



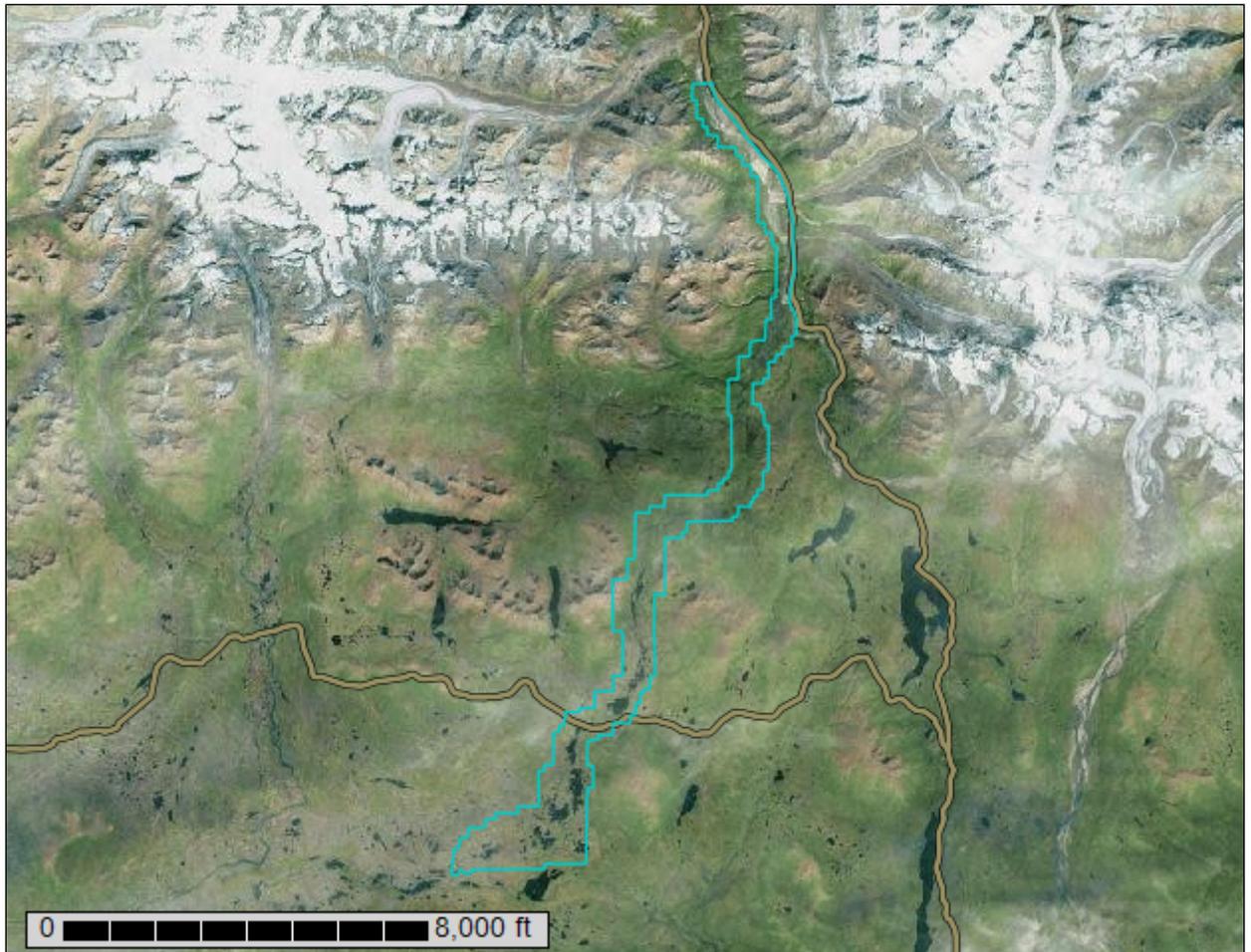
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NRCS

Natural
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States Department of
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Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Delta River Area, Alaska**



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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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

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(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;

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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.

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Report—Hydric Soil List - All Components

Hydric Soil List - All Components—AK656-Delta River Area, Alaska					
Map symbol and map unit name	Component/Local Phase	Comp. pct.	Landform	Hydric status	Hydric criteria met (code)
AFA: Nizina-Sinona-Riverwash complex, 0 to 12 percent slopes	Nizina-Cool	30-80	Flood plains on alluvial fans	No	—
	Sinona	10-55	Fan terraces on alluvial fans	No	—
	Riverwash	5-30	Flood plains	Unranked	—
	Klute	0-15	Flood plains on alluvial fans	No	—
AFE: Nizina silt loam, 6 to 18 percent slopes	Nizina-Dry	0-15	Flood plains on alluvial fans	No	—
	Nizina	70-90	Flood plains on alluvial fans	No	—
	Nizina-Cool	5-15	Flood plains on alluvial fans	No	—
	Tangoe	0-20	Flood plains on alluvial fans	No	—
AFF: Schleyer silt loam, 0 to 5 percent slopes	Schleyer	85-95	Fan terraces on alluvial fans	No	—
	Broxson	5-15	Flood plains on alluvial fans	No	—
AFK: Skarland-Schleyer complex, 8 to 20 percent slopes	Skarland	45-75	Flood plains on alluvial fans	No	—
	Schleyer	20-50	Fan terraces on alluvial fans	No	—
	Nizina-Cool	5-20	Flood plains on alluvial fans	No	—
AFL: Schleyer-Broxson-Riverwash complex	Schleyer	25-55	Fan terraces on alluvial fans	No	—
	Broxson	30-45	Flood plains on alluvial fans	No	—
	Riverwash	15-30	Flood plains	Unranked	—
AFM: Osar-Klute complex, 6 to 18 percent slopes	Osar	35-70	Fan terraces on alluvial fans	Yes	2
	Klute	20-60	Flood plains on alluvial fans	No	—
	Sonderna	0-20	Fan terraces on alluvial fans	No	—
AFN: Sonderna very fine sandy loam, 0 to 4 percent slopes	Sonderna	85-95	Fan terraces on alluvial fans	No	—
	Klute	0-10	Flood plains on alluvial fans	No	—
AFP: Basaltlake, 12 to 25 percent slopes	Basaltlake	80-95	Mountains	No	—
	Nizina-Cool	2-10	Flood plains on alluvial fans on mountains	No	—

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Hydric Soil List - All Components—AK656-Delta River Area, Alaska					
Map symbol and map unit name	Component/Local Phase	Comp. pct.	Landform	Hydric status	Hydric criteria met (code)
	Steps	2-10	Mountains	Yes	2
	Fields	0-5	Mountains	No	—
BA: Riverwash	Riverwash	90-100	Flood plains	Unranked	—
	Nizina-Dry	0-5	Flood plains	No	—
	Tangoe	0-5	Flood plains	No	—
BRA: Fields silt loam, 18 to 65 percent slopes	Fields	80-90	Mountains	No	—
	Rock outcrop	5-20	Mountains	Unranked	—
	Steps	0-10	Mountains	Yes	2
ESA: Waitabit-Ogive complex, 22 to 60 percent slopes	Waitabit	30-65	Mountains	No	—
	Ogive	20-65	Swales on mountains	No	—
	Castnot	0-15	Mountains	No	—
	Osar	0-15	Fan terraces on alluvial fans on mountains	Yes	2
ESB: Castnot-Minya-Rock Outcrop complex, 12 to 90 percent slopes	Castnot	35-55	Mountains	No	—
	Minya	15-30	Mountains	No	—
	Rock outcrop	10-30	Mountains	Unranked	—
	Schleyer-Cool	0-15	Mountains	No	—
EST: Petrokov-Basaltlake-Castnot complex, 6 to 65 percent slopes	Petrokov	25-50	Mountains	No	—
	Basaltlake	25-45	Swales on mountains	No	—
	Castnot	30-45	Mountains	No	—
	Ogive	0-10	Swales on mountains	No	—
FPA: Swedna-Riverwash-Dackey complex	Swedna	35-80	Flood plains	Yes	2,4
	Riverwash	20-40	Flood plains	Unranked	—
	Dackey	10-20	Flood plains	No	—
	Tangoe	0-30	Flood plains	No	—
FPA1: Broxson silt loam	Broxson	80-95	Flood plains on alluvial fans	No	—
	Schleyer	0-5	Stream terraces	No	—
	Water-Fresh	0-5	Channels,lakes	Unranked	—
FPB: Dackey-Tangoe-Riverwash complex	Dackey	25-55	Flood plains	No	—
	Tangoe	25-50	Flood plains	No	—
	Riverwash	10-35	Flood plains	Unranked	—
	Swedna-Very wet	0-10	Depressions on flood plains	Yes	2,3,4
	Swedna	0-10	Flood plains	Yes	2,4

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Hydric Soil List - All Components—AK656-Delta River Area, Alaska					
Map symbol and map unit name	Component/Local Phase	Comp. pct.	Landform	Hydric status	Hydric criteria met (code)
FPC: Dackey-Tangoe-Riverwash, high elevation, complex	Dackey	25-55	Flood plains	No	—
	Tangoe	25-50	Flood plains	No	—
	Riverwash	10-35	Flood plains	Unranked	—
	Swedna-Very wet	0-10	Depressions on flood plains	Yes	2,3,4
FPD: Dackey-Swedna-Tangoe complex	Swedna	0-10	Flood plains	Yes	2,4
	Dackey	45-80	Flood plains	No	—
	Tangoe	10-20	Flood plains	No	—
FPF: Broxson-Nizina, cool, complex	Swedna-Very wet	0-10	Depressions on flood plains	Yes	2,3,4
	Broxson	25-60	Flood plains	No	—
	Nizina-Cool	20-60	Flood plains	No	—
FPG: Tangoe-Nizina, dry, complex	Schleyer	5-15	Stream terraces	No	—
	Riverwash	0-10	Flood plains	Unranked	—
	Tangoe	65-80	Flood plains	No	—
	Nizina-Dry	15-30	Flood plains	No	—
GO1: Schleyer-Geist complex, 0 to 30 percent slopes	Riverwash	5-20	Flood plains	Unranked	—
	Schleyer	55-85	Hills,outwash plains	No	—
	Geist	10-40	Hills,outwash plains	No	—
	Turbellina	0-10	Outwash plains	Yes	2,3
GO2: Schleyer-Slana-Geist complex, 0 to 70 percent slopes	Terric Cryohemists	0-5	Depressions on outwash plains	Yes	1,3
	Schleyer	45-70	Hills,outwash plains	No	—
	Slana	15-35	Hills	No	—
	Geist	10-25	Hills,outwash plains	No	—
	Phelanna	0-10	Mountains	Yes	2
GO3: Turbellina-Schleyer complex, 0 to 30 percent slopes	Turbellina	0-5	Outwash plains	Yes	2,3
	Schleyer	20-50	Hills,outwash plains	No	—
	Turbellina	15-55	Outwash plains	Yes	2,3
	Terric Cryohemists	0-10	Depressions on outwash plains	Yes	1,3
GO4: Kuswash-Turbellina-Schleyer complex, 0 to 30 percent slopes	Fels	0-40	Hills on peat plateaus	No	—
	Shand	0-15	Flood plains	Yes	1
	Kuswash	30-50	Outwash plains	Yes	2
	Turbellina	30-45	Outwash plains	Yes	2,3

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Hydric Soil List - All Components—AK656-Delta River Area, Alaska					
Map symbol and map unit name	Component/Local Phase	Comp. pct.	Landform	Hydric status	Hydric criteria met (code)
	Schleyer	15-25	Hills,outwash plains	No	—
IM: Shand-Bonot-Fels complex, 0 to 60 percent slopes	Shand	20-60	Flood plains	Yes	1
	Fels	15-35	Hills	No	—
	Bonot	5-50	Outwash plains	Yes	1,3
	Kuswash	10-35	Outwash plains	Yes	2
	Turbellina	0-40	Outwash plains	Yes	2,3
L1: Owhat peat, 2 to 15 percent slopes	Owhat	80-95	Hills	Yes	2
	Fields	5-20	Mountains	No	—
MSB: Fields-Minya-Frostcircle association, 0 to 75 percent slopes	Fields	30-75	Mountains	No	—
	Minya-Cool	15-40	Mountains	No	—
	Frostcircle	5-20	Mountains	No	—
	Rock outcrop	2-10	Mountains	Unranked	—
	Ogive	3-15	Swales on mountains	No	—
MSD: Frostcircle-Minya-Minya, cool, complex, 0 to 28 percent slopes	Frostcircle	20-70	Mountains	No	—
	Minya	20-50	Mountains	No	—
	Minya-Cool	5-20	Mountains	No	—
	Rock outcrop	5-15	Mountains	Unranked	—
MSF: Elting-Basaltlake-Sonderma complex, 2 to 48 percent slopes	Elting	40-85	Mountains	No	—
	Basaltlake	10-25	Mountains	No	—
	Sonderma	10-40	Fan terraces on alluvial fans	No	—
	Castnot	0-10	Mountains	No	—
MSHP: Steps-Basaltlake association, 14 to 75 percent slopes	Steps	35-85	Mountains	Yes	2
	Basaltlake	10-50	Mountains	No	—
	Petrokov	5-20	Mountains	No	—
	Ogive	0-20	Swales on mountains	No	—
	Schleyer-Cool	0-5	Mountains	No	—
	Nizina-Cool	0-5	Flood plains on alluvial fans on mountains	No	—
MSS: Frostcircle peat, 0 to 25 percent slopes	Frostcircle	85-95	Mountains	No	—
	Basaltlake	5-15	Mountains	No	—

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Hydric Soil List - All Components—AK656-Delta River Area, Alaska					
Map symbol and map unit name	Component/Local Phase	Comp. pct.	Landform	Hydric status	Hydric criteria met (code)
MST: Frostcircle-Ogive association, 0 to 25 percent slopes	Frostcircle	40-80	Mountains	No	—
	Ogive	10-25	Swales on mountains	No	—
	Fields	0-20	Mountains	No	—
	Minya-Cool	0-20	Mountains	No	—
	Rock outcrop	2-10	Mountains	Unranked	—
OPB: Phalarope silt loam, 0 to 5 percent slopes	Phalarope	80-95	Outwash plains	No	—
	Waitabit	5-10	Mountains	No	—
RO: Rock Outcrop, 35 to 90 percent slopes	Rock outcrop	90-100	Mountains	Unranked	—
	Minya-Cool	0-5	Mountains	No	—
	Fields	0-5	Mountains	No	—
STA: Nizina-Nizina, rarely flooded, complex	Nizina	50-80	Flood plains	No	—
	Nizina-Rarely flooded	15-35	Flood plains	No	—
	Nizina-Cool	0-15	Flood plains	No	—
	Nizina-Dry	3-15	Flood plains	No	—
	Klute	2-10	Flood plains	No	—
TPA: McCumberson-Phelanna complex, 2 to 12 percent slopes	McCumberson	60-90	Till plains	No	—
	Phelanna	10-30	Till plains	Yes	2
	Frostcircle	0-10	Till plains	No	—
	Basallake	0-25	Till plains	No	—
W: Water	Water-Fresh	80-100	Lakes, channels	Unranked	—
	Terric Cryohemists	0-10	Lakeshores on outwash plains	Yes	1,3
	Swedna-Very wet	0-10	Depressions on flood plains	Yes	2,3,4