lincoln Street Sitka, Alaska 99835



4041 B Street Anchorage, AK 99503

June 2020

1123.63021.02

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ACRONYMS

AA	assessment area
CWA	Clean Water Act
FAC	Facultative
FACU	Facultative Upland
GHCN	
MHW	Mean High Water
M2	marine intertidal
PFO	palustrine forested
PSS	palustrine scrub shrub
US	
USACE	
USGS	United States Geological Survey
USFWS	United States Fish and Wildlife Service



1.0 INTRODUCTION

DOWL is providing environmental support for the City and Borough of Sitka for a new Sitka Seaplane Base. The project area is located at 1190 Seward Avenue, Sitka, Alaska 99835 (57.055418 North Latitude; -135.363889 West Longitude, Copper River Meridian, Township 55S, Range 63E, Section 34 and 35) (Appendix A; Figure 1). This project may impact jurisdictional waters of the United States (US) in Sitka, Alaska.

DOWL was contracted to conduct a Wetland Delineation and assess wetland function and values for an approximately 2.0 acre-study area to identify and classify areas that may fall under the United States Army Corps of Engineers (USACE) jurisdiction per Section 404 of the Clean Water Act (CWA). The USACE is the jurisdictional agency with authority to permit the discharge of dredged or fill material into a Waters of the United States (WOUS) per Section 404 of the CWA. Outlined within the CWA, wetlands are categorized as "Other WOUS." The USACE further defines wetlands as areas that are "inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (USACE 1987) (40 CFR Part 230.3(t)).

The data herein is intended to provide the USACE with sufficient information to determine regulatory jurisdiction of aquatic resources subject to Section 404 of the CWA, and to evaluate the hydrological connectivity of such resources to a traditional navigable waterway, territorial sea, or navigable interstate waterway.

1.1 Environmental Setting

1.1.1 Regional Characteristics

The study area is within the Coastal Western Hemlock-Sitka Spruce Forest ecoregion, which is characterized by deep narrow bays, steep valley walls, irregular coastline and thin moraine deposits on hills and in valleys. Forests of western hemlock and Sitka spruce are widespread. The ecoregion has a maritime climate and has the mildest winters in Alaska and is generally free of permafrost. Soils near the mountains formed in gravelly and stony moraine deposits or in a mantle of volcanic ash over the morainal deposits. Soils of river deltas, terraces, alluvial fans, and floodplains formed in waterlain silts and clays. Poorly drained depressions are filled with fibrous peat (Gallant et al. 1995).

1.1.2 Study Area Characteristics

The City of Sitka is located on Baranof Island, approximately 93 miles southwest of Juneau. The study area is on Japonskii Island near the airport. Sitka lies in the maritime climate zone with small temperature variations, wet, cool summers, and relatively mild winters. Vegetation consists primarily of coastal western hemlock and Sitka spruce forest. Mean annual precipitation is about 87 inches (USGS 1995). The mean high-water (MHW) elevation for Sitka harbor is 9.16 feet. Japonski Island has seven distinct surficial deposits including drift, volcanic ash, muskeg, elevated delta and shore deposits, alluvial deposits, modern beach deposits, and man-made fill (Yehle 1974). Numerous expanses of subtidal wetlands exist on Japonski Island. The Indian River, Sawmill Creek, Swan Lake, Cascade Creek, Blue Lake, and an unnamed lagoon on



Japonski Island are the principal surface-water bodies in the Sitka area (USGS 1995). The City of Sitka in located in the Baranof Mountains, with a gradual southwest slope and steep eastern slope (Figure 1) (Wahrhaftig 1965). The growing season of this region is from May 29th to September 27th (USACE 2007).

1.2 Precipitation and Climatic Data

The closest global historical climatology network (GHCN) weather station is the Sitka Airport. The Sitka Airport GHCN weather station is located approximately 0.5 miles south of the project area. Precipitation data (Utah Climate Center 2020; Western Regional Climate Center 2020) from May 2000 to May 2020 was used to analyze antecedent conditions preceding the May 2020 data collection (Graphic 1). Daily precipitation values over a 30-day period were accumulated in order to examine the three-month period preceding data collection activities to determine if surface hydrology or soil moisture conditions observed were drier than normal, or wetter than normal (Natural Resource Conservation Service 2018). The period of record was stopped 5/9/2020 possibly due to COVID-19 impacts to data collection. Surface hydrology or soil moisture conditions to the precipitation analysis.



Graphic 1: Sitka Airport (USW00025333) 2020 Precipitation Data.



2.0 METHODS

2.1 Existing Data and Preparatory Analysis

The approximate 2.0-acre study area consists of forested, scrub shrub, and tidal areas adjacent to Sitka Harbor. A preliminary review of the study area was conducted prior to fieldwork based on:

- U.S. Geological Survey (USGS) 2017 Sitka A-5 SE Quadrangle
- USGS National Hydrography Dataset
- 2019 Aerial imagery
- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory
- National Oceanic and Atmospheric Administration (NOAA) Tidal Datum for Sitka, Alaska
- Natural Resources Conservation Service (NRCS) Web Soil Survey

2.2 Field Data Collected

DOWL Environmental Specialists Joshua Grabel and Caity Kennedy conducted the wetland delineation fieldwork May 20, 2020 in accordance with *Part IV of the Corps of Engineers Wetlands Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Alaska Region [Version 2.0,* (USACE 2007)].

Data was collected using the three-parameter approach combining site-specific indicators of hydrophytic vegetation, hydric soils, and wetland hydrology. Field notes were taken to document landscape topography and general site characteristics.

At each sampling location, soil test pits (TH) were excavated to a depth of at least 24 inches, or to the presence of a restrictive digging layer. Soil and hydrology characteristics of texture, color, saturation, and depth to water table were recorded on Corps Routine Wetland Determination forms (Appendix B). Soil color was recorded using *Munsell Soil-Color Charts* (Munsell Color 2012). In the event soil excavation was not necessary to make a wetland/upland determination, a photographic point (PP) was taken. MHW photopoints (MHW) were taken along the 9.16-foot elevation to verify the NOAA tidal datum.

Typically, US Department of Agriculture Natural Resource Conservation Service Web Soil Survey is analyzed. No soil data was available for the terrestrial portions of the study area.

A GPS with 20-ft accuracy and Trimble Nomad with sub-meter accuracy were used to pinpoint sample point and photopoint locations for GIS mapping reference. ESRI ArcMap was used to calculate acreages. Report mapping is an estimate of wetland boundaries based on site photos and sketches, topographic data, and field observations. Additional survey investigations will be conducted to capture flagged wetland boundaries under a dense forest canopy, where a normal GPS and Trimble Nomad have trouble with accuracy.



Wetlands were classified and grouped according to guidelines outlined in the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979). Sampling locations were selected to verify the preliminary mapping.

3.0 RESULTS

The 2.0-acre study area is comprised of approximately 0.06 acres of potentially jurisdictional wetlands and 0.01 acres of WOUS (3% of the study area), and 1.9 acres of non-jurisdictional uplands (97% of the study area) (Appendix 1: Figure 2). Percentages are rounded to the nearest whole number. All data sheets and photos are included in Appendix B. Table 1 summarizes the results by Cowardin classification.

Jurisdictional Type	Acres	Cowardin Classification	Data Points
Wetlands	0.06	PSS1B	TH2, TH5
Waterbodies	0.01	M2USN	MHW1, MHW2, MHW3, MHW4, MHW5, MHW6, MHW7
Uplands	1.9	N/A	TH1, TH3, TH4, PP1, PP2, PP3, PP4, PP5, PP6
Total Study Area	2.0		

Table 1: Wetlands, Waters of the U.S., and Uplands

PSS1B Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Saturated M2USN Marine, Intertidal, Unconsolidated Bottom, Regularly Flooded

On-site observations indicate the study area has predominantly facultative (FAC) dominant hydrophytic vegetation and has greater than 2 inches of an organic layer typically. Wetland hydrology comes from primary indicators of high-water table, saturation, and sparsely vegetated concave surface. Analysis of the data collected in 2020 identified approximately 0.07 acres of wetlands and waterbodies, and 1.9 acres of uplands.

3.1 Wetlands

Wetland habitats in the study area typically begin as small seeps and flow downhill and are found in the northern and northwestern portion of the study area. One wetland starts as two seeps that flow together into a single swale. The other wetland is a small seep that starts at a toeslope. The wetlands are found on 2-3 percent slopes between several hills. Both wetlands are adjacent to the coastline and Sitka Harbor, separated by approximately 6-20 feet of uplands.

Wetland habitat types in the study area are palustrine, composed of two wetland areas. Palustrine habitats contain scrub shrub vegetation with a forest canopy growing overtop, however tree canopy did not exceed 10%. There is 30-60 percent bare ground underneath the scrub shrub canopy. Hydrology is composed of saturation, water table, sparsely vegetated concave surface, geomorphic position, and presence of reduce iron. Saturation is at 4-6 inches below the soil surface. Hydric soils indicators were histosols and histic epipedon.

The study area has one wetland Cowardin habitat system consisting of palustrine. Habitats within the study area are organized by vegetation stratum and then classified based on the



presence of hydrophytic vegetation, hydric soils, and wetland hydrology. See Table 2 for a summary of the data collected.

Data #	Date Data Taken	Wetland Determination Form Completed	Hydrophytic Vegetation Present	Hydric Soils Present	Wetland Hydrology Present	Jurisdictional Status (Cowardin)
TH1	5/20/2020	Yes	No	Yes	No	Upland
TH2	5/20/2020	Yes	Yes	Yes	Yes	PSS1B
TH3	5/20/2020	Yes	Yes	No	No	Upland
TH4	5/20/2020	Yes	Yes	No	No	Upland
TH5	5/20/2020	Yes	Yes	Yes	Yes	PSS1B
PP1	5/20/2020	No	No	N/A	No	Upland
PP2	5/20/2020	No	No	N/A	No	Upland
PP3	5/20/2020	No	No	N/A	No	Upland
PP4	5/20/2020	No	No	N/A	No	Upland
PP5	5/20/2020	No	No	N/A	No	Upland
PP6	5/20/2020	No	No	N/A	No	Upland

Table 2: Summary of Data Collected

Within the study area, there is one wetland habitat type as defined by a Cowardin classification.

3.1.1 Vegetation

Scrub-shrub wetlands (Cowardin classifications: PSS1B) are characterized by greater than 30% percent aerial cover in the shrub layer (Photo Set 1). These wetlands have a robust scrub shrub layer of stink currant (*Ribes bracteosum*) and salmonberry (*Rubus spectabilis*) with an herbaceous layer of false lily of the valley (*Maianthemum dilatatum*). All wetlands in the study area are classified as PSS1B. Characteristically, these wetlands are depressional, concave (two-to-three percent slopes) features that form as seeps.



Photo Set 1: Typical Scrub-Shrub Wetland

These wetlands are located beneath the forest canopy but are small in size and have either scrub shrub vegetation or a sparsely vegetated concave surface. Both wetlands start as seeps flowing downhill. One wetland forms a swale while the other flows to a downhill point, forming a



triangle. Dominant vegetation includes stink currant, false lily of the valley, and salmonberry. Wetland vegetation is dominantly FAC to FACU.

The triangle-shaped seep wetland at TH 5 has problematic hydrophytic vegetation due to having a hydric soil, primary wetland hydrology, being a concave seep forming at a toeslope, and having a sparsely vegetated concave surface. The shrub stratum is growing over top of the wetland to maximize sunlight with few individuals rooted in the seep, and the herb stratum is growing at the downslope point of the triangle on a slight rise in elevation. The shrub stratum is dominantly salmonberry, which is most common on moist to wet, water-receiving sites in forested or wooded areas (Zouhar 2015). The Salmonberry aerial stems can be seen in Photo Set 1 on the right photo, growing laterally over top of the seep.

The most common plant species identified in the study area include western hemlock (*Tsuga heterophylla*), Sitka mountain ash (*Sorbus sitchensis*), salmonberry, false lily of the valley, stink currant, and red alder (*Alnus rubra*). All species and wetland indicators observed within the study area are shown in Table 3.

Scientific Name	Common Name	Indicator Status
Alnus rubra	Red alder	FAC
Alnus viridis	Sitka alder	FAC
Maianthemum dilatatum	False lily of the valley	FAC
Picea sitchensis	Sitka spruce	FACU
Ribes bracteosum	Stink currant	FAC
Rubus spectabilis	Salmonberry	FACU
Sorbus sitchensis	Sitka mountain ash	FACU
Tsuga heterophylla	Western hemlock	FAC
Vaccinium ovalifolium	Oval-leaf blueberry	FAC

Table 3: Plant Species within the Study Area

Notes: FAC = Facultative; FACU = Facultative Upland

3.1.2 <u>Soils</u>

Soils observed within the study area had anywhere from 2 to 24 inches of organic layer. Table 4 describes observations made in the field.

Sample Point	Organic Mat Thickness (inches)	Mineral Soil	Saturated Organics	Hydric
TH1	9	Sandy Loam	No	Yes, black histic
TH2	24	N/A	Yes	Yes, histosol
TH3	8	Silt Loam	No	No, 3" buried organics
TH4	2	Sandy Loam	No	No
TH5	12	Silt Loam	Yes	Yes, histic epipedon



A black histic was observed at TH1. This soil profile was characterized by 9 inches of organic material underlain by a sandy loam (B) horizon with a color of 7.5YR 3/2 from the Munsell Soil Color Chart (Munsell 2012). This site was moderately well drained, and no wetland hydrology was observed.

A histosol (A1) was observed at TH2. This soil profile was characterized by 24 inches of organic material. This site was very poorly drained and was characterized by saturation and high water table (4 inches deep).

A histic epipedon was observed at TH5. This soil profile was characterized by 12 inches of organic material underlain by a silt loam (B) horizon with a color of 10YR 2/1 from the Munsell Soil Color Chart (Munsell 2012). Soils at this site were poorly drained and primary wetland hydrology was present.

3.1.3 <u>Hydrology</u>

Using the NRCS method, it was determined that precipitation for the three months prior to the field investigation was above normal. Indicators of wetland hydrology were prevalent in the wetlands but lacking in upland areas.

At least one primary indicator was observed at both wetland locations where data forms were completed. Both sites (TH2 and TH5) had evidence of one secondary hydrologic indicator (geomorphic position, presence of reduced iron). No evidence of primary or secondary wetland hydrology indicators were observed at the remaining three data form sites. Hydrology indicators observed at each plot are shown in Table 5.

Sample Point	Hydrology Indicators	Wetland Hydrology Met
TH1	N/A	No
TH2	High water table, saturation, geomorphic position	Yes
TH3	N/A	No
TH4	N/A	No
TH5	Saturation, sparsely vegetated concave surface, presence of reduced iron, geomorphic position	Yes

Table 5: Soil Observations at Full Sample Points within the Study Area

3.2 Waterbody

Marine waters are found in tidal areas in Sitka Harbor below MHW. Waterbody consists of a tidally influenced coastline of Sitka Harbor. The MHW elevation of 9.16 feet was confirmed using a submeter accuracy GPS with visual observations of barnacles, saltwater vegetation growing on boulders, and debris deposits.





Photo Set 2: Mean High Water

Marine waters below MHW are composed of gravel, cobble, boulder, and bedrock substrate with barnacles and marine vegetation growing along the rocks. A low tide survey was conducted with photos for various substrate types and is attached as Appendix C. Table 6 is a summary of marine waterbody data collected.

Data #	Date Data Taken	Jurisdictional Status (Cowardin)
MHW1	5/20/2020	M2USN
MHW2	5/20/2020	M2USN
MHW3	5/20/2020	M2USN
MHW4	5/20/2020	M2USN
MHW5	5/20/2020	M2USN
MHW6	5/20/2020	M2USN
MHW7	5/20/2020	M2USN

Table 6: Summary of Data Collected

3.3 Non-Jurisdictional Uplands

The study area is predominantly uplands, consisting of western hemlock and Sitka spruce forests. The southern side of the access road has an open understory, while the northern forested area has a scrub shrub understory consisting of salmonberry, Sitka mountain ash, and alder. Upland slopes are 2-3%.

A black histic was detected at TH1. This soil profile was characterized by 9 inches of organic material with a 10YR 2/1 color from the Munsell Soil Color Chart but no saturation (Munsell 2012). The soil was underlain by a mineral soil material with chroma of 2 or less. Soil at this site was somewhat poorly drained.

TH3 had 5 inches of organic material, a 3-inch layer of mineral soil with a chroma greater than 2, and then a lower layer of 3 inches of organic material. The mineral soil beneath the lower organic layer contained a chroma of 2 or less. Black histic is not described in the 2007 Alaska Regional Supplement. The description comes from the NRCS Field Indicators of Hydric Soils in the United States (2018) that does not describe the separation of organic material by thin mineral layers to meet hydric soil indicator requirements. This forested area was near the

access road and potential disturbance and contained a soil layer of iron colored silt between layers of organics and a layer of ash below organics.

No hydrology indicators were met in upland areas.

3.4 Ecosystem Services Score and Functional Assessment

The WESPAK-SE Functional Assessment was completed for the two PSS1B wetlands as an assessment area. These wetlands were similar in Cowardin Classification, hydrogeomorphic classification, small in size, and similar in formation from spring seeps. The field and desktop tabs of the workbook were completed resulting in an overall score of 7.17 and higher overall rating (Appendix 4). The assessment area scored higher functioning for surface water storage, streamwater cooling, sediment & toxicant retention & stabilization, phosphorus retention, and nitrate removal & retention.

The online, WESPAK-SE module is no longer functioning to answer some of the questions in the workbook, and the data available for download does not encompass all data needs. The same sources were used to answer questions with data from original sources.

4.0 CONCLUSION OR DISCUSSION

Approximately 0.06 acres of wetlands and 0.01 acres of waterbody fall within the extend of USACE jurisdiction under Section 404 and 10 the CWA. No streams were observed in the study area. Even though climatic conditions were wetter than normal, no surface water was observed in either wetland during the May 20, 2020 fieldwork. Wetland seeps such as those observed in the study area are common to southeast Alaska.

Wetlands within the study area are adjacent to a traditional navigable water (Sitka Harbor) and are separated by approximately 6-20 feet of uplands. The waterbody is Sitka Harbor. Wetlands and waters are assumed to be jurisdictional according to Section 10 and 404 of the Clean Water Act due to proximity to a traditional navigable water.

5.0 REFERENCES

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APPENDIX 1: FIGURES

ARC-FS\anc-projects\23\63021-01\600GIS\ENV\Wetland Delineation\Location Vicinity Map.mxd Jun 02, 2020 12:47:23 PM User: jgrabel Service Layer Credits: USS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic James Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset, USS Gold Ecosystems; U.S. Census Bureau TIGER/Line data; USS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed October 2018. Sources: Esri, Garmin, USSS, NPS

Wetland Boundaries are approximated based on wetland delineation GPS data. Boundaries will need to be surveyed by professional surveyors to accurately depict limits under dense tree canopy.	De la comparación de la compar	MHW7
Cowardin Code	Wetland D	elineation
🥙 Mean High Water 🛄 Study Area 🗯 M2USN 🔨 Mean High Water 📔 Photo 🥌 PSS1B [- Fence 🧄	Sitka SPB Wetl	and Delineation
2 Test Holes Vpland		Date: June 03, 2020
0 40 80	DOWL	Figure 3

C:\23\63021-01\60GIS\ENV\Wetland Delineation\Wetland Delineation.mxd Jun 03, 2020 9:33:12 AM User: tjameson Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community **APPENDIX 2: DATASHEETS AND PHOTODOC**

Project/Site: Sitka Seaplane Base	Borough/City: <u>Sitka</u>	Sampling Date: 5/20/2020
Applicant/Owner: City of Sitka		Sampling Point: TH1
Investigator(s): JRG, CLK	_ Landform (hillside, terrace, hummocks, et	c.): Hillside
Local relief (concave, convex, none): <u>convex</u>	Slope (%): 2	
Subregion: Southeast Lat: 57.0556	28 Long: <u>-135.3643</u> 4	Datum: NAD 83
Soil Map Unit Name: <u>No digital data available</u>	NWI c	lassification: Upland
Are climatic / hydrologic conditions on the site typical for this time of y	rear? Yes No X (If no, expla	ain in Remarks.)
Are Vegetation <u>N</u> , Soil <u>N</u> , or Hydrology <u>N</u> significant	y disturbed? Are "Normal Circumsta	nces" present? Yes X No
Are Vegetation <u>N</u> , Soil <u>N</u> , or Hydrology <u>N</u> naturally p	roblematic? (If needed, explain any	answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes <u>X</u> Yes	No <u>X</u> No <u></u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes	No_X	
Remarks: Wetter than normal climatic conditions.						

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum	% Cover	Species?	Status	Number of Dominant Species
1. Tsuga heterophylla	10.00	Y	FAC	That Are OBL, FACW, or FAC: 2 (A)
2				Total Number of Deminent
3.				Species Across All Strata: 4 (B)
4				
Total Cover:	10			Percent of Dominant Species
	200/ 0	f total acuar	. 2	That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum	20%0	i lotai cover		Prevalence Index worksheet:
1 Sorbus sitchensis	35	Y	FACU	Total % Cover of: Multiply by:
Alnus viridis	15	N	FACU	OBL species x 1 =
2Pubus spectabilis	30		EACU	FACW species x 2 =
3			FACU	FAC species $50 \times 3 = 150$
4				EACLI species $65 \times 4 = 260$
5				
6				OPL species x 5 115 110
Total Cover:	80			Column Totals: (A) (A) (B)
50% of total cover: 40	20% of	total cover	16	$Drevelence Index = D/4 = -\frac{3.57}{2}$
Herb Stratum	2070.01			
1. Maianthemum dilatatum	25	Y	FAC	Hydrophytic Vegetation Indicators:
2				Dominance Test is >50%
2				Prevalence Index is ≤3.0
3				Morphological Adaptations ¹ (Provide supporting
4				data in Remarks or on a separate sheet)
5				Problematic Hydrophytic Vegetation ¹ (Explain)
6				
7				¹ Indicators of hydric soil and wetland hydrology must
8.				be present unless disturbed or problematic.
0				
3				
T	25			
l otal Cover:	23		-	
50% of total cover: 12.5	20% of	total cover:	5	Hydrophytic
Plot size (radius, or length x width) 1/10th acre	_ % Bare C	Ground	10	Vegetation
% Cover of Wetland Bryophytes Total Cov (Where applicable)	ver of Bryop	ohytes	5	Present? Yes <u>No X</u>
Remarks:				
Mossy alder trunks				

Profile Desc	cription: (Describe	to the de	pth needed to docu	ment the	indicator	or confir	m the absence	e of indicators.)
Depth	Matrix		Red	ox Feature	es	0	<u>.</u>	
(inches)	Color (moist)	%	Color (moist)	%	Type'	Loc ²	Texture	Remarks
0-3	Dead roots	-	-	-		-	Org	Fibric
3-9	10YR 2/1	100	_	-	-	-	Org	Hemic
9-24	7.5YR 3/2	100	-	_		-	SaL	Coarse
		<u> </u>						
<u> </u>								
1							21	
Type: C=Co	oncentration, D=Dep	letion, Riv	I=Reduced Matrix, C	S=Covere Problema	tic Hydrid		Frains. Lo	bcation: PL=Pore Lining, M=Matrix.
	or Histol (A1)				$(T \wedge 4)^4$. 50115 .		a Claved Without Hue 5V or Poddor
	or Hister (A1)			ior Change	=(TA4)			
	Sulfido (A4)			dox With 2			Othor	(Evaluin in Pomarke)
	ork Surface (A12)							
	Cleved (A13)		³ One indicator	of hydroph	ovtic veget	ation one	primary indica	tor of wetland hydrology
	Sedox ($\Delta 14$)		and an appr	on rigato Ian	decane no	sition mus	st he present u	nless disturbed or problematic
Alaska	Gleved Pores (A15)		⁴ Give details of	f color cha	nge in Rer	narks.		niess disturbed of problematic.
Restrictive I	Layer (if present):				-			
Type: <u>-</u>								
Depth (in	ches): <u>-</u>						Hydric Soi	il Present? Yes X No
Remarks:								
Black his	tic hydric soil	indicat	tor met.					
Dark min	eral soil belov	<i>N</i> orda	nic					
No aquic	soil condition	ns in 0-	9" lavers					
HYDROLO	GY							

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is a	suff <u>icie</u> nt)	Water-stained Leaves (B9)
Surface Water (A1)	Inundation Visible on Aerial Imagery (B7) Drainage Patterns (B10)
High Water Table (A2)	Sparsely Vegetated Concave Surface (B	8) Oxidized Rhizospheres along Living Roots (C3)
Saturation (A3)	Marl Deposits (B15)	Presence of Reduced Iron (C4)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Salt Deposits (C5)
Sediment Deposits (B2)	Dry-Season Water Table (C2)	Stunted or Stressed Plants (D1)
Drift Deposits (B3)	Other (Explain in Remarks)	Geomorphic Position (D2)
Algal Mat or Crust (B4)		Shallow Aquitard (D3)
Iron Deposits (B5)		Microtopographic Relief (D4)
Surface Soil Cracks (B6)		FAC-Neutral Test (D5)
Field Observations:	N.	
Surface Water Present? Yes	No X Depth (inches):	
Water Table Present? Yes	No X Depth (inches):	X
Saturation Present? Yes	No X Depth (inches):	Wetland Hydrology Present? Yes No X
(includes capillary fringe)		
Describe Recorded Data (stream gauge	, monitoring well, aerial photos, previous inspect	tions), if available:
Remarks:		
Drv soils no indicators of	hvdrology.	
,	, <u>,</u>	

Project/Site: Sitka Seaplane Base	Borough/City: _S	Sitka	Sampling Date: <u>5/20/2020</u>
Applicant/Owner: City of Sitka			Sampling Point: TH2
Investigator(s): JRG, CLK	Landform (hillsi	de, terrace, hummocks,	etc.): Swale
Local relief (concave, convex, none): <u>Concave</u> Subregion: <u>Southeast</u>	Slope (%): 2 Lat: <u>57.055748</u>	Long:135.364	531 Datum: NAD 83
Soil Map Unit Name: <u>No digital data available</u>		NW	I classification: Upland
Are climatic / hydrologic conditions on the site typ Are Vegetation $\frac{N}{N}$, Soil $\frac{N}{N}$, or Hydrology Are Vegetation $\frac{N}{N}$, Soil $\frac{N}{N}$, or Hydrology SUMMARY OF FINDINGS – Attach site	bical for this time of year? Yes y Nsignificantly disturbed? y Nnaturally problematic? e map showing sampling point	No X (If no, exp Are "Normal Circums (If needed, explain ar locations, transect	olain in Remarks.) tances" present? Yes <u>X</u> No ny answers in Remarks.) s, important features, etc.
Hydrophytic Vegetation Present? Yes > Hydric Soil Present? Yes > Wetland Hydrology Present? Yes >	X No Is the Sa K No within a K No within a	ampled Area Wetland?	Yes X No
Remarks:			

Wetter than normal climatic conditions.

	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> 1	<u>% Cover</u>	Species?	<u>Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC:2 (A)
2 3				Total Number of Dominant Species Across All Strata: (B)
4 Total Cover:	0			Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
50% of total cover:	20% o	f total cover	:	Prevalence Index worksheet:
1. Rubus spectabilis	5	Ν	FACU	Total % Cover of: Multiply by:
2 Vaccinium ovalifolium	10	N	FACU	OBL species x 1 =
Alnus viridis	5	N	FAC	FACW species x 2 =
A Ribes bracteosum	50	Y	FAC	FAC species x 3 = 300
4				FACU species $5 x 4 = 20$
0				UPL species x 5 =
6	70			Column Totals: <u>105</u> (A) <u>320</u> (B)
FOW of total cover: 35	200% of	total anyor	14	3.04
Herb Stratum	20 % 01	lotal cover.		Prevalence Index = B/A =
1. Maianthemum dilatatum	35	Y	FAC	Hydrophytic Vegetation Indicators:
2				Dominance Test is >50%
3				Prevalence Index is ≤3.0
4				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5				Problematic Hydrophytic Vegetation ¹ (Explain)
6				
7				¹ Indicators of hydric soil and wetland hydrology must
8				be present unless disturbed or problematic.
9.				
10.				
Total Cover:	35			
50% of total cover: 17.5	20% of	total cover:	7	
Plot size (radius, or length x width) 1/10th acre *		Fround	30	Hydrophytic
	_ % Bare C			Vegetation
% Cover of Wetland Bryophytes Total Cov	_ % Bare C	ohytes	-	VegetationPresent?Yes \underline{X} No
% Cover of Wetland Bryophytes Total Cov (Where applicable)	er of Bryon	ohytes	-	Vegetation Present? Yes X No

Profile Desc	ription: (Describe f	o the dep	oth needed to docu	ment the	indicator	or confirm	n the absence	e of indicators.)	
Depth	Matrix		Redox Features						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-8	10YR 2/2	100	-	-	-	-	Org	Sapric	
8-24	10YR 2/2	50				-	Org	Sapric, 50% gravels	
		 		 	 	·			
¹ Type: C=Co	oncentration, D=Depl	etion, RM	I=Reduced Matrix, C	S=Covere	ed or Coat	ed Sand G	rains. ² Lo	cation: PL=Pore Lining, M=Matrix.	
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol or Histel (A1) Alaska Color Change (TA4) ⁴ Alaska Gleyed Without Hue 5Y or Redder Histic Epipedon (A2) Alaska Alpine Swales (TA5) Underlying Layer Hydrogen Sulfide (A4) Alaska Redox With 2.5Y Hue Other (Explain in Remarks)					a Gleyed Without Hue 5Y or Redder lerlying Layer (Explain in Remarks)				
Alaska C Alaska F Alaska G	Gleyed (A13) Redox (A14) Gleyed Pores (A15)		³ One indicator of and an appro ⁴ Give details of	of hydroph opriate Ian color cha	nytic veget dscape po nge in Rei	ation, one osition mus marks.	primary indica at be present u	tor of wetland hydrology, nless disturbed or problematic.	
Restrictive I	Layer (if present):								
Type: <u>-</u> Depth (ind	ches):						Hydric Soi	I Present? Yes X No	
Remarks: Broken d thick orga	lown organics anics in swale								
HYDROLO	GY								
Wetland Hy	drology Indicators:						Secondary Ir	ndicators (2 or more required)	
Primary Indic	cators (any one indica	ator is suf	ficient)				Water-st	tained Leaves (B9)	
	Water (A1)		Inundation Visib	le on Aeri	al Imager	y (B7)		e Patterns (B10)	

Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)		Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8 Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Other (Explain in Remarks)	3)	Drainage Patterns (B10) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Salt Deposits (C5) Stunted or Stressed Plants (D1) Geomorphic Position (D2)				
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)				Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)				
Field Observations:		X						
Surface Water Present?	Yes N	o <u>X</u> Depth (inches):						
Water Table Present?	Yes X N	o Depth (inches): <u>4</u>						
Saturation Present? (includes capillary fringe)	Yes X N	Depth (inches): <u>4</u> Wetl		Wetland Hydrology Present? Yes X No				
Describe Recorded Data (stre	am gauge, mon	itoring well, aerial photos, previous inspecti	ons), if av	vailable:				
Remarks:								
Water seeping into pit at 4 inches Swale collects water flowing down hill								

Project/Site: Sitka Seaplane Base	Borough/City:	Sitka	_ Sampling Date:	5/20/2020
Applicant/Owner: <u>City of Sitka</u>			_ Sampling Point:	TH3
Investigator(s): JRG, CLK	Landform (hills	ide, terrace, hummocks, etc.): <u>T</u>	errace	
Local relief (concave, convex, none): <u>None</u> Subregion: <u>Southeast</u> L	Slope (%): <u>0-1</u> at: <u>57.055718</u>	Long:135.364931	Datum: <u>I</u>	NAD 83
Soil Map Unit Name: <u>No digital data available</u>		NWI classifi	cation: Upland	
Are climatic / hydrologic conditions on the site typical for the Are Vegetation $\underline{N}_{}$, Soil $\underline{N}_{}$, or Hydrology $\underline{N}_{}$ Are Vegetation $\underline{N}_{}$, Soil $\underline{N}_{}$, or Hydrology $\underline{N}_{}$	his time of year? Yes _ significantly disturbed? _ naturally problematic?	No X (If no, explain in F Are "Normal Circumstances" (If needed, explain any answe	Remarks.) present? Yes <u>X</u> ers in Remarks.)	No
SUMMARY OF FINDINGS – Attach site map	showing sampling poin	t locations, transects, impo	ortant features,	etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes <u>X</u> Yes <u> </u>	No No _X No _X	Is the Sampled Area within a Wetland?	Yes	No <u>×</u>				
Remarks: Wetter than normal climatic conditions.									

	Absolute	Dominant	Indicator	Dominance Test worksheet:	
Tree Stratum	<u>% Cover</u>	<u>Species?</u>	<u>Status</u>	Number of Dominant Species	
1. Isuga neterophylia	40.00	ř		That Are OBL, FACW, or FAC: 3	(A)
2 Ainus rubra	10.00	Y	FAC	Total Number of Dominant	
3				Species Across All Strata: 4	(B)
4					
Total Cover:	50			That Are OBL FACW or FAC: 75	(A/B)
50% of total cover: 25	20% o	f total cover	10		(40)
Sapling/Shrub Stratum					
1. Rubus spectabilis	35	Y	FACU	I otal % Cover of: Multiply by:	-
2 Vaccinium ovalifolium	5	N	FAC	OBL species x 1 =	_
3				FACW species x 2 =	
0				FAC species x 3 = 300	
4				FACU species $35 \times 4 = 140$	
5				UPL species - x 5 =	_
6				Column Totals: 135 (A) 440	(B)
Total Cover:	40				_ (D)
50% of total cover:20	20% of	total cover:	8	Prevalence Index = $B/A = 3.26$	
Herb Stratum				Hydrophytic Vegetation Indicators:	
1. Maianthemum dilatatum	45	Y	FAC	Dominance Test is >50%	
2					
3.					
4				Morphological Adaptations' (Provide support	ting
5					
<u> </u>				Problematic Hydrophytic Vegetation (Expla	in)
0		<u> </u>		¹ Indicators of hydric soil and watland hydrology	must
/		<u> </u>		be present unless disturbed or problematic.	musi
8	<u> </u>			··· p ··· · · · · · · · · · · · · · · ·	
9					
10					
Total Cover:	45				
50% of total cover: 22.5	20% of	total cover:	9		
Plot size (radius, or length x width) 1/10th acre	— % Bare (Ground	2	Hydrophytic	
% Cover of Wetland Bryonbytes	er of Bryon		-	Present? Yes ^X No	
(Where applicable)					
Remarks:				1	
Forested area with minimal species dive	reitv				
	asity				
1					

Profile Desc	cription: (Describe	to the dep	oth needed to docu	ment the	indicator	or confirm	n the absence	e of indicators.)
Depth	Matrix	0/	Rede	ox Feature	es Transl	12	Tartan	Describe
		100	Color (moist)	%	Type	LOC		Remarks
0-5		100	-	-				
5-8	2.5YR 3/6	90	-	10		-	SIL	10% Org, Iron layer
8-11	10YR 2/1	100	-	-	-	-	Org	Sapric
11-20	5Y 5/1	90		10			SiL	10% gravels, Ash layer
¹ Type: C=C	oncentration. D=Der	pletion. RM	Reduced Matrix. C	S=Covere	d or Coate	ed Sand G	rains. ² Lo	cation: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators:	,	Indicators for	Problema	atic Hydric	Soils ³ :	_	
Histosol	or Histel (A1)		Alaska Col	or Chang	e (TA4) ⁴		Alaska	a Gleyed Without Hue 5Y or Redder
Histic Ep	oipedon (A2)		Alaska Alp	ine Swale	s (TA5)		Und	lerlying Layer
Hydroge	en Sulfide (A4)		Alaska Red	dox With 2	2.5Y Hue		Other	(Explain in Remarks)
Thick Da	ark Surface (A12)							
Alaska C	Gleyed (A13)		³ One indicator of	of hydropl	nytic veget	ation, one	primary indica	tor of wetland hydrology,
Alaska F	Redox (A14)		and an appro	opriate lar	dscape po	sition mus	t be present u	nless disturbed or problematic.
Alaska (Gleyed Pores (A15)		⁴ Give details of	color cha	nge in Rer	narks.		
Restrictive I	Layer (if present):							
Depth (in	ches): ²⁰ "						Hydric Soi	l Present? Yes No X
Remarks:	,						-	
Rock ref	usal at 20"							
$\Delta \Delta (_)$ in a								
	an layers							
HYDROLO	GY							
Wetland Hy	drology Indicators:						Secondary Ir	ndicators (2 or more required)
Primary Indic	cators (any one indic	ator is suff	icient)				Water-st	tained Leaves (B9)
Surface	Water (A1)		Inundation Visit	le on Aer	ial Imagery	(B7)		e Patterns (B10)
High Wa	ater Table (A2)		Sparsely Vegeta	ated Cond	ave Surfa	ce (B8)		Rhizospheres along Living Roots (C3)
Saturatio	on (A3)		Marl Deposits (I	B15)			Presenc	e of Reduced Iron (C4)
Water M	larks (B1)		Hydrogen Sulfic	le Odor (0	21)		Salt Dep	oosits (C5)
Sedimer	nt Deposits (B2)		Dry-Season Wa	ter Table	(C2)		Stunted	or Stressed Plants (D1)
Drift Dep	oosits (B3)		Other (Explain i	n Remark	s)			phic Position (D2)
Algal Ma	at or Crust (B4)						Shallow	Aquitard (D3)
Iron Dep	oosits (B5)						Microtop	oographic Relief (D4)

No wetland hydrology present

 Yes
 No
 X
 Depth (inches):

 Yes
 No
 X
 Depth (inches):

Yes _____ No X ___ Depth (inches): __

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Surface Soil Cracks (B6)

Field Observations:

Saturation Present? (includes capillary fringe)

Remarks:

Surface Water Present? Water Table Present?

_{No} <u>X</u>

FAC-Neutral Test (D5)

Wetland Hydrology Present? Yes ____

Project/Site: Sitka Seaplane Base	Borough/City: _ ^S	Sitka	_ Sampling Date:	5/20/2020
Applicant/Owner: City of Sitka			_ Sampling Point:	TH4
Investigator(s): JRG, CLK	Landform (hillsi	de, terrace, hummocks, etc.): <u>B</u>	ench	
Local relief (concave, convex, none): <u>None</u> Subregion: <u>Southeast</u>	Slope (%): Lat:57.055233		Datum: _I	NAD 83
Soil Map Unit Name: <u>No digital data available</u>		NWI classific	cation: Upland	
Are climatic / hydrologic conditions on the site typical f Are Vegetation <u>N</u> , Soil <u>N</u> , or Hydrology <u>N</u> Are Vegetation <u>N</u> , Soil <u>N</u> , or Hydrology <u>N</u>	for this time of year? Yes significantly disturbed? naturally problematic?	No X (If no, explain in F Are "Normal Circumstances" (If needed, explain any answe	Remarks.) present? Yes <u>X</u> ers in Remarks.)	No
SUMMARY OF FINDINGS – Attach site ma	ap showing sampling point	locations, transects, impo	ortant features,	etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes X No Yes No X Yes No X	Is the Sampled Area within a Wetland?	Yes	No <u>×</u>
Remarks: Wetter than normal climation	c conditions.			

	Absolute	Dominant	Indicator	Dominance Test worksheet:	
Tree Stratum	<u>% Cover</u>	<u>Species?</u>	Status	Number of Dominant Species	
1. I suga neterophylia	80.00	Y	FAC	That Are OBL, FACW, or FAC: 3	(A)
2. Picea sitchensis	5.00	<u> </u>	FACU	Total Number of Dominant	
3				Species Across All Strata: 4	(B)
4.					()
Total Cover:	85			Percent of Dominant Species That Are OBL, FACW, or FAC: 75	(A/B)
50% of total cover: 42.5	20% o	f total cover	: 17	Prevalence Index worksheet:	
Sapling/Shrub Stratum				Total % Cover of: Multiply by:	
1. Rubus spectabilis	5	Y	FACU		
2. Vaccinium ovalifolium	2	Y	FAC		
3				FACW species x 2 =	
4	·			FAC species <u>102</u> x 3 = <u>306</u>	
4				FACU species $10 \times 4 = 40$	
5				UPL species - x 5 = -	
6				$\frac{112}{2}$	(D)
Total Cover:	7				_ (D)
50% of total cover: 3.2	20% of	total cover:	1.4	Prevalence Index = B/A = 3.08	
Herb Stratum					
1. Maianthemum dilatatum	20	Y	FAC		
2				Dominance Test is >50%	
2	·			Prevalence Index is ≤3.0	
				Morphological Adaptations ¹ (Provide support	rting
4				data in Remarks or on a separate sheet)	
5				Problematic Hydrophytic Vegetation ¹ (Expla	in)
6					
7.				¹ Indicators of hydric soil and wetland hydrology	must
8				be present unless disturbed or problematic.	
0					
9					
10					
Total Cover:	20				
50% of total cover: <u>10</u>	20% of	total cover:	4	Liver and the	
Plot size (radius, or length x width) 1/10th acre	% Bare C	Ground	60	Vegetation	
% Cover of Wetland Bryophytes Total Cov (Where applicable)	er of Bryop	ohytes	-	Present? Yes $\frac{X}{2}$ No	
Remarks:				1	
60% bare ground under tree canopy					
Hemlock dominant forest with open understory					

Profile Desc	ription: (Describe	to the dep	pth needed to de	ocument the	indicator	or confirr	n the absence	e of indicators.)
Depth	Matrix		F	Redox Feature	es	. 2		
(inches)	Color (moist)	%	Color (moist)%	Type	Loc ²	Texture	Remarks
0-2	10YR 2/1	100	-				Org	Fibric
2-8	7.5YR 4/4	100	-	-	-	-	SaL	Coarse
8-24	7.5YR 3/3	90	-			-	SaL	Coarse, 10% organic inclusions
¹ Type: C=Co	oncentration, D=Dep	bletion, RM	I=Reduced Matrix	x, CS=Covere	d or Coate	ed Sand G	rains. ² Lo	ocation: PL=Pore Lining, M=Matrix.
Hydric Soil I Histosol Histic Ep Hydroge Thick Da Alaska C Alaska C	Indicators: or Histel (A1) oipedon (A2) en Sulfide (A4) ark Surface (A12) Gleyed (A13) Redox (A14) Gleyed Pores (A15)		Indicators Alaska Alaska Alaska ³ One indica and an a ⁴ Give detail	for Problema Color Change Alpine Swale Redox With 2 tor of hydroph ppropriate lan s of color cha	atic Hydrid e (TA4) ⁴ s (TA5) 2.5Y Hue hytic veget dscape po nge in Rei	soils ³ : ation, one sition mus narks.	Alask Unc Other primary indica	a Gleyed Without Hue 5Y or Redder Jerlying Layer · (Explain in Remarks) ator of wetland hydrology, inless disturbed or problematic.
Restrictive I	Layer (if present):							
Depth (inc	ches):						Hydric So	il Present? Yes <u>No X</u>
Remarks:								
Bright, up	oland soils							
HYDROLO	GY							
Wetland Hyd	drology Indicators:						Secondary I	ndicators (2 or more required)
Primary Indic	cators (any one indic	ator is suf	ficient)				Water-s	tained Leaves (B9)

Primary Indicators (any one i	ndicator is suf	ficient)			Water-stained Leaves (B9)	
Surface Water (A1)		L Inur	ndation Visible on Aerial Image	ery (B7)	Drainage Patterns (B10)	
High Water Table (A2)		🗌 Spa	rsely Vegetated Concave Sur	face (B8)	Oxidized Rhizospheres along Living Roots (C	;3)
Saturation (A3)		Mar	l Deposits (B15)		Presence of Reduced Iron (C4)	
Water Marks (B1)		🗌 Hyd	rogen Sulfide Odor (C1)		Salt Deposits (C5)	
Sediment Deposits (B2)		Dry-	Season Water Table (C2)		Stunted or Stressed Plants (D1)	
Drift Deposits (B3)		Othe	er (Explain in Remarks)		Geomorphic Position (D2)	
Algal Mat or Crust (B4)					Shallow Aquitard (D3)	
Iron Deposits (B5)					Microtopographic Relief (D4)	
Surface Soil Cracks (B6))				FAC-Neutral Test (D5)	
Field Observations:						
Surface Water Present?	Yes	_{No} <u>X</u>	Depth (inches):			
Water Table Present?	Yes	No <u>X</u>	Depth (inches):		X	
Saturation Present?	Yes	No X	Depth (inches):	Wetl	and Hydrology Present? Yes No $\frac{X}{}$	_
(includes capillary fringe)					16 and 16 bits	
Describe Recorded Data (str	eam gauge, m	onitoring	well, aerial photos, previous i	nspections),	if available:	
Remarks:						
No wetland hydrolo	qy					

I

Project/Site: Sitka Seaplane Base	E	Borough/Cit	/: Sitka	Sampling Date: <u>5/20/2020</u>
Applicant/Owner: <u>City of Sitka</u>				Sampling Point: TH5
Investigator(s): JRG, CLK	L	_andform (h	illside, terr	ace, hummocks, etc.): <u>Hillside</u>
Local relief (concave, convex, none): concave	S	Slope (%):	2-3	
Subregion: Southeast	_{at:} 57.0558	382	Lor	- ng: -135.365142 Datum: NAD 83
Soil Map Unit Name: No digital data available				NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for t	his time of vea	r? Yes	No	X (If no, explain in Remarks.)
Are Vegetation N Soil N or Hydrology N	significantly	listurbed?	Are	"Normal Circumstances" present? Yes X No
Are Vegetation Y Soil N or Hydrology N	naturally prof	lematic?	/ lf ne	eeded explain any answers in Remarks)
, even even even even even even even eve	_ naturally prot			
SUMMARY OF FINDINGS – Attach site map	showing sa	mpling po	int locat	ions, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X	No			
Hydric Soil Present? Yes X	No	Is the	e Sampleo	l Area
Wetland Hydrology Present? Yes X	No	with	n a Wetla	nd? Yes <u>×</u> No
Remarks:				
Problematic vegetation with shrubs gro	wing over	top of s	eep. S	ome rooted in seep. Wetter than normal.
VECETATION Lies asigntific names of plant		nacioa in	the plot	
VEGETATION - Ose scientific names of plant				
Tree Stratum	Absolute % Cover	Species?	Status	Dominance Test worksneet:
<u></u> 1				That Are OBL, FACW, or FAC: 1 (A)
2.				Tatal Number of Deminant
3.				Species Across All Strata: 2 (B)
4				
Total Cov	ver: 0			That Are OBL, FACW, or FAC: ⁵⁰ (A/B)
50% of total cover:	20% of	f total cover	:	Prevalence Index worksheet:
Sapling/Shrub Stratum	70	V	FACU	Total % Cover of: Multiply by:
1. Rubus speciabilis			FACU	OBL species - x 1 = -
			FACU	FACW species x 2 =
3				FAC species 20 x 3 = 60
4				FACU species x 4 = 340
5				UPL species x 5 =
0Total Cav				Column Totals: <u>105</u> (A) <u>400</u> (B)
50% of total cover: 42	2.5 20% of	total cover	17	\mathbf{D}
Herb Stratum	20 /0 01			Prevalence index = B/A =
1. Maianthemum dilatatum	20	Y	FAC	Hydrophytic Vegetation Indicators:
2				$\Box Dominance Test is >50\%$
3				Morphological Adaptations ¹ (Provide supporting
4				data in Remarks or on a separate sheet)
5				Problematic Hydrophytic Vegetation ¹ (Explain)
6				
7				Indicators of hydric soil and wetland hydrology must
8		<u> </u>	<u> </u>	
9				
10				
Total Cov	ver: <u>20</u>			
50% of total cover: <u>1</u>	<u>∪</u> 20% of	total cover:	4	Hydrophytic
Plot size (radius, or length x width) 20 x 10	% Bare 0	Fround	5	Vegetation Present? X X
% Cover of Wetland Bryophytes Total ((Where applicable)	Cover of Bryop	ohytes	5	Present? Yes <u>^</u> No
60% bare ground beneath shrub laver				
Salmonberry growing over top of seep but not do due to lack of indicator. Hydric soil and primary i	ominatly roo ndicator of v	ted in see vetland hy	p. Sparse drology r	e veg in seep. Hydrophytic vegetation problematic net. Area is concave seep at toeslope.

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Profile Desc	ription: (Describe	to the dept	h needed to docur	nent the	indicator	or confirn	n the absence	of indicators.)
Depth	Matrix		Redo	x Feature	es	. 2		- .
(inches)		<u>%</u>	Color (moist)	%	lype	Loc		Remarks
0-12	10YR 2/1	100	-	-			Org	Sapric
12-24	10YR 2/1	5	-	-			SiL	95% gravels, cobbles
¹ Type: C=Co Hydric Soil	Dincentration, D=Dep ndicators: or Histel (A1)		Reduced Matrix, CS	S=Covere Problema	 			cation: PL=Pore Lining, M=Matrix.
Histosof Histic Ep Hydroge Thick Da Alaska C Alaska C	of Frister (A1) pipedon (A2) n Sulfide (A4) ark Surface (A12) Sleyed (A13) Redox (A14) Sleyed Pores (A15)		Alaska Cold Alaska Alpin Alaska Red ³ One indicator o and an appro	ne Swale: ox With 2 f hydroph priate lan color cha	s (TA5) s (TA5) 2.5Y Hue nytic vegeta dscape po nge in Ren	ation, one sition mus narks.	primary indicat	erlying Layer (Explain in Remarks) tor of wetland hydrology, nless disturbed or problematic.
Restrictive I Type: - Depth (inc	Layer (if present):						Hydric Soil	I Present? Yes X No
Dark orga AA(+) in	anics both layers							
HYDROLO	GY							
Wetland Hyd	drology Indicators:						Secondary In	dicators (2 or more required)
Primary Indic	ators (any one indic	ator is suffic	<u>cient)</u>				Water-st	ained Leaves (B9)
Surface	Water (A1)	Ļ	Inundation Visibl	e on Aeri	al Imagery	(B7)		e Patterns (B10)
High Wa	ter Table (A2)		Sparsely Vegeta	ted Conc	ave Surfac	e (B8)		Rhizospheres along Living Roots (C3)
Saturatio	on (A3)	Ļ	Marl Deposits (B	15)			Presence	e of Reduced Iron (C4)
Water M	arks (B1)	Ĺ	Hydrogen Sulfide	e Odor (C	:1)		Salt Dep	osits (C5)
Sedimer	nt Deposits (B2)		Dry-Season Wat	er Table	(C2)		Stunted	or Stressed Plants (D1)
Drift Dep	oosits (B3)		Other (Explain in	Remark	s)		Geomor	phic Position (D2)

Algal Mat or Crust (B4)			Shallow Aquitard (D3)	
Iron Deposits (B5)			Microtopographic Relief (D4)	
Surface Soil Cracks (B6)			FAC-Neutral Test (D5)	
Field Observations:	Ň			
Surface Water Present? Y	res No X	Depth (inches):		
Water Table Present? Y	Yes X No	Depth (inches): <u>14</u>	X	
Saturation Present? Y (includes capillary fringe)	Yes X No	Depth (inches): <u>6</u>	Wetland Hydrology Present? Yes X	No
Describe Recorded Data (stream	n gauge, monitoring v	vell, aerial photos, previous inspec	tions), if available:	
Remarks:				
Seep starting at toeslo AA(+) in 0-24'	ope and flowin	g downhill		

APPENDIX 3: LOW TIDE SURVEY

Low Tide Survey 5-20-2020

2" gravel swath down to low tide, boulders scattered along mean high water area.

Boulders down to low tide, bedrock near mean high water area.

Boulders from mean high water to low tide.

Cobbles and boulders down to low tide.

Boulders and cobbles down to low tide.

Gravel from mean high water to start of boulders, bedrock in areas.

APPENDIX 4: WESPAK-SE SUMMARY

Site Name or ID #:	Sitka Seaplane Base
Investigator Name:	Joshua Grabel
Date of Field Assessment:	5/20/2020
Nearest Town:	City of Sitka
Latitude (decimal degrees):	57.055418
Longitude (decimal degrees):	-135.363889
HUC12 Watershed # (from UAS web site):	190102121206
Approximate size of the Assessment Area (AA, in acres)	0.06
AA as percent of entire wetland (approx.)	100
Tidal phase during most of visit:	Low
What percent (approx.) of thewetland were you able to visit?	100.00
What percent (approx.) of the AA were you able to visit?	70.00
Have you attended a training session for this protocol? I so, indicate approximate month & year.	
How many wetlands have you assessed previously using this protocol (approx.)?	10.00

Scores will appear below after data are entered in worksheets OF, F, and S. See Manual for definitions and descriptions of how scores were computed.

			-							F	UNCTIO	N		VALUE	
NESPAK-SE version 2 scores for this NON- Assessment Area (AA):	tidal Wet	land								Median of Normalize	Function Rating (normalized score)		Inresholds for Value Rating (normalized Median of <u>score</u>)		nolds for e Rating malized core)
Specific Functions or Values:	Function Score raw	Value Score raw	Score (normalized)	Function Rating	Value Score (normalized)	Value Rating	FV raw	FV Index	(normalize d)	d F Scores	Low is < or =	High is >	Normalized V Scores	Low is < or =	High is >
Surface Water Storage (WS)	10.00	10.00	10.00	Higher	10.00	Higher	10.00	10.00	10.00	2.95	2.89	6.34	3.06	1.85	5.00
Stream Flow Support (SFS)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	3.17	2.67	6.13	3.33	1.45	4.48
Streamwater Cooling (WC)	7.20	0.00	7.20	Higher	0.00	Lower	3.60	7.20	7.00	4.00	3.36	5.87	1.98	2.11	5.49
Streamwater Warming (WW)	5.00	0.00	5.00	Moderate	0.00	Lower	2.50	5.00	4.03	5.42	3.33	6.80	2.78	2.78	6.63
ediment & Toxicant Retention & Stabilization (SR	10.00	0.17	10.00	Higher	0.00	Lower	5.00	10.00	10.00	3.13	3.36	6.52	0.84	2.05	5.86
hosphorus Retention (PR)	10.00	1.07	10.00	Higher	1.04	Lower	5.52	10.00	10.00	3.34	3.06	6.17	1.27	2.45	5.73
litrate Removal & Retention (NR)	10.00	4.17	10.00	Higher	4.56	Moderate	7.28	10.00	10.00	2.33	2.19	4.64	3.25	2.17	4.94
Carbon Sequestration (CS)	6.08		3.89	Moderate			3.89	3.89	3.89	6.53	3.66	6.43			
Organic Nutrient Export (OE)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	7.68	0.00	7.59	7.00	0.00	7.00
anadromous Fish Habitat (FA)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	0.00	2.93	7.23	0.00	0.63	6.67
Resident & Other Fish Habitat (FR)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	0.00	0.00	7.43	0.00	1.50	7.76
Aquatic Invertebrate Habitat (INV)	4.53	2.26	3.50	Moderate	0.71	Lower	2.11	3.50	3.50	3.92	2.48	5.04	2.22	2.50	6.43
Amphibian Habitat (AM)	5.66	5.56	4.35	Moderate	6.45	Higher	5.40	5.40	4.80	4.40	3.59	6.74	4.21	2.43	5.19
Vaterbird Feeding Habitat (WBF)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	4.60	0.00	5.68	2.53	0.85	4.07
Vaterbird Nesting Habitat (WBN)	2.53	0.00	3.65	Moderate	0.00	Lower	1.83	3.65	3.65	4.58	0.00	6.44	6.90	1.67	8.70
ongbird, Raptor, & Mammal Habitat (SBM)	5.35	3.33	6.61	Moderate	3.33	Moderate	4.97	6.61	6.44	8.05	0.00	7.35	4.22	2.50	5.63
ollinator Habitat (POL)	2.30	3.20	2.72	Moderate	4.29	Moderate	3.50	3.50	3.06	4.94	2.45	5.38	4.15	2.65	5.83
lative Plant Habitat (PH)	5.28	5.88	4.88	Moderate	4.54	Moderate	4.71	4.88	3.94	5.24	4.52	6.51	3.78	3.78	6.46
Other Values or Attributes:															
Public Use & Recognition (PU)		2.54			3.16	Moderate	3.16	3.16	3.16				2.91	2.32	5.59
Subsistence & Provisioning Services (Subsis)		10.00			10.00	Higher	10.00	10.00	10.00				5.00	0.00	6.67
Vetland Sensitivity (Sens) - not used in subsequent alculations		4.58			7.13	Moderate	7.13	7.13	10.00				5.91	5.03	7.46
Vetland Ecological Condition (EC) - not used in ubsequent calculations		1.72			1.81	Lower	1.81	1.81	1.91				4.15	2.79	5.08
Stress Potential (STR) - not used in subsequent alculations		4.91			7.32	Higher	7.32	7.32	10.00				6.43	3.31	5.73
ummary Scores for Groups:								Group Score Not Normalized	Group Score Normalized	Group Rating					
IYDROLOGIC Group (WS)								10.00	10.00	Higher	3.08	5.91			
/ATER QUALITY Group (max+avg/2 of SR, PR, NR, CS)								9.24	10.00	Higher	4.23	6.75			
QUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, W	C, WW)							4.95	0.00	Lower	4.07	6.60			
ISH Group (max+avg/2 of FA, FR)								0.00	0.00	Lower	2.52	5.83			
QUATIC HABITAT Group (max+avg/2 of AM, WBF, WBN)								3.81	2.48	Lower	4.04	6.82			
EKKESTRIAL HABITAT Group (max+avg/2 of SBM, PH, PC	JL)							5.46	3.95	Moderate	3.61	6.32			
UCIAL GROUP (MAX+AVG/2 OF PU, SUDSIS)								10.00	10.00	Higher	3.00	0.08			
Dverall Score (see Manual for explanation of new the spreadsheet calculates it):	7.17]	AVG w/o Social 7.20	with Socia 7.60	7.60	normalized	1								
Overall Rating:	Higher	1	µ		1		+								

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	Fmin raw	Fmax raw	Vmin raw	Vmax raw		FVmin raw	FVmax raw	
/S	1.18	10.00	0.00	10.00	WS	2.00	10.00	
FS	0.00	8.33	0.00	6.64	SFS	0.00	10.00	
/C	0.00	10.00	0.00	7.58	wc	0.67	10.00	
w	0.00	10.00	0.00	5.38	ww	1.62	10.00	
R	2.14	10.00	0.17	4.54	SR	3.35	7.48	
R	3.32	10.00	0.42	6.67	PR	0.76	10.00	
R	3.49	10.00	0.42	8.65	NR	0.00	10.00	
s	4.09	9.20			cs	0.00	10.00	
E	0.00	6.92	0.00	9.94	OE	0.00	10.00	
A	0.00	7.67	0.00	10.00	FA	0.00	10.00	
R	0.00	7.22	0.00	10.00	FR	0.00	10.00	
١V	2.81	7.73	1.66	10.00	INV	0.00	10.00	
м	3.27	8.77	2.02	7.50	AM	1.16	10.00	
/BF	0.00	7.25	0.00	7.70	WBF	2.37	8.09	
/BN	0.00	6.92	0.00	10.00	WBN	0.00	10.00	
BM	0.00	8.10	0.00	10.00	SBM	0.48	10.00	
OL	0.61	6.82	0.00	7.47	POL	0.63	10.00	
н	3.71	6.92	2.50	9.95	РН	1.84	9.57	
U			0.78	6.34	PU	0.00	10.00	
ubSis			0.00	10.00	SubSis	0.00	10.00	
с			2.52	5.41	EC	2.52	5.41	
en			0.00	9.50	Sen	0.00	9.50	
TR			1.65	6.10	STR	1.65	6.10	
					HYDRO	0.00	10.00	
					WQ & CS	3.00	9.14	
					AQSUPP	4.97	9.42	
					FISH	0.00	10.00	
					HABAQ	1.82	9.84	
					HABTERR	2.49	10.00	
					SOCIAL	0.60	8.66	

NOTE: Complete WESPAK spreadsheet available to agencies electronically upon request.