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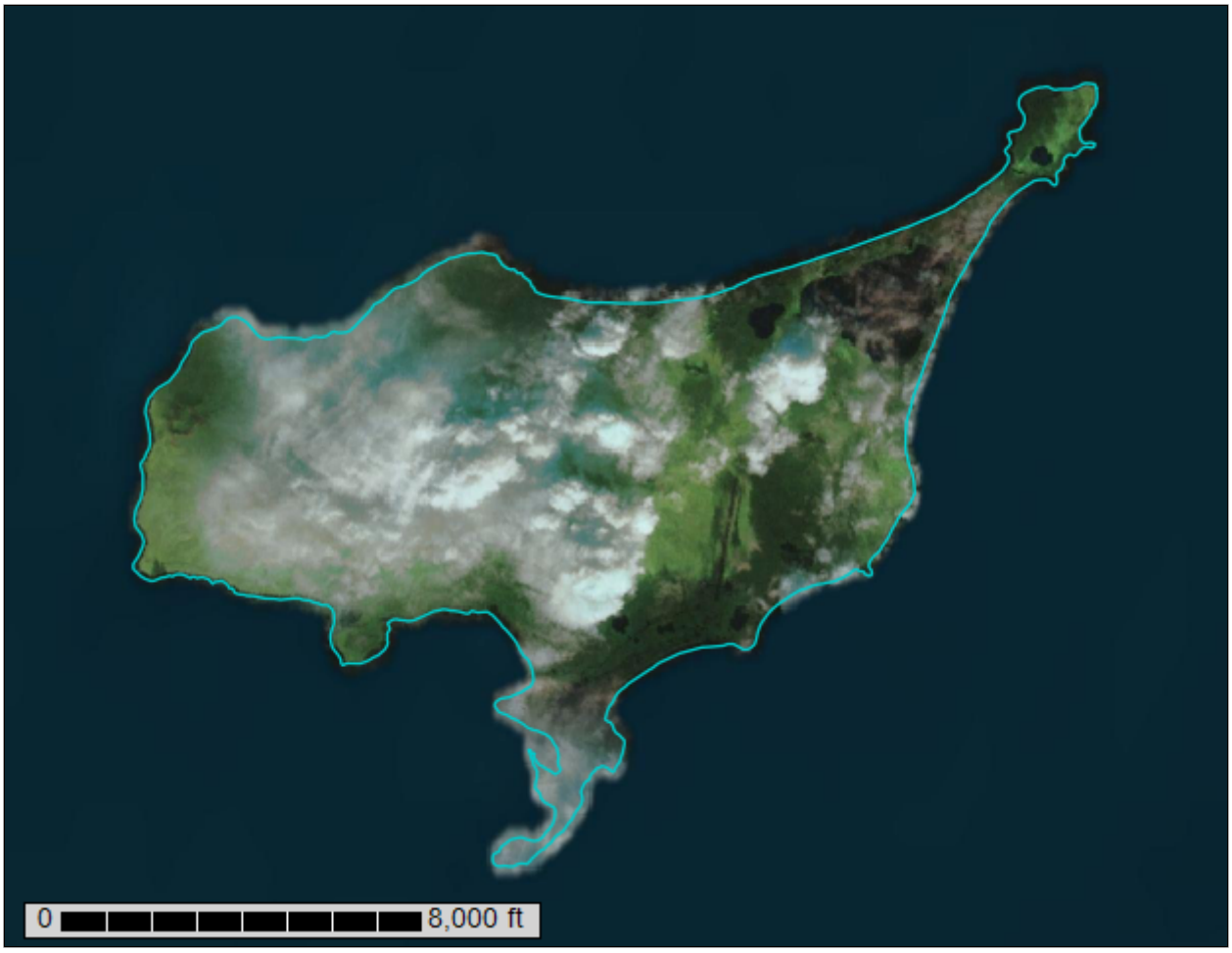
A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Saint Paul Island Area, Alaska



October 27, 2014

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

Soil Information for All Uses

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Land Classifications

This folder contains a collection of tabular reports that present a variety of soil groupings. The reports (tables) include all selected map units and components for each map unit. Land classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Hydric Soil List - All Components

This table lists the map unit components and their hydric status in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part

(Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
    A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
    B. Show evidence that the soil meets the definition of a hydric soil;
3. Soils that are frequently ponded for long or very long duration during the growing season.
    A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
    B. Show evidence that the soil meets the definition of a hydric soil;
4. Map unit components that are frequently flooded for long duration or very long duration during the growing season that:
    A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
    B. Show evidence that the soil meets the definition of a hydric soil;

Hydric Condition: Food Security Act information regarding the ability to grow a commodity crop without removing woody vegetation or manipulating hydrology.

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. Doc. 2012-4733 Filed 2-28-12. February, 28, 2012. Hydric soils of the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Vasilas, L.M., G.W. Hurt, and C.V. Noble, editors. Version 7.0, 2010. Field indicators of hydric soils in the United States.

Report—Hydric Soil List - All Components

Hydric Soil List - All Components–AK653-Saint Paul Island Area, Alaska					
Map symbol and map unit name	**Component/Local Phase**	**Comp. pct.**	**Landform**	**Hydric status**	**Hydric criteria met (code)**
1: Aquic Dystrocryepts, 0 to 3 percent slopes	Aquic Dystrocryepts	65-90	Depressions on plains	No	—
	Soils that are very poorly drained	0-35	Depressions on plains	Yes	2
2: Aquic Haplocryands-Andic Haplocryods complex, 1 to 8 percent slopes	Aquic Haplocryands	35-60	Drainageways on dip slopes	No	—
	Andic Haplocryods	30-55	Drainageways	No	—
	Rubble land-Boulders	0-10	Dip slopes	Unranked	—
3: Beaches, rocky	Beaches-Rocky	90-100	Beaches	Unranked	—
	Beaches-Sandy	0-10	Beaches	Unranked	—
4: Beaches, sandy	Beaches-Sandy	85-100	Beaches	Unranked	—
	Beaches-Rocky	0-15	Beaches	Unranked	—
5: Beaches, tidal	Beaches-Tidal	100-100	Tidal flats	Unranked	—
6: Bogoslof silt loam, 0 to 3 percent slopes	Bogoslof silt loam	85-90	Terraces on plains	No	—
	Soils that have a loamy substratum	10-15	Terraces	No	—
7: Cryofluvents-Spodic Dystrocryepts complex, 1 to 8 percent slopes	Cryofluvents	25-75	Drainageways	No	—
	Spodic Dystrocryepts	10-50	Terraces on drainageways	No	—
	Soils that are shallow to bedrock	0-10	Terraces on drainageways	No	—
	Soils in drainageways that are somewhat poorly drained	0-15	Drainageways	No	—
8: Dumps, landfill	Dumps-Landfill	100-100	Plains	Unranked	—
9: Einahnuhto silty clay loam-Andic Haplocryods, rubbly, complex, 1 to 8 percent slopes	Einahnuhto silty clay loam	40-60	Dip slopes	No	—
	Andic Haplocryods-Rubbly	35-50	Dip slopes	No	—
	Rock outcrop	0-8	Dip slopes	Unranked	—
	Terric Cryohemists	0-2	Fens on dip slopes	Yes	1
10: Histic Cryaquepts-Terric Cryohemists complex, 0 to 3 percent slopes	Histic Cryaquepts-Sandy	65-90	Lakeshores on lake plains	Yes	2,3
	Terric Cryohemists-Sandy	10-30	Lakeshores on lake plains	Yes	1,3

Hydric Soil List - All Components–AK653-Saint Paul Island Area, Alaska					
Map symbol and map unit name	**Component/Local Phase**	**Comp. pct.**	**Landform**	**Hydric status**	**Hydric criteria met (code)**
	Mineral soils with less than 8 inches of organic material	0-10	Lakeshores	Yes	2,3
	Water	0-25	Lake plains	Unranked	—
11: Histic Cryaquepts-Typic Cryaquents complex, tidal, 0 to 3 percent slopes	Histic Cryaquepts-Tidal	40-60	Tidal flats	Yes	2
	Typic Cryaquents-Tidal	40-60	Tidal flats	Yes	2
12: Humic Vitricryands-Vitrandic Dystrocryepts complex, rolling	Humic Vitricryands	25-80	Strand plains	No	—
	Vitrandic Dystrocryepts	10-60	Dunes on strand plains	No	—
	Humic Vitricryands-Sandy substratum	0-20	Strand plains	No	—
13: Lithic Cryofolists-Rock outcrop complex, 4 to 16 percent slopes	Lithic Cryofolists	50-75	Lava flows	No	—
	Rock outcrop	25-50	Lava flows	Unranked	—
14: Lithic Haplocryands, gravelly, complex, 1 to 30 percent slopes	Lithic Haplocryands-Gravelly, 10 to 30 percent slopes	50-70	Hills	No	—
	Lithic Haplocryands-Gravelly, 1 to 8 percent slopes	25-50	Hills	No	—
	Rock outcrop	5-10	Hills	Unranked	—
	Polovina fine sandy loam	0-5	Plains	No	—
15: Lithic Haplocryands, rubbly-Typic Haplocryands, moderately deep-Rock outcrop complex, 1 to 8 percent slopes	Lithic Haplocryands-Rubbly	40-60	Lava flows	No	—
	Typic Haplocryands-Moderately deep	30-40	Lava flows	No	—
	Rock outcrop	20-40	Lava flows	Unranked	—
	Soils on slopes of 10 to 30 percent	5-10	Lava flows	No	—
16: Lukanin sand, 1 to 60 percent slopes	Lukanin sand	70-90	Dunes	No	—
	Typic Cryaquents-Sandy	10-20	Depressions on dunes	Yes	2
	Histic Cryaquepts-Sandy	0-10	Depressions on dunes	Yes	2
17: Pits, quarry	Pits-Quarry	100-100	Lava flows,hills	Unranked	—
18: Polovina fine sandy loam, 0 to 3 percent slopes	Polovina fine sandy loam	65-90	Plains	No	—
	Polovina family-Moderately deep	10-25	Plains	No	—
	Soils that have a cemented pan	0-10	Plains	No	—

Hydric Soil List - All Components–AK653-Saint Paul Island Area, Alaska					
Map symbol and map unit name	**Component/Local Phase**	**Comp. pct.**	**Landform**	**Hydric status**	**Hydric criteria met (code)**
19: Polovina fine sandy loam, 1 to 8 percent slopes	Polovina fine sandy loam	80-90	Dip slopes	No	—
	Soils that have a sandy substratum	10-20	Dip slopes	No	—
20: Polovina family, moderately deep, 1 to 8 percent slopes	Polovina family-Moderately deep	65-75	Hills	No	—
	Soils that are shallow to bedrock	5-10	Hills	No	—
	Soils that have a sandy substratum	10-15	Drainageways on hills	No	—
	Rock outcrop	5-10	Hills	Unranked	—
21: Polovina family, very deep, 4 to 16 percent slopes	Polovina family-Very deep	70-100	Hills	No	—
	Soils that have a sandy substratum	0-30	Hills	No	—
22: Polovina family, very deep, 10 to 30 percent slopes	Polovina family-Very deep	80-100	Hills	No	—
	Soils that have a sandy substratum	0-20	Hills	No	—
23: Rock Outcrop, basalt	Rock outcrop-Basalt	100-100	Sea cliffs	Unranked	—
24: Tsammana sand, 1 to 8 percent slopes	Tsammana sand	65-85	Dip slopes	No	—
	Soils that have a sandy substratum	5-15	Dip slopes	No	—
	Soils that are moderately deep	10-15	Dip slopes	No	—
	Rock outcrop	0-10	Dip slopes	Unranked	—
25: Tsammana sand-Lithic Cryorthents complex, 0 to 3 percent slopes	Tsammana sand	20-85	Beach terraces	No	—
	Lithic Cryorthents	10-60	Beach terraces	No	—
	Soils that are moderately deep to bedrock	0-15	Beach terraces	No	—
	Soils that have a cemented pan	5-15	Beach terraces	No	—
26: Typic Cryaquents, sandy, 0 to 3 percent slopes	Typic Cryaquents-Sandy	85-90	Lake plains	Yes	2,3
	Histic Cryaquepts-Sandy	10-15	Lake plains	Yes	2,3
27: Typic Cryaquents, mucky-Terric Cryohemists complex, 0 to 3 percent slopes	Typic Cryaquents-Mucky	35-60	Lake plains	Yes	2
	Terric Cryohemists-Loamy	40-60	Lake plains	Yes	1,3
	Water	0-15	Lake plains	Unranked	—

Hydric Soil List - All Components–AK653-Saint Paul Island Area, Alaska					
Map symbol and map unit name	**Component/Local Phase**	**Comp. pct.**	**Landform**	**Hydric status**	**Hydric criteria met (code)**
28: Typic Dystrocryepts complex, undulating	Typic Dystrocryepts-Deep	40-65	Plains	No	—
	Typic Dystrocryepts-Moderately deep	35-50	Plains	No	—
	Soils that are somewhat poorly drained	0-10	Plains	No	—
29: Typic Eutrocryepts, 4 to 16 percent slopes	Typic Eutrocryepts	85-95	Hills	No	—
	Soils that are moderately deep to bedrock	5-15	Hills	No	—
30: Typic Haplocryands, deep, 1 to 8 percent slopes	Typic Haplocryands-Deep	70-90	Depressions on lava flows	No	—
	Soils that are moderately deep	5-15	Depressions on lava flows	No	—
	Rubble land-Boulders	0-15	Lava flows	Unranked	—
31: Typic Haplocryands, moderately deep-Lithic Haplocryands, rubbly, complex, 1 to 8 percent slopes	Typic Haplocryands-Moderately deep	45-55	Lava flows	No	—
	Lithic Haplocryands-Rubbly	35-50	Lava flows	No	—
	Soils that are somewhat poorly drained	5-10	Depressions	No	—
	Rock outcrop	0-10	Lava flows	Unranked	—
32: Typic Vitricryands, 4 to 75 percent slopes	Typic Vitricryands	85-95	Volcanic cones	No	—
	Cinder land	5-15	Volcanic cones	Unranked	—
33: Typic Vitricryands, 45 to 70 percent slopes	Typic Vitricryands	85-90	Volcanic cones	No	—
	Rock outcrop	10-15	Volcanic cones	Unranked	—
34: Urban land	Urban land	100-100	Plains,hills	Unranked	—
35: Zapadni fine sandy loam, 1 to 8 percent slopes	Zapadni fine sandy loam	75-90	Strand plains on escarpments	No	—
	Soils that have a cemented pan	5-10	Escarpments on strand plains	No	—
	Soils on slopes of more than 25 percent	5-20	Escarpments on strand plains	No	—
36: Zolotoi complex, 1 to 8 percent slopes	Zolotoi silt loam	50-75	Hummocks on dip slopes	No	—
	Zolotoi silt loam-Very stony	25-45	Dip slopes	No	—
	Soils that are shallow to bedrock	2-15	Dip slopes	No	—
	Soils that are somewhat poorly drained	2-15	Dip slopes	No	—

Hydric Soil List - All Components–AK653-Saint Paul Island Area, Alaska					
Map symbol and map unit name	**Component/Local Phase**	**Comp. pct.**	**Landform**	**Hydric status**	**Hydric criteria met (code)**
37: Zolotoi family-Einahnuhto complex, 1 to 8 percent slopes	Zolotoi family	50-70	Dip slopes	No	—
	Einahnuhto silty clay loam	30-50	Dip slopes	No	—
38: Water	Water	100-100	Lagoons,lakes	Unranked	—