United States Department of Agriculture

NRCS

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Subaqueous Soil Survey Reconnaissance of Barnegat Bay
Final Report
Sept. 28, 2012

The NRCS-NJ soil survey completed subaqueous soil survey reconnaissance efforts in Barnegat Bay from the northern end of the bay south to Turtle Cove in Manahawkin Bay, which coincides with the southern extent of our bathymetric data. A total of 58 soil cores were described, recorded, and classified (as well as georeferenced and attributed in GIS) from 13 different subaqueous landforms. The resulting general soil map for the Bay has 23 map units with 13 subaqueous soil series.

The reconnaissance work was conducted from the NRCS 21-foot Carolina Skiff during the months of August and September. The boat was kept at the Ocean County Parks Department dock on E. Water St. in Toms River. An onboard laptop computer equipped with GPS and GIS capabilities enabled the location of selected sampling sites based on the landforms from the bathymetry. Coarse-textured (sandy) soils were sampled with a bucket auger, and finer materials with a custom-made McCauley peat auger with a one-meter sampling chamber. With extensions on the augers, samples could be collected from sites with water depths greater than 10 feet.

All soil descriptions include the color, texture or degree of decomposition for organic materials, coarse fragment content, fluidity, (sulfide) odor; the shallower sites have information on the type and extent of SAV; 9 of the locations have salinity measurements at three different depths, and 24 samples from 12 sites were run for trace metal analyses with PXRF.

Some of our initial observations from the survey include:

- ✓ The number of relict Flood Tidal Deltas in the Bay, indicating a decrease in the degree of tidal flushing/exchange;
- ✓ Shallow Flood Tidal Delta areas around Island Beach State Park and Cranberry Inlet open to personal watercraft and boating traffic where the SAV cover is patchy;
- ✓ The number of sites with significant amounts of buried organics, likely former freshwater organics, in the Estuarine Tidal Creeks and Mainland Coves.

Although we have made an accurate and representative characterization of the landforms and soils in the Bay, **this is still a reconnaissance, or general soils map**. And as this is the first year in an estimated three year survey, **this map is subject to change**. Additional documentation still needs to be gathered, as 30 points per map unit are required for our quality control. Much more detailed physical and chemical as well as mineralogical analyses are yet to be conducted on the soils. However, we will use the map to select additional sites for salinity and trace metal testing, as well as our lab sampling sites, and as a solid foundation for the rest of our survey efforts.

The following document contains the legend, map unit descriptions for both the subaqueous soils and any terrestrial soils included in the map, the soil descriptions, trace metal data, a glossary of terms, and a copy of the Barnegat Bay subaqueous soil map.

Richard K. Shaw
USDA-NRCS

BARNEGAT BAY SOIL LEGEND

SYMBOL	NAME	LANDFORM
DreChl	Dredge Channel (Long Neck soil series to be developed)	Dredge Channel (Anthropogenic)
Shoal	Shoal (undetermined)	Shoal
WCf2	Cottman-Figgs complex, 1 to 2 meter water depth	Lagoon Bottom Barrier Side
WCf3	Cottman-Figgs complex, 2 to 3 meter water depth	Lagoon Bottom Barrier Side
WDe1	Demas loamy sand, 0 to 1 meter water depth	Storm Surge Washover-fan Flat
WHe1	Herring Creek-Southpoint complex, 0 to 1 meter water depth	Estuarine Tidal Creek
WHe2	Herring Creek-Southpoint complex, 1 to 2 meter water depth	Estuarine Tidal Creek
WHe3	Herring Creek-Southpoint complex, 2 to 3 meter water depth	Estuarine Tidal Creek
WIr1	Indian River sand, 0 to 1 meter water depth, active, flat	Flood-tidal Delta Sand Flat (active)
WIr2	Indian River sand, 1 to 2 meter water depth, active, flat	Flood-tidal Delta Sand Flat (active)
WIr3	Indian River sand, 2 to 5 meter water depth	Flood-tidal Delta Channel (active)
WIrr1	Indian River sand, 0 to 1 meter water depth, relict, flat	Flood-tidal Delta Sand Flat (relict)
WIrr2	Indian River sand, 1 to 2 meter water depth, relict, flat	Flood-tidal Delta Sand Flat (relict)
WIrs1	Indian River sand, 0 to 1 meter water depth, relict, slope	Flood-tidal Delta Slope (relict)
WIrs2	Indian River sand, 1 to 2 meter water depth, relict, slope	Flood-tidal Delta Slope (relict)
WIrz2	Indian River sand, 1 to 2 meter water depth, active, slope	Flood-tidal Delta Slope (active)
WPp1	Pasturepoint sandy loam, 0 to 1 meter water depth	Submerged Wave-cut Platform
WSn1	Sinepuxent sand, 0 to 1 meter water depth	Dredge-deposit Shoal
WTf2	Tingles-Figgs complex, 1 to 2 meter water depth	Lagoon Bottom
WTf3	Tingles-Figgs complex, 2 to 3 meter water depth	Lagoon Bottom
WTf4	Tingles-Figgs complex, 3 to 4 meter water depth	Lagoon Bottom
WTr1	Trappe sand, 0 to 1 meter water depth	Submerged Mainland Beach
WTs1	Truitt-Southpoint-Tumagan complex, 0 to 1 meter water depth	Mainland Cove
WTs2	Truitt-Southpoint-Tumagan complex, 1 to 2 meter water depth	Mainland Cove

DreChl Dredge Channel (Soil Series to be developed)

Map unit setting:
- Depth: 2 to 5 meters
- Slope: 0 to 2%

Map unit composition:
- Dredge Channel: 90%
- Other soils: 10%

Dredge Channel
- Setting
  - Landform: Dredge Channel (Anthopogenic Cut Feature)
  - Landscape Position: Backslope and Toeslopes
  - Parent material: Dredge Materials over Marine Deposits
- Properties and qualities:
  - Acid sulfate potential: High throughout
  - Carbon sequestration potential: Low
  - Fluidity: Nonfluid to Very Fluid
  - Buried Organics: None
- Taxonomic Classification:

Typical profile:

WCf2 Cottman-Figgs complex, 1 to 2 meter water depth

Map unit setting:
- Depth: 1 to 2 meters
- Slope: 0 to 0.2%

Map unit composition:
- Cottman: 45%
- Figgs: 40%
- Other Soils: 15%

Cottman
- Setting
  - Landform: Lagoon Bottom, Barrier Side
  - Landscape Position: Toeslope
  - Parent material: Coarse-loamy Marine Deposits
- Properties and qualities:
  - Acid sulfate potential: High throughout
  - Carbon sequestration potential: Moderate
  - Fluidity: Nonfluid to Very Fluid
  - Buried Organics: None
- Taxonomic Classification: Coarse-loamy, mixed, subactive, nonacid, mesic Haplic Sulfiwassents

Typical profile:

Ase1 – 0 to 3 cm; very dark gray (5Y 4/1) fine sand; massive; non-sticky; non-fluid; strong sulphurous odor; strongly saline; abrupt boundary.

Ase2 – 3 to 12 cm; very dark gray (N 3/) fine sand; massive; non-sticky; non-fluid; 5 percent shell fragments; strong sulphurous odor; strongly saline; abrupt boundary.

Cse1 – 12 to 41 cm; very dark greenish gray (10Y 3.5/1) loamy fine sand; massive; slightly sticky; non-fluid; 3 percent shells; strong sulphurous odor; strongly saline; clear boundary.

Cse2 – 41 to 90 cm; very dark greenish gray (5GY 3.5/1) loamy fine sand; massive; slightly sticky; fluid; 1 percent shell fragments; 3 percent very dark grayish brown (2.5Y 3/3) herbaceous fibers; strong sulphurous odor; strongly saline; gradual boundary.

2Cse3 – 90 to 143 cm; very dark greenish gray (5GY 3.5/1) loam; massive; moderately sticky; very fluid; 1 percent shell fragments; strong sulphurous odor: strongly saline; gradual boundary.

2Cse4 – 143 to 162 cm; very dark greenish gray (10Y 3/1) sandy loam; massive; slightly sticky; fluid; 4 percent olive (5Y 4/4) herbaceous fibers; 1 percent shell fragments; strong sulphurous odor; strongly saline; clear boundary.

2Cse5 – 162 to 198 cm; very dark greenish gray (10Y 3/1) loam; massive; moderately sticky; very fluid; 7 percent olive (5Y 4/4) herbaceous fibers; 1 percent shell fragments; strong sulphurous odor; strongly saline.

Figgs

Setting

Landform: Lagoon Bottom, Barrier Side
Landscape Position: Toeslope
Parent material: Fine-loamy Marine Deposits

Properties and qualities:

Acid sulfate potential: High throughout
Carbon sequestration potential: Moderate
Fluidity: Fluid to Very Fluid
Buried Organics: None

Taxonomic Classification: Fine-loamy, mixed, subactive, nonacid, mesic Fluventic Sulfiwassents

Typical profile:

Ase1 – 0 to 3 cm; very dark gray (5Y 3.5/1) loam; massive; non-sticky; fluid; strong sulphurous odor; abrupt boundary.

Ase2 – 3 to 17 cm; very dark greenish gray (10Y 2.5/1) fine sandy loam; massive; non-sticky; fluid; 1 percent shell fragments; strong sulphurous odor; abrupt boundary.

2Cse1 – 17 to 52 cm; very dark greenish gray (10Y 3/1) clay loam; massive; slightly sticky; very fluid; 15 percent shells; strong sulphurous odor; clear boundary.

2Cse2 – 52 to 143 cm; very dark greenish gray (5GY 3.5/1) clay loam; massive; slightly sticky; very fluid; sulphurous odor.

WCf3 Cottman-Figgs complex, 2 to 3 meter water depth

Map unit setting:
- Depth: 2 to 3 meters
- Slope: 0 to 0.2%

Map unit composition:
- Cottman: 45%
- Figgs: 40%
- Other Soils: 15%

Cottman
- Setting
  - Landform: Lagoon Bottom, Barrier Side
  - Landscape Position: Toeslope
  - Parent material: Coarse-loamy Marine Deposits
- Properties and qualities:
  - Acid sulfate potential: High throughout
  - Carbon sequestration potential: Moderate
  - Fluidity: Nonfluid to Very Fluid
  - Buried Organics: None
- Taxonomic Classification: Coarse-loamy, mixed, subactive, nonacid, mesic Haplic Sulfiwassents

Typical profile:

Ase1 – 0 to 3 cm; very dark gray (5Y 4/1) fine sand; massive; non-sticky; non-fluid; strong sulphurous odor; strongly saline; abrupt boundary.

Ase2 – 3 to 12 cm; very dark gray (N 3/) fine sand; massive; non-sticky; non-fluid; 5 percent shell fragments; strong sulphurous odor; strongly saline; abrupt boundary.

Cse1 – 12 to 41 cm; very dark greenish gray (10Y 3.5/1) loamy fine sand; massive; slightly sticky; non-fluid; 3 percent shells; strong sulphurous odor; strongly saline; clear boundary.

Cse2 – 41 to 90 cm; very dark greenish gray (5GY 3.5/1) loamy fine sand; massive; slightly sticky; fluid; 1 percent shell fragments; 3 percent very dark grayish brown (2.5Y 3/3) herbaceous fibers; strong sulphurous odor; strongly saline; gradual boundary.

2Cse3 – 90 to 143 cm; very dark greenish gray (5GY 3.5/1) loam; massive; moderately sticky; very fluid; 1 percent shell fragments; strong sulphurous odor: strongly saline; gradual boundary.

2Cse4 – 143 to 162 cm; very dark greenish gray (10Y 3/1) sandy loam; massive; slightly sticky; fluid; 4 percent olive (5Y 4/4) herbaceous fibers; 1 percent shell fragments; strong sulphurous odor; strongly saline; clear boundary.

2Cse5 – 162 to 198 cm; very dark greenish gray (10Y 3/1) loam; massive; moderately sticky; very fluid; 7 percent olive (5Y 4/4) herbaceous fibers; 1 percent shell fragments; strong sulphurous odor; strongly saline.

Figgs

Setting

Landform: Lagoon Bottom, Barrier Side
Landscape Position: Toeslope
Parent material: Fine-loamy Marine Deposits

Properties and qualities:

Acid sulfate potential: High throughout
Carbon sequestration potential: Moderate
Fluidity: Fluid to Very Fluid
Buried Organics: None

Taxonomic Classification: Fine-loamy, mixed, subactive, nonacid, mesic Fluventic Sulfiwassents

Typical profile:

Ase1 – 0 to 3 cm; very dark gray (5Y 3.5/1) loam; massive; non-sticky; fluid; strong sulphurous odor; abrupt boundary.

Ase2 – 3 to 17 cm; very dark greenish gray (10Y 2.5/1) fine sandy loam; massive; non-sticky; fluid; 1 percent shell fragments; strong sulphurous odor; abrupt boundary.

2Cse1 – 17 to 52 cm; very dark greenish gray (10Y 3/1) clay loam; massive; slightly sticky; very fluid; 15 percent shells; strong sulphurous odor; clear boundary.

2Cse2 – 52 to 143 cm; very dark greenish gray (5GY 3.5/1) clay loam; massive; slightly sticky; very fluid; sulphurous odor.

WDe1 Demas loamy sand, 0 to 1 meter water depth

Map unit setting:
- Depth: 0 to 1 meter
- Slope: 0 to 1%

Map unit composition:
- Demas: 90%
- Other soils: 10%

Demas
- Setting
  - Landform: Storm Surge Washover Fan Flats
  - Landscape Position: Backslope
  - Parent material: Sandy Marine and Estuarine Deposits
- Properties and qualities:
  - Acid sulfate potential: Low throughout
  - Carbon sequestration potential: Low
  - Fluidity: Nonfluid
  - Buried Organics: None
- Taxonomic Classification: Siliceous, mesic Typic Psammowassents

Typical profile:

Ag--0 to 3 cm; dark olive gray (5Y 3/2) loamy sand; massive; very friable; common fine and very fine roots; 15 percent, by volume dark brown (7.5YR 3/3) organic fragments; moderately alkaline; strongly saline; abrupt smooth boundary. (3 to 18 centimeters thick)

Cg1--3 to 18 cm; greenish black (10Y 2.5/1) sand; common medium distinct black (N 2/0) mottles; single grain; loose; few very fine roots; 2 percent, by volume shell fragments; moderately alkaline; strongly saline; gradual smooth boundary.

Cg2--18 to 69 cm; greenish black (10Y 2.5/1) sand; single grain; loose; 3 percent, by volume very dark grayish brown (2.5Y 3/2) organic fragments; slightly alkaline; strongly saline; clear smooth boundary.

Cg3--69 to 97 cm; greenish gray (5GY 5/1) sand; single grain; loose; 4 percent, by volume shell fragments; slightly alkaline; strongly saline; abrupt smooth boundary. (Combined thickness of the Cg horizon is 84 or more centimeters.)

2Cg4--97 to 152 cm; greenish gray (5GY 5/1) coarse sand; single grain; loose; 20 percent, by volume shell fragments; slightly alkaline; strongly saline.

WHe1 Herring Creek-Southpoint complex, 0 to 1 meter water depth

Map unit setting:
- Depth: 0 to 1 meters
- Slope: 0 to 1%

Map unit composition:
- Herring Creek: 45%
- Southpoint: 40%
- Other Soils: 15%

Herring Creek

Setting
- Landform: Estuarine Tidal Creeks
- Landscape Position: Toeslope
- Parent material: Fine-silty marine and estuarine deposits over woody materials

Properties and qualities:
- Acid sulfate potential: High throughout
- Carbon sequestration potential: High
- Fluidity: Moderate to Very Fluid
- Buried Organics: Yes

Taxonomic Classification: Fine-silty, mixed, subactive, nonacid, mesic Fluventic Sulfiwassents

Typical profile:

Ase – 0 to 7 cm; black (N 2.5/) mucky very fine sandy loam; massive; friable; 1 percent shell fragments; moderately fluid; slight sulphurous odor; clear boundary.

Cse1 – 7 to 61 cm; greenish black (10Y 2.5/1) mucky silt loam; massive; friable; 1 percent shell fragments; moderately fluid; moderate sulphurous odor; clear boundary.

Cse2 – 61 to 99 cm; very dark brown (10YR 2/2) silt loam; massive; friable; moderately fluid; moderate sulphurous odor; clear boundary

Cse3 – 99 to 134 cm; black (5Y 2.5/1) silt loam; massive; friable; moderately fluid; moderate sulphurous odor; clear boundary.

Cse4 – 134 to 185 cm; greenish black (10Y 2.5/1) loam; massive; very friable; very fluid; strong sulphurous odor; clear boundary.

2Oeb – 185 to 200 cm; very dark brown (7.5YR 2.5/2) mucky peat.

Southpoint

Setting
- Landform: Estuarine Tidal Creeks and Mainland Coves
- Landscape Position: Toeslope
- Parent material: Fine-silty Marine Deposits over Paleo-terrestrial organic deposits

Properties and qualities:
- Acid sulfate potential: High throughout

Carbon sequestration potential: Very High
Fluidity: Very Fluid
Buried Organics: Yes
Taxonomic Classification: Fine-silty, mixed, subactive, nonacid, mesic Thapto-Histic Sulfiwassent

Typical profile:

Ag - 0 to 5 cm; black (N 2.5/0) sand; single grain; loose; 5 percent, by volume black (10YR 2/1) organic fragments; moderately alkaline; strongly saline; abrupt smooth boundary. (1 to 5 inches thick)

Cg - 5 to 10 cm; very dark gray (5Y 3/1) loam; single grain; loose; moderately alkaline; strongly saline; abrupt smooth boundary. (0 to 9 inches thick)

2Cse1 - 10 to 23 cm; dark olive gray (5Y 3/2) silty clay; massive; firm; n-value 1.0, material flows easily between fingers when squeezed; slightly alkaline; strongly saline; clear smooth boundary.

2Cse2 - 23 to 56 cm; dark bluish gray (10B 4/1) silty clay loam; massive; firm; n-value 1.0, material flows easily between fingers when squeezed; slightly alkaline; strongly saline; clear smooth boundary.

2Cse3 - 56 to 91 cm; inches; olive gray (5Y 4/2) silty clay; massive; firm; n-value 1.0, material flows easily between fingers when squeezed; slightly alkaline; strongly saline; clear smooth boundary. (24 to 38 inches thick)

Oeb - 91 to 122 cm; dark brown (7.5YR 3/2) mucky peat; hemic soil material, 50 percent, by volume rubbed fiber; 20 percent, by volume light olive brown (2.5Y 5/4) organic fragments; slightly alkaline; strongly saline; gradual smooth boundary.

Oab - 122 to 152 cm; black (N 2.5/0) muck; sapric soil material, 10 percent, by volume rubbed fiber; slightly alkaline; strongly saline. (Combined thickness of the O horizon is 8 or more inches thick.)

WHe2 Herring Creek-Southpoint complex, 1 to 2 meter water depth

Map unit setting:
- Depth: 1 to 2 meters
- Slope: 0 to 1%

Map unit composition:
- Herring Creek: 45%
- Southpoint: 40%
- Other Soils: 15%

Herring Creek

Setting
- Landform: Estuarine Tidal Creeks
- Landscape Position: Toeslope
- Parent material: Fine-silty marine and estuarine deposits over woody materials

Properties and qualities:
- Acid sulfate potential: High throughout
- Carbon sequestration potential: High
- Fluidity: Moderate to Very Fluid
- Buried Organics: Yes

Taxonomic Classification: Fine-silty, mixed, subactive, nonacid, mesic Fluventic Sulfiwassents

Typical profile:

Ase – 0 to 7 cm; black (N 2.5/) mucky very fine sandy loam; massive; friable; 1 percent shell fragments; moderately fluid; slight sulphurous odor; clear boundary.

Cse1 – 7 to 61 cm; greenish black (10Y 2.5/1) mucky silt loam; massive; friable; 1 percent shell fragments; moderately fluid; moderate sulphurous odor; clear boundary.

Cse2 – 61 to 99 cm; very dark brown (10YR 2/2) silt loam; massive; friable; moderately fluid; moderate sulphurous odor; clear boundary

Cse3 – 99 to 134 cm; black (5Y 2.5/1) silt loam; massive; friable; moderately fluid; moderate sulphurous odor; clear boundary.

Cse4 – 134 to 185 cm; greenish black (10Y 2.5/1) loam; massive; very friable; very fluid; strong sulphurous odor; clear boundary.

2Oeb – 185 to 200 cm; very dark brown (7.5YR 2.5/2) mucky peat.

Southpoint

Setting
- Landform: Estuarine Tidal Creeks and Mainland Coves
- Landscape Position: Toeslope
- Parent material: Fine-silty Marine Deposits over Paleo-terrestrial organic deposits

Properties and qualities:
- Acid sulfate potential: High throughout

Carbon sequestration potential: Very High
Fluidity: Very Fluid
Buried Organics: Yes
Taxonomic Classification: Fine-silty, mixed, subactive, nonacid, mesic Thapto-Histic Sulfiwassent

Typical profile:

Ag - 0 to 5 cm; black (N 2.5/0) sand; single grain; loose; 5 percent, by volume black (10YR 2/1) organic fragments; moderately alkaline; strongly saline; abrupt smooth boundary. (1 to 5 inches thick)

Cg - 5 to 10 cm; very dark gray (5Y 3/1) loam; single grain; loose; moderately alkaline; strongly saline; abrupt smooth boundary. (0 to 9 inches thick)

2Cse1 - 10 to 23 cm; dark olive gray (5Y 3/2) silty clay; massive; firm; n-value 1.0, material flows easily between fingers when squeezed; slightly alkaline; strongly saline; clear smooth boundary.

2Cse2 - 23 to 56 cm; dark bluish gray (10B 4/1) silty clay loam; massive; firm; n-value 1.0, material flows easily between fingers when squeezed; slightly alkaline; strongly saline; clear smooth boundary.

2Cse3 - 56 to 91 cm; inches; olive gray (5Y 4/2) silty clay; massive; firm; n-value 1.0, material flows easily between fingers when squeezed; slightly alkaline; strongly saline; clear smooth boundary. (24 to 38 inches thick)

Oeb - 91 to 122 cm; dark brown (7.5YR 3/2) mucky peat; hemic soil material, 50 percent, by volume rubbed fiber; 20 percent, by volume light olive brown (2.5Y 5/4) organic fragments; slightly alkaline; strongly saline; gradual smooth boundary.

Oab - 122 to 152 cm; black (N 2.5/0) muck; sapric soil material, 10 percent, by volume rubbed fiber; slightly alkaline; strongly saline. (Combined thickness of the O horizon is 8 or more inches thick.)

WHe3 Herring Creek-Southpoint complex, 2 to 3 meter water depth

Map unit setting:
- Depth: 2 to 3 meters
- Slope: 0 to 1%

Map unit composition:
- Herring Creek: 45%
- Southpoint: 40%
- Other Soils: 15%

Herring Creek

Setting
- Landform: Estuarine Tidal Creeks
- Landscape Position: Toeslope
- Parent material: Fine-silty marine and estuarine deposits over woody materials

Properties and qualities:
- Acid sulfate potential: High throughout
- Carbon sequestration potential: High
- Fluidity: Moderate to Very Fluid
- Buried Organics: Yes

Taxonomic Classification: Fine-silty, mixed, subactive, nonacid, mesic Fluventic Sulfiwassents

Typical profile:

Ase – 0 to 7 cm; black (N 2.5/) mucky very fine sandy loam; massive; friable; 1 percent shell fragments; moderately fluid; slight sulphurous odor; clear boundary.

Cse1 – 7 to 61 cm; greenish black (10Y 2.5/1) mucky silt loam; massive; friable; 1 percent shell fragments; moderately fluid; moderate sulphurous odor; clear boundary.

Cse2 – 61 to 99 cm; very dark brown (10YR 2/2) silt loam; massive; friable; moderately fluid; moderate sulphurous odor; clear boundary

Cse3 – 99 to 134 cm; black (5Y 2.5/1) silt loam; massive; friable; moderately fluid; moderate sulphurous odor; clear boundary.

Cse4 – 134 to 185 cm; greenish black (10Y 2.5/1) loam; massive; very friable; very fluid; strong sulphurous odor; clear boundary.

2Oeb – 185 to 200 cm; very dark brown (7.5YR 2.5/2) mucky peat.

Southpoint

Setting
- Landform: Estuarine Tidal Creeks and Mainland Coves
- Landscape Position: Toeslope
- Parent material: Fine-silty Marine Deposits over Paleo-terrestrial organic deposits

Properties and qualities:
- Acid sulfate potential: High throughout

Carbon sequestration potential: Very High
Fluidity: Very Fluid
Buried Organics: Yes
Taxonomic Classification: Fine-silty, mixed, subactive, nonacid, mesic Thapto-Histic Sulfiwassent

Typical profile:

Ag - 0 to 5 cm; black (N 2.5/0) sand; single grain; loose; 5 percent, by volume black (10YR 2/1) organic fragments; moderately alkaline; strongly saline; abrupt smooth boundary. (1 to 5 inches thick)

Cg - 5 to 10 cm; very dark gray (5Y 3/1) loam; single grain; loose; moderately alkaline; strongly saline; abrupt smooth boundary. (0 to 9 inches thick)

2Cse1 - 10 to 23 cm; dark olive gray (5Y 3/2) silty clay; massive; firm; n-value 1.0, material flows easily between fingers when squeezed; slightly alkaline; strongly saline; clear smooth boundary.

2Cse2 - 23 to 56 cm; dark bluish gray (10B 4/1) silty clay loam; massive; firm; n-value 1.0, material flows easily between fingers when squeezed; slightly alkaline; strongly saline; clear smooth boundary.

2Cse3 - 56 to 91 cm; inches; olive gray (5Y 4/2) silty clay; massive; firm; n-value 1.0, material flows easily between fingers when squeezed; slightly alkaline; strongly saline; clear smooth boundary. (24 to 38 inches thick)

Oeb - 91 to 122 cm; dark brown (7.5YR 3/2) mucky peat; hemic soil material, 50 percent, by volume rubbed fiber; 20 percent, by volume light olive brown (2.5Y 5/4) organic fragments; slightly alkaline; strongly saline; gradual smooth boundary.

Oab - 122 to 152 cm; black (N 2.5/0) muck; sapric soil material, 10 percent, by volume rubbed fiber; slightly alkaline; strongly saline. (Combined thickness of the O horizon is 8 or more inches thick.)

WIr1 Indian River sand, 0 to 1 meter water depth, active, flat

Map unit setting:
- Depth: 0 to 1 meter
- Slope: 0 to 2%

Map unit composition:
- Indian River: 90%
- Other soils: 10%

Indian River
- Setting
  - Landform: Active Flood Tidal Delta Flats
  - Landscape Position: Toeslope
  - Parent material: Sandy Marine and Estuarine Deposits
- Properties and qualities:
  - Acid sulfate potential: Low throughout
  - Carbon sequestration potential: Low
  - Fluidity: Nonfluid
  - Buried Organics: None
- Taxonomic Classification: Siliceous, mesic Fluventic Psammowassents

Typical profile:

Cg1 - 0 to 9 cm; light olive gray (5Y 6/2) sand, light greenish gray (10Y 7/1) dry; single grain; nonfluid; strongly saline; moderately alkaline (pH 8.0); slightly alkaline (pH 7.6) after 8 weeks; abrupt boundary.

Cg2 - 9 to 48 cm; light gray (5Y 7/2) fine sand; single grain; nonfluid; stongly saline; moderately alkaline (pH 7.9); slightly alkaline (pH 7.7) after 8 weeks; gradual boundary.

Cg3 - 48 to 65 cm; gray (5Y 6/1) fine sand; single grain; nonfluid; strongly saline; moderately alkaline (pH 7.9); slightly alkaline (pH 7.8) after 8 weeks; gradual boundary.

Cg4 - 65 to 100 cm; gray (5Y 6/1) fine sand; single grain; nonfluid; strongly saline; slightly alkaline (pH 7.8); slightly alkaline (pH 7.8) after 8 weeks; gradual boundary. (Combined thickness of Cg horizons 30 to 100 cm thick.)

CA - 100 to 115 cm; very dark gray (5Y 3/1) fine sand; single grain; nonfluid; strongly saline; moderately alkaline (pH 8.1); slightly alkaline (pH 7.8) after 8 weeks; clear boundary. (0 to 30 cm thick.)

Ab - 115 to 150 cm; black (N 2.5/) fine sand; massive; nonfluid; strongly saline; few medium shell fragments, common medium and coarse plant fragments; moderately alkaline (pH 8.4); slightly alkaline (pH 7.4) after 8 weeks; clear boundary. (0 to 35 cm thick.)

C'g - 150 to 161 cm; black (5Y 2.5/1) fine sand; single grain; nonfluid; strongly saline; few fine and medium macroalgal fragments; strongly alkaline (pH 8.8); slightly alkaline (pH 7.7) after 8 weeks; clear boundary. (10 to 85 cm thick.)

A'b - 161 to 181 cm; black (N 2.5/) fine sand; single grain; nonfluid; strongly saline; strongly alkaline (pH 8.8); slightly alkaline (pH 7.6) after 8 weeks; common fine and medium plant fragments; clear boundary. (0 to 30 cm thick.)

C''g - 181 to 200 cm; black (5Y 2.5/1) fine sand; single grain; nonfluid; strongly saline; 5 percent fine and medium shell fragments; strongly alkaline (pH 8.7); slightly alkaline (pH 7.7) after 8 weeks.

WIr2 Indian River sand, 1 to 2 meter water depth, active, flat

Map unit setting:
- Depth: 1 to 2 meters
- Slope: 0 to 2%

Map unit composition:
- Indian River: 90%
- Other soils: 10%

Indian River
- Setting
  - Landform: Active Flood Tidal Delta Flats
  - Landscape Position: Toeslope
  - Parent material: Sandy Marine and Estuarine Deposits
- Properties and qualities:
  - Acid sulfate potential: Low throughout
  - Carbon sequestration potential: Low
  - Fluidity: Nonfluid
  - Buried Organics: None
- Taxonomic Classification: Siliceous, mesic Fluventic Psammowassents

Typical profile:

Cg1 - 0 to 9 cm; light olive gray (5Y 6/2) sand, light greenish gray (10Y 7/1) dry; single grain; nonfluid; strongly saline; moderately alkaline (pH 8.0); slightly alkaline (pH 7.6) after 8 weeks; abrupt boundary.

Cg2 - 9 to 48 cm; light gray (5Y 7/2) fine sand; single grain; nonfluid; stongly saline; moderately alkaline (pH 7.9); slightly alkaline (pH 7.7) after 8 weeks; gradual boundary.

Cg3 - 48 to 65 cm; gray (5Y 6/1) fine sand; single grain; nonfluid; strongly saline; moderately alkaline (pH 7.9); slightly alkaline (pH 7.8) after 8 weeks; gradual boundary.

Cg4 - 65 to 100 cm; gray (5Y 6/1) fine sand; single grain; nonfluid; strongly saline; slightly alkaline (pH 7.8); slightly alkaline (pH 7.8) after 8 weeks; gradual boundary. (Combined thickness of Cg horizons 30 to 100 cm thick.)

CA - 100 to 115 cm; very dark gray (5Y 3/1) fine sand; single grain; nonfluid; strongly saline; moderately alkaline (pH 8.1); slightly alkaline (pH 7.8) after 8 weeks; clear boundary. (0 to 30 cm thick.)

Ab - 115 to 150 cm; black (N 2.5/) fine sand; massive; nonfluid; strongly saline; few medium shell fragments, common medium and coarse plant fragments; moderately alkaline (pH 8.4); slightly alkaline (pH 7.4) after 8 weeks; clear boundary. (0 to 35 cm thick.)

C'g - 150 to 161 cm; black (5Y 2.5/1) fine sand; single grain; nonfluid; strongly saline; few fine and medium macroalgal fragments; strongly alkaline (pH 8.8); slightly alkaline (pH 7.7) after 8 weeks; clear boundary. (10 to 85 cm thick.)

A'b - 161 to 181 cm; black (N 2.5/) fine sand; single grain; nonfluid; strongly saline; strongly alkaline (pH 8.8); slightly alkaline (pH 7.6) after 8 weeks; common fine and medium plant fragments; clear boundary. (0 to 30 cm thick.)

C''g - 181 to 200 cm; black (5Y 2.5/1) fine sand; single grain; nonfluid; strongly saline; 5 percent fine and medium shell fragments; strongly alkaline (pH 8.7); slightly alkaline (pH 7.7) after 8 weeks.

WIr3 Indian River sand, 2 to 5 meter water depth

Map unit setting:
- Depth: 2 to 5 meters
- Slope: 0 to 5%

Map unit composition:
- Indian River: 90%
- Other soils: 10%

Indian River
- Setting
  - Landform: Active Flood Tidal Channels
  - Landscape Position: Backslope
  - Parent material: Sandy Marine and Estuarine Deposits
- Properties and qualities:
  - Acid sulfate potential: Low throughout
  - Carbon sequestration potential: Low
  - Fluidity: Nonfluid
  - Buried Organics: None
- Taxonomic Classification: Siliceous, mesic Fluventic Psammowassents

Typical profile:

Cg1 - 0 to 9 cm; light olive gray (5Y 6/2) sand, light greenish gray (10Y 7/1) dry; single grain; nonfluid; strongly saline; moderately alkaline (pH 8.0); slightly alkaline (pH 7.6) after 8 weeks; abrupt boundary.

Cg2 - 9 to 48 cm; light gray (5Y 7/2) fine sand; single grain; nonfluid; stongly saline; moderately alkaline (pH 7.9); slightly alkaline (pH 7.7) after 8 weeks; gradual boundary.

Cg3 - 48 to 65 cm; gray (5Y 6/1) fine sand; single grain; nonfluid; strongly saline; moderately alkaline (pH 7.9); slightly alkaline (pH 7.8) after 8 weeks; gradual boundary.

Cg4 - 65 to 100 cm; gray (5Y 6/1) fine sand; single grain; nonfluid; strongly saline; slightly alkaline (pH 7.8); slightly alkaline (pH 7.8) after 8 weeks; gradual boundary. (Combined thickness of Cg horizons 30 to 100 cm thick.)

CA - 100 to 115 cm; very dark gray (5Y 3/1) fine sand; single grain; nonfluid; strongly saline; moderately alkaline (pH 8.1); slightly alkaline (pH 7.8) after 8 weeks; clear boundary. (0 to 30 cm thick.)

Ab - 115 to 150 cm; black (N 2.5/) fine sand; massive; nonfluid; strongly saline; few medium shell fragments, common medium and coarse plant fragments; moderately alkaline (pH 8.4); slightly alkaline (pH 7.4) after 8 weeks; clear boundary. (0 to 35 cm thick.)

C'g - 150 to 161 cm; black (5Y 2.5/1) fine sand; single grain; nonfluid; strongly saline; few fine and medium macroalgal fragments; strongly alkaline (pH 8.8); slightly alkaline (pH 7.7) after 8 weeks; clear boundary. (10 to 85 cm thick.)

A'b - 161 to 181 cm; black (N 2.5/) fine sand; single grain; nonfluid; strongly saline; strongly alkaline (pH 8.8); slightly alkaline (pH 7.6) after 8 weeks; common fine and medium plant fragments; clear boundary. (0 to 30 cm thick.)

C''g - 181 to 200 cm; black (5Y 2.5/1) fine sand; single grain; nonfluid; strongly saline; 5 percent fine and medium shell fragments; strongly alkaline (pH 8.7); slightly alkaline (pH 7.7) after 8 weeks.

WIrr1 Indian River sand, 0 to 1 meter water depth, relict, flat

Map unit setting:
- Depth: 0 to 1 meter
- Slope: 0 to 2%

Map unit composition:
- Indian River: 90%
- Other soils: 10%

Indian River
- Setting
  - Landform: Relict Flood Tidal Delta Flats
  - Landscape Position: Toeslope
  - Parent material: Sandy Marine and Estuarine Deposits
- Properties and qualities:
  - Acid sulfate potential: High throughout
  - Carbon sequestration potential: Low
  - Fluidity: Nonfluid
  - Buried Organics: None
- Taxonomic Classification: Siliceous, mesic Sulfic Psammowassents* (*taxadjunct to series)

Typical profile:

Cse1 - 0 to 9 cm; light olive gray (5Y 6/2) sand, light greenish gray (10Y 7/1) dry; single grain; nonfluid; slight sulphurous odor; strongly saline; moderately alkaline (pH 8.0); slightly alkaline (pH 7.6) after 8 weeks; abrupt boundary.

Cse2 - 9 to 48 cm; light gray (5Y 7/2) fine sand; single grain; nonfluid; moderate sulphurous odor; stongly saline; moderately alkaline (pH 7.9); slightly alkaline (pH 7.7) after 8 weeks; gradual boundary.

Cse3 - 48 to 65 cm; gray (5Y 6/1) fine sand; single grain; nonfluid; moderate sulphurous odor; strongly saline; moderately alkaline (pH 7.9); slightly alkaline (pH 7.8) after 8 weeks; gradual boundary.

Cse4 - 65 to 100 cm; gray (5Y 6/1) fine sand; single grain; nonfluid; moderate sulphurous odor; strongly saline; slightly alkaline (pH 7.8); slightly alkaline (pH 7.8) after 8 weeks; gradual boundary. (Combined thickness of Cg horizons 30 to 100 cm thick.)

Cse5 - 100 to 165 cm; very dark gray (5Y 3/1) fine sand; single grain; nonfluid; moderate sulphurous odor; strongly saline; moderately alkaline (pH 8.1); slightly alkaline (pH 7.8) after 8 weeks; clear boundary. (0 to 30 cm thick.)

WIrr2 Indian River sand, 1 to 2 meter water depth, relict, flat

Map unit setting:
- Depth: 1 to 2 meters
- Slope: 0 to 2%

Map unit composition:
- Indian River: 90%
- Other soils: 10%

Indian River
- Setting
  - Landform: Relict Flood Tidal Delta Flats
  - Landscape Position: Toeslope
  - Parent material: Sandy Marine and Estuarine Deposits
- Properties and qualities:
  - Acid sulfate potential: High throughout
  - Carbon sequestration potential: Low
  - Fluidity: Nonfluid
  - Buried Organics: None
- Taxonomic Classification: Siliceous, mesic Sulfic Psammowassents* (*taxadjunct to series)

Typical profile:

Cse1 - 0 to 9 cm; light olive gray (5Y 6/2) sand, light greenish gray (10Y 7/1) dry; single grain; nonfluid; slight sulphurous odor; strongly saline; moderately alkaline (pH 8.0); slightly alkaline (pH 7.6) after 8 weeks; abrupt boundary.

Cse2 - 9 to 48 cm; light gray (5Y 7/2) fine sand; single grain; nonfluid; moderate sulphurous odor; stongly saline; moderately alkaline (pH 7.9); slightly alkaline (pH 7.7) after 8 weeks; gradual boundary.

Cse3 - 48 to 65 cm; gray (5Y 6/1) fine sand; single grain; nonfluid; moderate sulphurous odor; strongly saline; moderately alkaline (pH 7.9); slightly alkaline (pH 7.8) after 8 weeks; gradual boundary.

Cse4 - 65 to 100 cm; gray (5Y 6/1) fine sand; single grain; nonfluid; moderate sulphurous odor; strongly saline; slightly alkaline (pH 7.8); slightly alkaline (pH 7.8) after 8 weeks; gradual boundary. (Combined thickness of Cg horizons 30 to 100 cm thick.)

Cse5 - 100 to 165 cm; very dark gray (5Y 3/1) fine sand; single grain; nonfluid; moderate sulphurous odor; strongly saline; moderately alkaline (pH 8.1); slightly alkaline (pH 7.8) after 8 weeks; clear boundary. (0 to 30 cm thick.)

WIrs1 Indian River sand, 0 to 1 meter water depth, relict, slope

Map unit setting:
- Depth: 0 to 1 meter
- Slope: 2 to 5%

Map unit composition:
- Indian River: 90%
- Other soils: 10%

Indian River
- Setting
  - Landform: Relict Flood Tidal Delta Slopes
  - Landscape Position: Backslope
  - Parent material: Sandy Marine and Estuarine Deposits
- Properties and qualities:
  - Acid sulfate potential: High throughout
  - Carbon sequestration potential: Low
  - Fluidity: Nonfluid
  - Buried Organics: None
- Taxonomic Classification: Siliceous, mesic Sulfic Psammowassents* (*taxadjunct to series)

Typical profile:

Cse1 - 0 to 9 cm; light olive gray (5Y 6/2) sand, light greenish gray (10Y 7/1) dry; single grain; nonfluid; slight sulphurous odor; strongly saline; moderately alkaline (pH 8.0); slightly alkaline (pH 7.6) after 8 weeks; abrupt boundary.

Cse2 - 9 to 48 cm; light gray (5Y 7/2) fine sand; single grain; nonfluid; moderate sulphurous odor; stongly saline; moderately alkaline (pH 7.9); slightly alkaline (pH 7.7) after 8 weeks; gradual boundary.

Cse3 - 48 to 65 cm; gray (5Y 6/1) fine sand; single grain; nonfluid; moderate sulphurous odor; strongly saline; moderately alkaline (pH 7.9); slightly alkaline (pH 7.8) after 8 weeks; gradual boundary.

Cse4 - 65 to 100 cm; gray (5Y 6/1) fine sand; single grain; nonfluid; moderate sulphurous odor; strongly saline; slightly alkaline (pH 7.8); slightly alkaline (pH 7.8) after 8 weeks; gradual boundary. (Combined thickness of Cg horizons 30 to 100 cm thick.)

Cse5 - 100 to 165 cm; very dark gray (5Y 3/1) fine sand; single grain; nonfluid; moderate sulphurous odor; strongly saline; moderately alkaline (pH 8.1); slightly alkaline (pH 7.8) after 8 weeks; clear boundary. (0 to 30 cm thick.)

WIrs2 Indian River sand, 1 to 2 meter water depths, relict, slope

Map unit setting:
- Depth: 1 to 2 meters
- Slope: 2 to 5%

Map unit composition:
- Indian River: 90%
- Other soils: 10%

Indian River

Setting
- Landform: Relict Flood Tidal Delta Slopes
- Landscape Position: Backslope
- Parent material: Sandy Marine and Estuarine Deposits

Properties and qualities:
- Acid sulfate potential: Hich throughout
- Carbon sequestration potential: Low
- Fluidity: Nonfluid
- Buried Organics: None

Taxonomic Classification: Siliceous, mesic Sulfic Psammowassents* (* taxadjunct to series)

Typical profile:

Cse1 - 0 to 9 cm; light olive gray (5Y 6/2) sand, light greenish gray (10Y 7/1) dry; single grain; nonfluid; slight sulphurous odor; strongly saline; moderately alkaline (pH 8.0); slightly alkaline (pH 7.6) after 8 weeks; abrupt boundary.

Cse2 - 9 to 48 cm; light gray (5Y 7/2) fine sand; single grain; nonfluid; moderate sulphurous odor; stongly saline; moderately alkaline (pH 7.9); slightly alkaline (pH 7.7) after 8 weeks; gradual boundary.

Cse3 - 48 to 65 cm; gray (5Y 6/1) fine sand; single grain; nonfluid; moderate sulphurous odor; strongly saline; moderately alkaline (pH 7.9); slightly alkaline (pH 7.8) after 8 weeks; gradual boundary.

Cse4 - 65 to 100 cm; gray (5Y 6/1) fine sand; single grain; nonfluid; moderate sulphurous odor; strongly saline; slightly alkaline (pH 7.8); slightly alkaline (pH 7.8) after 8 weeks; gradual boundary. (Combined thickness of Cg horizons 30 to 100 cm thick.)

Cse5 - 100 to 165 cm; very dark gray (5Y 3/1) fine sand; single grain; nonfluid; moderate sulphurous odor; strongly saline; moderately alkaline (pH 8.1); slightly alkaline (pH 7.8) after 8 weeks; clear boundary. (0 to 30 cm thick.)

WIrz2 Indian River sand, 1 to 2 meter water depth, active, slope

Map unit setting:
- Depth: 1 to 2 meters
- Slope: 2 to 5%

Map unit composition:
- Indian River: 90%
- Other soils: 10%

Indian River
- Setting
  - Landform: Active Flood Tidal Delta Slopes
  - Landscape Position: Backslope
  - Parent material: Sandy Marine and Estuarine Deposits
- Properties and qualities:
  - Acid sulfate potential: Low throughout
  - Carbon sequestration potential: Low
  - Fluidity: Nonfluid
  - Buried Organics: None
- Taxonomic Classification: Siliceous, mesic Fluventic Psammowassents

Typical profile:

Cg1 - 0 to 9 cm; light olive gray (5Y 6/2) sand, light greenish gray (10Y 7/1) dry; single grain; nonfluid; strongly saline; moderately alkaline (pH 8.0); slightly alkaline (pH 7.6) after 8 weeks; abrupt boundary.

Cg2 - 9 to 48 cm; light gray (5Y 7/2) fine sand; single grain; nonfluid; stongly saline; moderately alkaline (pH 7.9); slightly alkaline (pH 7.7) after 8 weeks; gradual boundary.

Cg3 - 48 to 65 cm; gray (5Y 6/1) fine sand; single grain; nonfluid; strongly saline; moderately alkaline (pH 7.9); slightly alkaline (pH 7.8) after 8 weeks; gradual boundary.

Cg4 - 65 to 100 cm; gray (5Y 6/1) fine sand; single grain; nonfluid; strongly saline; slightly alkaline (pH 7.8); slightly alkaline (pH 7.8) after 8 weeks; gradual boundary. (Combined thickness of Cg horizons 30 to 100 cm thick.)

CA - 100 to 115 cm; very dark gray (5Y 3/1) fine sand; single grain; nonfluid; strongly saline; moderately alkaline (pH 8.1); slightly alkaline (pH 7.8) after 8 weeks; clear boundary. (0 to 30 cm thick.)

Ab - 115 to 150 cm; black (N 2.5/) fine sand; massive; nonfluid; strongly saline; few medium shell fragments, common medium and coarse plant fragments; moderately alkaline (pH 8.4); slightly alkaline (pH 7.4) after 8 weeks; clear boundary. (0 to 35 cm thick.)

C'g - 150 to 161 cm; black (5Y 2.5/1) fine sand; single grain; nonfluid; strongly saline; few fine and medium macroalgal fragments; strongly alkaline (pH 8.8); slightly alkaline (pH 7.7) after 8 weeks; clear boundary. (10 to 85 cm thick.)

A'b - 161 to 181 cm; black (N 2.5/) fine sand; single grain; nonfluid; strongly saline; strongly alkaline (pH 8.8); slightly alkaline (pH 7.6) after 8 weeks; common fine and medium plant fragments; clear boundary. (0 to 30 cm thick.)

C''g - 181 to 200 cm; black (5Y 2.5/1) fine sand; single grain; nonfluid; strongly saline; 5 percent fine and medium shell fragments; strongly alkaline (pH 8.7); slightly alkaline (pH 7.7) after 8 weeks.

WSn1 Sinepuxent sand, 0 to 1 meter water depth

Map unit setting:
- Depth: 0 to 1 meter
- Slope: 0 to 5%

Map unit composition:
- Sinepuxent: 90%
- Other soils: 10%

Sinepuxent
- Setting
  - Landform: Dredge Deposit Shoal (Anthopogenic Fill Feature)
  - Landscape Position: Backslope
  - Parent material: Mixed Dredge Spoil Materials
- Properties and qualities:
  - Acid sulfate potential: High throughout
  - Carbon sequestration potential: Low
  - Fluidity: Nonfluid
  - Buried Organics: None
- Taxonomic Classification: Coarse-loamy, siliceous, subactive, nonacid, mesic Typic Sulfiwassents

Typical profile:

Ase - 0 to 8 cm; dark olive gray (5Y 3/2) sand; single grain; very friable; few fine and very fine roots; 5 percent, by volume shell fragments; moderately alkaline; strongly saline; clear smooth boundary. (3 to 15 centimeters thick)

2Cse1 - 8 to 48 cm; very dark greenish gray (5GY 3/1) sandy loam; few fine faint dark gray (5Y 4/1) mottles; massive; friable; n-value 0.8, material flows with difficulty between fingers when squeezed; few very fine roots; 1 percent, by volume shell fragments; moderately alkaline; strongly saline; clear smooth boundary. (15 to 51 centimeters thick)

3Cg - 48 to 97 cm; very dark gray (5Y 3/1) sand; few medium distinct gray (5Y 5/1) mottles; single grain; loose; 10 percent, by volume shell fragments; slightly alkaline; strongly saline; gradual smooth boundary. (10 to 38 centimeters thick)

4Cse2 - 97 to 152 cm; very dark gray (N 3/0) very fine sandy loam; massive; friable; n-value 0.8, material flows with difficulty between fingers when squeezed; 2 percent, by volume shell fragments; 3 percent, by volume very dark grayish brown (10YR 3/2) organic fragments; slightly alkaline; strongly saline.

WTf2 Tingles-Figgs complex, 1 to 2 meter water depth

Map unit setting:
- Depth: 1 to 2 meters
- Slope: 0 to 0.2 %

Map unit composition:
- Tingles: 45%
- Figgs: 40%
- Other soils: 15%

Tingles

Setting
- Landform: Lagoon bottoms
- Landscape Position: Toeslope
- Parent material: Fine-silty Lagoonal Deposits

Properties and qualities:
- Acid sulfate potential: High throughout
- Carbon sequestration potential: Low
- Fluidity: Very Fluid
- Buried Organics: None

Taxonomic Classification: Fine-silty, mixed, subactive, nonacid, mesic Fluventic Sulfiwassents

Typical profile:

Ag – 0 to 8 cm; very dark greenish gray (10Y 2.5/1) silty clay loam; massive; very sticky; very fluid; abrupt boundary.

Cse – 8 to 245 cm; very dark greenish gray (10Y 3/1) silty clay loam; massive; very sticky; very fluid; sulphurous odor; slightly alkaline (initial pH 7.7); ultra acid (final pH 3.2 after 15 weeks); slightly saline.

Figgs

Setting
- Landform: Lagoon bottoms, mainland coves, and submerged wave-cut headlands
- Landscape Position: Toeslope
- Parent material: Fine-loamy Lagoonal Deposits

Properties and qualities:
- Acid sulfate potential: High throughout
- Carbon sequestration potential: Low
- Fluidity: Moderately to Very Fluid
- Buried Organics: None

Taxonomic Classification: Fine-loamy, mixed, subactive, nonacid, mesic Fluventic Sulfiwassents

Typical profile:

Ase1 – 0 to 3 cm; very dark gray (5Y 3.5/1) loam; massive; non-sticky; fluid; sulphurous odor; abrupt boundary.

Ase2 – 3 to 17 cm; very dark greenish gray (10Y 2.5/1) fine sandy loam; massive; non-sticky; fluid; 1 percent shall fragments; sulphurous odor; abrupt boundary.

2Cse1 – 17 to 52 cm; very dark greenish gray (10Y 3/1) clay loam; massive; slightly sticky; very fluid; 15 percent shells; sulphurous odor; clear boundary.

2Cse2 – 52 to 143 cm; very dark greenish gray (5GY 3.5/1) clay loam; massive; slightly sticky; very fluid; sulphurous odor.

WTf3 Tingles-Figgs complex, 2 to 3 meter water depth

Map unit setting:
- Depth: 2 to 3 meters
- Slope: 0 to 0.2 %

Map unit composition:
- Tingles: 45%
- Figgs: 40%
- Other soils: 15%

Tingles

Setting
- Landform: Lagoon bottoms
- Landscape Position: Toeslope
- Parent material: Fine-silty Lagoonal Deposits

Properties and qualities:
- Acid sulfate potential: High throughout
- Carbon sequestration potential: Low
- Fluidity: Very Fluid
- Buried Organics: None

Taxonomic Classification: Fine-silty, mixed, subactive, nonacid, mesic Fluventic Sulfiwassents

Typical profile:

Ag – 0 to 8 cm; very dark greenish gray (10Y 2.5/1) silty clay loam; massive; very sticky; very fluid; abrupt boundary.

Cse – 8 to 245 cm; very dark greenish gray (10Y 3/1) silty clay loam; massive; very sticky; very fluid; sulphurous odor; slightly alkaline (initial pH 7.7); ultra acid (final pH 3.2 after 15 weeks); slightly saline.

Figgs

Setting
- Landform: Lagoon bottoms, mainland coves, and submerged wave-cut headlands
- Landscape Position: Toeslope
- Parent material: Fine-loamy Lagoonal Deposits

Properties and qualities:
- Acid sulfate potential: High throughout
- Carbon sequestration potential: Low
- Fluidity: Moderately to Very Fluid
- Buried Organics: None

Taxonomic Classification: Fine-loamy, mixed, subactive, nonacid, mesic Fluventic Sulfiwassents

Typical profile:

Ase1 – 0 to 3 cm; very dark gray (5Y 3.5/1) loam; massive; non-sticky; fluid; sulphurous odor; abrupt boundary.

Ase2 – 3 to 17 cm; very dark greenish gray (10Y 2.5/1) fine sandy loam; massive; non-sticky; fluid; 1 percent shall fragments; sulphurous odor; abrupt boundary.

2Cse1 – 17 to 52 cm; very dark greenish gray (10Y 3/1) clay loam; massive; slightly sticky; very fluid; 15 percent shells; sulphurous odor; clear boundary.

2Cse2 – 52 to 143 cm; very dark greenish gray (5GY 3.5/1) clay loam; massive; slightly sticky; very fluid; sulphurous odor.

WTf4 Tingles-Figgs complex, 3 to 4 meter water depth

Map unit setting:
- Depth: 3 to 4 meters
- Slope: 0 to 0.2 %

Map unit composition:
- Tingles: 45%
- Figgs: 40%
- Other soils: 15%

Tingles

Setting
- Landform: Lagoon bottoms
- Landscape Position: Toeslope
- Parent material: Fine-silty Lagoonal Deposits

Properties and qualities:
- Acid sulfate potential: High throughout
- Carbon sequestration potential: Low
- Fluidity: Very Fluid
- Buried Organics: None

Taxonomic Classification: Fine-silty, mixed, subactive, nonacid, mesic Fluventic Sulfiwassents

Typical profile:

Ag – 0 to 8 cm; very dark greenish gray (10Y 2.5/1) silty clay loam; massive; very sticky; very fluid; abrupt boundary.

Cse – 8 to 245 cm; very dark greenish gray (10Y 3/1) silty clay loam; massive; very sticky; very fluid; sulphurous odor; slightly alkaline (initial pH 7.7); ultra acid (final pH 3.2 after 15 weeks); slightly saline.

Figgs

Setting
- Landform: Lagoon bottoms, mainland coves, and submerged wave-cut headlands
- Landscape Position: Toeslope
- Parent material: Fine-loamy Lagoonal Deposits

Properties and qualities:
- Acid sulfate potential: High throughout
- Carbon sequestration potential: Low
- Fluidity: Moderately to Very Fluid
- Buried Organics: None

Taxonomic Classification: Fine-loamy, mixed, subactive, nonacid, mesic Fluventic Sulfiwassents

Typical profile:

Ase1 – 0 to 3 cm; very dark gray (5Y 3.5/1) loam; massive; non-sticky; fluid; sulphurous odor; abrupt boundary.

Ase2 – 3 to 17 cm; very dark greenish gray (10Y 2.5/1) fine sandy loam; massive; non-sticky; fluid; 1 percent shall fragments; sulphurous odor; abrupt boundary.

2Cse1 – 17 to 52 cm; very dark greenish gray (10Y 3/1) clay loam; massive; slightly sticky; very fluid; 15 percent shells; sulphurous odor; clear boundary.

2Cse2 – 52 to 143 cm; very dark greenish gray (5GY 3.5/1) clay loam; massive; slightly sticky; very fluid; sulphurous odor.

WTr1 Trappe sand, 0 to 1 meter water depth

Map unit setting:
- Depth: 0 to 1 meter
- Slope: 0.10 to 1 %

Map unit composition:
- Truitt: 90%
- Other soils: 10%

Trappe
- Setting
  - Landform: Submerged Mainland Beaches and Wave-cut Platforms in Mainland Coves
  - Landscape Position: Toeslope
  - Parent material: Mixed Estuarine deposits underlain by sandy Paleo-terrestrial upland deposits
- Properties and qualities:
  - Acid sulfate potential: Low throughout
  - Carbon sequestration potential: Low
  - Fluidity: Slightly Fluid to Nonfluid
  - Buried Organics: None
- Taxonomic Classification: Siliceous, mesic Typic Psammowassents

Typical profile:

A - 0 to 5 cm; light olive brown (2.5Y 5/3) loam; common medium distinct black (N 2/0) mottles; massive; friable; n-value 0.9, material flows easily between fingers when squeezed; common fine and many very fine roots; moderately alkaline; strongly saline; abrupt smooth boundary. (1 to 6 inches thick)

Cg1 - 5 to 18 cm; very dark gray (5Y 3/1) sandy loam; few fine faint dark gray (5Y 4/1) mottles; massive; friable; n-value 0.8, material flows with some difficulty between fingers when squeezed; few fine and many very fine roots; moderately alkaline; strongly saline; clear smooth boundary.

Cg2 - 18 to 38 cm; olive gray (5Y 4/2) sand; few fine distinct dark gray (N 4/0) mottles; single grain; loose; 20 percent, by volume shell fragments; 2 percent, by volume dark brown (7.5YR 3/3) organic fragments; few very fine roots; slightly alkaline; strongly saline; clear smooth boundary. (Combined thickness of the Cg horizon is 15 to 24 inches.)

C1 - 38 to 84 cm; light olive brown (2.5Y 5/3) sand; single grain; loose; 1percent dark brown (7.5YR 3/3) organic fragments; slightly alkaline; strongly saline; abrupt smooth boundary. (20 to 48 inches thick)

2C2 - 84 to 152 cm; olive (5Y 5/4) coarse sand; few medium prominent very dark gray (5Y 3/1) mottles; single grain; loose; 5 percent, by volume gravel; slightly alkaline; strongly saline.

WTs1 Truitt-Southpoint-Tumagan complex, 0 to 1 meter water depth

Map unit setting:
- Depth: 0 to 1 meter
- Slope: 0.10 to 0.50 %

Map unit composition:
- Truitt: 40%
- Southpoint: 30%
- Tumagan: 20%
- Other soils: 10%

Truitt

Setting
- Landform: Mainland Coves and Submerged Wave Cut Headlands
- Landscape Position: Toeslope
- Parent material: Fine-silty Marine and Estuarine Deposits over Buried Organic Materials

Properties and qualities:
- Acid sulfate potential: High throughout
- Carbon sequestration potential: High
- Fluidity: Very Fluid
- Buried Organics: > 1.5 meters

Taxonomic Classification: Fine-silty, mixed, subactive, nonacid, mesic Fluventic Sulfiwassents

Typical profile:

Ase – 0 to 2 cm; very dark gray (5Y 3/1) silt loam; massive; non sticky; very fluid; sulphurous odor; abrupt boundary.

Cse1 – 2 to 76 cm; very dark greenish gray (10Y 3/1) silt loam; massive; moderately sticky; very fluid; sulphurous odor; slightly alkaline (initial pH 7.6); ultra acid (final pH 2.7 after 24 weeks); slighty saline; clear boundary.

Cse2 – 76 to 95 cm; very dark greenish gray (10Y 3/1) loam; massive; moderately sticky; very fluid; sulphurous odor; slightly alkaline (initial pH 7.8); ultra acid (final pH 2.9 after 24 weeks); slightly saline; clear boundary.

Cse3 – 95 to 131 cm; very dark greenish gray (10Y 3/1) silty clay loam; massive; moderately sticky; very fluid; 3 percent shell fragments; sulphurous odor; slightly alkaline (initial pH 7.5); ultra acid (final pH 3.0 after 24 weeks); very slightly saline; clear boundary.

Cse4 – 131 to 145 cm; very dark greenish gray (10Y 3/1) silty clay loam; massive; moderately sticky; very fluid; 2 percent light olive brown (2.5Y 5/6) herbaceous fibers; sulphurous odor; slightly alkaline (initial pH 7.6); ultra acid (final pH 2.7 after 24 weeks); slightly saline; clear boundary.

Cse5 – 145 to 168 cm; dark olive gray (5Y 3/2) with some very dark greenish gray (10Y 3.5/1) areas silty clay; massive; slightly sticky; very fluid; 15 percent light olive brown (2.5Y 5/6) herbaceous fibers; 2 percent shell fragments; sulphurous odor; slightly alkaline (initial pH 7.4); ultra acid (final pH 2.9 after 24 weeks); slightly saline; clear boundary.

Oab/Cse – 168 to 195 cm; dark gray (5Y 4/1) mucky silty clay loam; massive; slightly sticky; very fluid; 15 percent light olive brown (2.5Y 5/6) herbaceous fibers; sulphurous odor; slightly alkaline (initial pH 7.5); ultra acid (final pH 2.6 after 24 weeks); slightly saline; abrupt boundary.

Oabse1 – 195 to 213 cm; dark olive gray (5Y 3/2) muck; 40 percent light olive brown (2.5Y 5/4) herbaceous fibers; sulphurous odor; slightly alkaline (initial pH 7.6); ultra acid (final pH 2.3 after 24 weeks); slightly saline; clear boundary.

Oabse2 – 213 to 224 cm; black (10YR 2/1) muck; sulphurous odor; clear boundary.

Abse – 224 to 245 cm; black (10YR 2/1) mucky loam; massive; slightly sticky; fluid; sulphurous odor; neutral (initial pH 6.9); ultra acid (final pH 2.3 after 24 weeks); non-saline; clear boundary.

Cgb1 – 245 to 260 cm; dark greenish gray (5GY 4/1) loam; massive; moderately sticky; fluid; neutral (initial pH 6.7); ultra acid (final pH 2.3 after 24 weeks); non-saline; clear boundary.

Cgb2 – 260 to 266 cm; greenish gray (5GY 5/1) sandy loam; massive; slightly sticky; fluid; common olive (5Y 5/4) iron accumulations; slightly acid (initial pH 6.4); ultra acid (final pH 2.1 after 24 weeks).

Southpoint

Setting

Landform: Mainland Coves and Submerged Wave Cut Headlands
Landscape Position: Toeslope
Parent material: Fine-silty Marine and Estuarine Deposits over Buried Organic Material

Properties and qualities:

Acid sulfate potential: High throughout
Carbon sequestration potential: High
Fluidity: Moderately Fluid
Buried Organics: <1.0 meters

Taxonomic Classification: Fine-silty, mixed, subactive, nonacid, mesic Thapto-Histic Sulfiwassent

Typical profile:

Ag - 0 to 5 cm; black (N 2.5/0) sand; single grain; loose; 5 percent, by volume black (10YR 2/1) organic fragments; moderately alkaline; strongly saline; abrupt smooth boundary. (1 to 5 inches thick)

Cg - 5 to 10 cm; very dark gray (5Y 3/1) loam; single grain; loose; moderately alkaline; strongly saline; abrupt smooth boundary. (0 to 9 inches thick)

2Cse1 - 10 to 23 cm; dark olive gray (5Y 3/2) silty clay; massive; firm; n-value 1.0, material flows easily between fingers when squeezed; slightly alkaline; strongly saline; clear smooth boundary.

2Cse2 - 23 to 56 cm; dark bluish gray (10B 4/1) silty clay loam; massive; firm; n-value 1.0, material flows easily between fingers when squeezed; slightly alkaline; strongly saline; clear smooth boundary.

2Cse3 - 56 to 91 cm; inches; olive gray (5Y 4/2) silty clay; massive; firm; n-value 1.0, material flows easily between fingers when squeezed; slightly alkaline; strongly saline; clear smooth boundary. (24 to 38 inches thick)

Oeb - 91 to 122 cm; dark brown (7.5YR 3/2) mucky peat; hemic soil material, 50 percent, by volume rubbed fiber; 20 percent, by volume light olive brown (2.5Y 5/4) organic fragments; slightly alkaline; strongly saline; gradual smooth boundary.

Oab - 122 to 152 cm; black (N 2.5/0) muck; sapric soil material, 10 percent, by volume rubbed fiber; slightly alkaline; strongly saline. (Combined thickness of the O horizon is 8 or more inches thick.)

Tumagan

Setting

Landform: Mainland Coves and Submerged Marsh
Landscape Position: Toeslope
Parent material: Submerged Organic Materials

Properties and qualities:

Acid sulfate potential: High throughout
Carbon sequestration potential: Very High
Fluidity: Highly Fluid

Taxonomic Classification: Euic, mesic Sapric Sulfiwassists

Typical profile:

Ase – 0 to 2 cm; dark gray (5Y 4/1) sandy loam; massive; slightly sticky; non-fluid; sulphurous odor; abrupt boundary.

Cse – 2 to 6 cm; very dark greenish black (10Y 3.5/1) silty clay; massive; slightly sticky; very fluid; 10 percent light olive brown (2.5Y 5/6) herbaceous fibers; sulphurous odor; clear boundary.

Oase – 6 to 24 cm; dark olive gray (5Y 3/2) muck; sulphurous odor; clear boundary.

C'se – 24 to 39 cm; very dark greenish gray (10Y 3.5/1) mucky silty clay loam; massive; slightly sticky; very fluid; sulphurous odor; clear boundary.

Oabse1 – 39 to 71 cm; dark olive gray (2.5Y 3/2) muck; sulphurous odor; clear boundary.

Oabse2 – 71 to 103 cm; black (10YR 2/1) muck; sulphurous odor; clear boundary.

C''se – 103 to 160 cm; very dark greenish gray (5GY 3.5/1) silty clay; massive; slightly sticky; very fluid; 25 percent olive yellow (5Y 6/6) herbaceous fibers; sulphurous odor; clear boundary.

Oabse3 – 160 to 210 cm; very dark brown (10YR 2/2) muck; sulphurous odor; clear boundary.

2Abse – 210 to 220 cm; black (10YR 2/1) loam; massive; slightly sticky; moderately fluid; 7 percent olive brown (2.5Y 4/4) herbaceous fibers; sulphurous odor; clear boundary.

2Cbse – 220 to 229 cm; very dark greenish gray (10Y 3/1) sandy loam; massive; slightly sticky; non-fluid; sulphurous odor.

WTs2 Truitt-Southpoint-Tumagan complex, 1 to 2 meter water depth

Map unit setting:
- Depth: 1 to 2 meter
- Slope: 0.10 to 0.50 %

Map unit composition:
- Truitt: 40%
- Southpoint: 30%
- Tumagan: 20%
- Other soils: 10%

Truitt

Setting
- Landform: Mainland Coves and Submerged Wave Cut Headlands
- Landscape Position: Toeslope
- Parent material: Fine-silty Marine and Estuarine Deposits over Buried Organic Material

Properties and qualities:
- Acid sulfate potential: High throughout
- Carbon sequestration potential: High
- Fluidity: Very Fluid
- Buried Organics: > 1.5 meters

Taxonomic Classification: Fine-silty, mixed, subactive, nonacid, mesic Fluventic Sulfiwassents

Typical profile:

Ase – 0 to 2 cm; very dark gray (5Y 3/1) silt loam; massive; non sticky; very fluid; sulphurous odor; abrupt boundary.

Cse1 – 2 to 76 cm; very dark greenish gray (10Y 3/1) silt loam; massive; moderately sticky; very fluid; sulphurous odor; slightly alkaline (initial pH 7.6); ultra acid (final pH 2.7 after 24 weeks); slighty saline; clear boundary.

Cse2 – 76 to 95 cm; very dark greenish gray (10Y 3/1) loam; massive; moderately sticky; very fluid; sulphurous odor; slightly alkaline (initial pH 7.8); ultra acid (final pH 2.9 after 24 weeks); slightly saline; clear boundary.

Cse3 – 95 to 131 cm; very dark greenish gray (10Y 3/1) silty clay loam; massive; moderately sticky; very fluid; 3 percent shell fragments; sulphurous odor; slightly alkaline (initial pH 7.5); ultra acid (final pH 3.0 after 24 weeks); very slightly saline; clear boundary.

Cse4 – 131 to 145 cm; very dark greenish gray (10Y 3/1) silty clay loam; massive; moderately sticky; very fluid; 2 percent light olive brown (2.5Y 5/6) herbaceous fibers; sulphurous odor; slightly alkaline (initial pH 7.6); ultra acid (final pH 2.7 after 24 weeks); slightly saline; clear boundary.

Cse5 – 145 to 168 cm; dark olive gray (5Y 3/2) with some very dark greenish gray (10Y 3.5/1) areas silty clay; massive; slightly sticky; very fluid; 15 percent light olive brown (2.5Y 5/6) herbaceous fibers; 2 percent shell fragments; sulphurous odor; slightly alkaline (initial pH 7.4); ultra acid (final pH 2.9 after 24 weeks); slightly saline; clear boundary.

Oab/Cse – 168 to 195 cm; dark gray (5Y 4/1) mucky silty clay loam; massive; slightly sticky; very fluid; 15 percent light olive brown (2.5Y 5/6) herbaceous fibers; sulphurous odor; slightly alkaline (initial pH 7.5); ultra acid (final pH 2.6 after 24 weeks); slightly saline; abrupt boundary.

Oabse1 – 195 to 213 cm; dark olive gray (5Y 3/2) muck; 40 percent light olive brown (2.5Y 5/4) herbaceous fibers; sulphurous odor; slightly alkaline (initial pH 7.6); ultra acid (final pH 2.3 after 24 weeks); slightly saline; clear boundary.

Oabse2 – 213 to 224 cm; black (10YR 2/1) muck; sulphurous odor; clear boundary.

Abse – 224 to 245 cm; black (10YR 2/1) mucky loam; massive; slightly sticky; fluid; sulphurous odor; neutral (initial pH 6.9); ultra acid (final pH 2.3 after 24 weeks); non-saline; clear boundary.

Cgb1 – 245 to 260 cm; dark greenish gray (5GY 4/1) loam; massive; moderately sticky; fluid; neutral (initial pH 6.7); ultra acid (final pH 2.3 after 24 weeks); non-saline; clear boundary.

Cgb2 – 260 to 266 cm; greenish gray (5GY 5/1) sandy loam; massive; slightly sticky; fluid; common olive (5Y 5/4) iron accumulations; slightly acid (initial pH 6.4); ultra acid (final pH 2.1 after 24 weeks).

Southpoint

Setting

Landform: Mainland Coves and Submerged Wave Cut Headlands
Landscape Position: Toeslope
Parent material: Fine-silty Marine and Estuarine Deposits over Buried Organic Material

Properties and qualities:

Acid sulfate potential: High throughout
Carbon sequestration potential: High
Fluidity: Moderately Fluid
Buried Organics: <1.0 meters

Taxonomic Classification: Fine-silty, mixed, subactive, nonacid, mesic Thapto-Histic Sulfiwassent

Typical profile:

Ag - 0 to 5 cm; black (N 2.5/0) sand; single grain; loose; 5 percent, by volume black (10YR 2/1) organic fragments; moderately alkaline; strongly saline; abrupt smooth boundary. (1 to 5 inches thick)

Cg - 5 to 10 cm; very dark gray (5Y 3/1) loam; single grain; loose; moderately alkaline; strongly saline; abrupt smooth boundary. (0 to 9 inches thick)

2Cse1 - 10 to 23 cm; dark olive gray (5Y 3/2) silty clay; massive; firm; n-value 1.0, material flows easily between fingers when squeezed; slightly alkaline; strongly saline; clear smooth boundary.

2Cse2 - 23 to 56 cm; dark bluish gray (10B 4/1) silty clay loam; massive; firm; n-value 1.0, material flows easily between fingers when squeezed; slightly alkaline; strongly saline; clear smooth boundary.

2Cse3 - 56 to 91 cm; inches; olive gray (5Y 4/2) silty clay; massive; firm; n-value 1.0, material flows easily between fingers when squeezed; slightly alkaline; strongly saline; clear smooth boundary. (24 to 38 inches thick)

Oeb - 91 to 122 cm; dark brown (7.5YR 3/2) mucky peat; hemic soil material, 50 percent, by volume rubbed fiber; 20 percent, by volume light olive brown (2.5Y 5/4) organic fragments; slightly alkaline; strongly saline; gradual smooth boundary.

Oab - 122 to 152 cm; black (N 2.5/0) muck; sapric soil material, 10 percent, by volume rubbed fiber; slightly alkaline; strongly saline. (Combined thickness of the O horizon is 8 or more inches thick.)

Tumagan

Setting

Landform: Mainland Coves and Submerged Marsh
Landscape Position: Toeslope
Parent material: Submerged Organic Materials

Properties and qualities:

Acid sulfate potential: High throughout
Carbon sequestration potential: Very High
Fluidity: Highly Fluid

Taxonomic Classification: Euic, mesic Sapric Sulfiwassists

Typical profile:

Ase – 0 to 2 cm; dark gray (5Y 4/1) sandy loam; massive; slightly sticky; non-fluid; sulphurous odor; abrupt boundary.

Cse – 2 to 6 cm; very dark greenish black (10Y 3.5/1) silty clay; massive; slightly sticky; very fluid; 10 percent light olive brown (2.5Y 5/6) herbaceous fibers; sulphurous odor; clear boundary.

Oase – 6 to 24 cm; dark olive gray (5Y 3/2) muck; sulphurous odor; clear boundary.

C'se – 24 to 39 cm; very dark greenish gray (10Y 3.5/1) mucky silty clay loam; massive; slightly sticky; very fluid; sulphurous odor; clear boundary.

Oabse1 – 39 to 71 cm; dark olive gray (2.5Y 3/2) muck; sulphurous odor; clear boundary.

Oabse2 – 71 to 103 cm; black (10YR 2/1) muck; sulphurous odor; clear boundary.

C''se – 103 to 160 cm; very dark greenish gray (5GY 3.5/1) silty clay; massive; slightly sticky; very fluid; 25 percent olive yellow (5Y 6/6) herbaceous fibers; sulphurous odor; clear boundary.

Oabse3 – 160 to 210 cm; very dark brown (10YR 2/2) muck; sulphurous odor; clear boundary.

2Abse – 210 to 220 cm; black (10YR 2/1) loam; massive; slightly sticky; moderately fluid; 7 percent olive brown (2.5Y 4/4) herbaceous fibers; sulphurous odor; clear boundary.

2Cbse – 220 to 229 cm; very dark greenish gray (10Y 3/1) sandy loam; massive; slightly sticky; non-fluid; sulphurous odor.

Map Unit Description

Ocean County, New Jersey

AptAv Appoquinimink-Transquaking-Mispillion complex, 0 to 1 percent slopes, very frequently flooded

Setting

Landscape: Coastal plains
Elevation: 10 to 120 feet
Mean annual precipitation: 40 to 48 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 180 to 215 days

Composition

Appoquinimink, very frequently flooded, and similar soils: 40 percent
Transquaking, very frequently flooded, and similar soils: 30 percent
Mispillion, very frequently flooded, and similar soils: 25 percent
Minor components: 5 percent

Description of Appoquinimink, very frequently flooded

Setting

Landform: Tidal marshes
Landform position (two-dimensional): Toeslope
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Loamy fluviomarine deposits over herbaceous organic material

Properties and Qualities

Slope: 0 to 1 percent
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high or high (0.20 to 2.00 in/hr)
Depth to water table: About 0 to 0 inches
Frequency of flooding: Very frequent
Frequency of ponding: Frequent
Calcium carbonate maximum: 0 percent
Gypsum maximum: 0 percent
Salinity maximum: Moderately saline or strongly saline (16.0 to 32.0 mmhos/cm)
Available water capacity: Very high (about 17.7 inches)

Interpretive Groups

Land capability (non irrigated): 8w

Typical Profile

0 to 12 inches: mucky silt loam
12 to 30 inches: silt loam
30 to 80 inches: mucky peat

Description of Transquaking, very frequently flooded

Setting

Landform: Tidal marshes
Landform position (two-dimensional): Toeslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Herbaceous organic material over loamy

Properties and Qualities

Slope: 0 to 1 percent
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low or moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 0 inches
Frequency of flooding: Very frequent
Frequency of ponding: Frequent
Calcium carbonate maximum: 0 percent
Gypsum maximum: 0 percent
Salinity maximum: Slightly saline or strongly saline (8.0 to 32.0 mmhos/cm)
Available water capacity: Very high (about 26.9 inches)

Interpretive Groups

Land capability (non irrigated): 8w

Typical Profile

0 to 14 inches: mucky peat
14 to 60 inches: muck
60 to 90 inches: silty clay

Description of Mispillion, very frequently flooded

Setting

Landform: Tidal marshes
Landform position (two-dimensional): Toeslope
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Herbaceous organic material over loamy marine deposits and/or loamy fluviomarine deposits

Properties and Qualities

Slope: 0 to 1 percent
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 0 to 0 inches
Frequency of flooding: Very frequent
Frequency of ponding: Frequent
Calcium carbonate maximum: 0 percent
Gypsum maximum: 0 percent
Salinity maximum: Slightly saline or moderately saline (8.0 to 16.0 mmhos/cm)
Available water capacity: Very high (about 15.5 inches)

Interpretive Groups

Land capability (non irrigated): 8w

Typical Profile

0 to 10 inches: mucky peat
10 to 26 inches: muck
26 to 90 inches: silt loam

Minor Components

Hammonton soils

Percent of map unit: 5 percent
Landform: Depressions, flats
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear

AtsAt Atsion sand, tide flooded, 0 to 2 percent slopes

Setting

Landscape: Coastal plains
Mean annual precipitation: 42 to 48 inches
Mean annual air temperature: 48 to 55 degrees F
Frost-free period: 180 to 200 days

Composition

Atsion, tide flooded, and similar soils: 85 percent

Description of Atsion, tide flooded

Setting

Landform: Tidal marshes
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy fluviomarine deposits

Properties and Qualities

Slope: 0 to 2 percent
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Calcium carbonate maximum: 0 percent
Available water capacity: Low (about 5.3 inches)

Interpretive Groups

Land capability (non irrigated): 7w

Typical Profile

0 to 6 inches: sand
6 to 13 inches: sand
13 to 28 inches: loamy sand
28 to 60 inches: stratified sand to loamy sand

DocB Downer loamy sand, 0 to 5 percent slopes

Setting

Landscape: Coastal plains
Elevation: 0 to 130 feet
Mean annual precipitation: 40 to 48 inches
Mean annual air temperature: 50 to 57 degrees F
Frost-free period: 180 to 210 days

Composition

Downer and similar soils: 80 percent
Minor components: 20 percent

Description of Downer

Setting

Landform: Knolls, low hills
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Loamy fluviomarine deposits and/or gravelly fluviomarine deposits

Properties and Qualities

Slope: 0 to 5 percent
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high or high (0.60 to 6.00 in/hr)
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate maximum: 0 percent
Gypsum maximum: 0 percent
Available water capacity: Moderate (about 6.6 inches)

Interpretive Groups

Land capability (non irrigated): 2s

Typical Profile

0 to 10 inches: loamy sand
10 to 16 inches: loamy sand
16 to 36 inches: sandy loam
36 to 48 inches: loamy sand
48 to 80 inches: stratified sand to sandy loam

Minor Components

Evesboro soils

Percent of map unit: 5 percent
Landform: Dunes, low hills
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear

Hammonton soils

Percent of map unit: 5 percent
Landform: Flats, depressions
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear

Atsion soils

Percent of map unit: 5 percent
Landform: Flats
Landform position (two-dimensional): Footslope
Down-slope shape: Linear
Across-slope shape: Linear

Mullica, rarely flooded soils

Percent of map unit: 5 percent
Landform: Flood plains, depressions, drainageways
Landform position (two-dimensional): Toeslope

Down-slope shape: Concave, linear
Across-slope shape: Concave, linear

GamB Galloway loamy sand, 0 to 5 percent slopes

Setting

Landscape: Coastal plains
Elevation: 0 to 130 feet
Mean annual precipitation: 40 to 48 inches
Mean annual air temperature: 50 to 57 degrees F
Frost-free period: 180 to 210 days

Composition

Galloway and similar soils: 85 percent
Minor components: 15 percent

Description of Galloway

Setting

Landform: Flats, dunes
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Unconsolidated sandy marine deposits

Properties and Qualities

Slope: 0 to 5 percent
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): High or very high (6.00 to 20.00 in/hr)
Depth to water table: About 12 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate maximum: 0 percent
Gypsum maximum: 0 percent
Available water capacity: Low (about 4.9 inches)

Interpretive Groups

Land capability (non irrigated): 3w

Typical Profile

0 to 2 inches: loamy sand
2 to 10 inches: loamy sand
10 to 24 inches: loamy sand
24 to 36 inches: loamy sand
36 to 52 inches: sand
52 to 60 inches: sand

Minor Components

Mullica, rarely flooded soils

Percent of map unit: 5 percent
Landform: Flood plains, depressions, drainageways
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear

Atsion soils

Percent of map unit: 5 percent
Landform: Flats, drainageways
Landform position (two-dimensional): Footslope, toeslope
Down-slope shape: Linear
Across-slope shape: Concave, linear

Downer soils

Percent of map unit: 5 percent
Landform: Knolls, low hills
Down-slope shape: Convex, linear
Across-slope shape: Linear

HbmB Hammonton loamy sand, 0 to 5 percent slopes

Setting

Landscape: Coastal plains
Elevation: 0 to 120 feet
Mean annual precipitation: 40 to 48 inches
Mean annual air temperature: 50 to 57 degrees F
Frost-free period: 180 to 210 days

Composition

Hammonton and similar soils: 80 percent
Minor components: 20 percent

Description of Hammonton

Setting

Landform: Flats, depressions
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Parent material: Coarse-loamy fluviomarine deposits

Properties and Qualities

Slope: 0 to 5 percent
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 18 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate maximum: 0 percent
Gypsum maximum: 0 percent
Available water capacity: Moderate (about 6.9 inches)

Interpretive Groups

Land capability (non irrigated): 2w

Typical Profile

0 to 8 inches: loamy sand
8 to 18 inches: loamy sand
18 to 36 inches: sandy loam
36 to 80 inches: sand

Minor Components

Glassboro soils

Percent of map unit: 5 percent
Landform: Flats, drainageways
Landform position (two-dimensional): Toeslope
Down-slope shape: Linear
Across-slope shape: Concave, linear

Atsion soils

Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Concave

Mullica, rarely flooded soils

Percent of map unit: 5 percent
Landform: Flood plains, depressions, drainageways
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear

Fallsington soils

Percent of map unit: 5 percent

Landform: Flats, depressions
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear

HorsC Hooksan fine sand, 2 to 10 percent slopes

Setting

Landscape: Coastal plains
Mean annual precipitation: 42 to 48 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 190 to 210 days

Composition

Hooksan and similar soils: 85 percent
Minor components: 5 percent

Description of Hooksan

Setting

Landform: Dunes, barrier islands
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Sandy beach sand

Properties and Qualities

Slope: 2 to 10 percent
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High or very high (6.00 to 20.00 in/hr)
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate maximum: 0 percent
Gypsum maximum: 0 percent
Available water capacity: Very low (about 1.3 inches)

Interpretive Groups

Land capability (non irrigated): 7s

Typical Profile

0 to 3 inches: fine sand
3 to 10 inches: fine sand
10 to 46 inches: fine sand
46 to 60 inches: fine sand

Minor Components

Atsion, tide flooded soils

Percent of map unit: 5 percent
Landform: Barrier islands, depressions
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear

MakAt Manahawkin muck, 0 to 2 percent slopes, frequently flooded

Setting

Landscape: Coastal plains
Elevation: 0 to 140 feet
Mean annual precipitation: 40 to 48 inches
Mean annual air temperature: 50 to 57 degrees F
Frost-free period: 180 to 210 days

Composition

Manahawkin, frequently flooded, and similar soils: 85 percent
Minor components: 15 percent

Description of Manahawkin, frequently flooded

Setting

Landform: Swamps, flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Organic, woody material over sandy alluvium

Properties and Qualities

Slope: 0 to 2 percent
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): High or very high (2.00 to 20.00 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Calcium carbonate maximum: 0 percent
Gypsum maximum: 0 percent
Available water capacity: Very high (about 17.2 inches)

Interpretive Groups

Land capability (non irrigated): 7w

Typical Profile

0 to 13 inches: muck
13 to 26 inches: muck
26 to 47 inches: muck
47 to 80 inches: sand

Minor Components

Berryland, occasionally flooded soils

Percent of map unit: 5 percent
Landform: Flats, depressions, drainageways
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear

Mullica, rarely flooded soils

Percent of map unit: 5 percent
Landform: Flood plains, depressions, drainageways
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear

Atsion soils

Percent of map unit: 5 percent
Landform: Flats
Landform position (two-dimensional): Footslope
Down-slope shape: Linear
Across-slope shape: Linear

PssA Psamments, 0 to 3 percent slopes

Setting

Landscape: Coastal plains
Mean annual precipitation: 42 to 48 inches
Mean annual air temperature: 48 to 55 degrees F
Frost-free period: 180 to 200 days

Composition

Psamments, nearly level, and similar soils: 85 percent
Minor components: 15 percent

Description of Psamments, nearly level

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Anthropogenic features: Fills
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Sandy lateral spread deposits

Properties and Qualities

Slope: 0 to 3 percent
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High or very high (6.00 to 20.00 in/hr)
Depth to water table: About 48 to 48 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate maximum: 0 percent
Gypsum maximum: 0 percent
Available water capacity: Low (about 3.9 inches)

Interpretive Groups

Land capability (non irrigated): 7s

Typical Profile

0 to 6 inches: fine sand
6 to 30 inches: sand
30 to 72 inches: coarse sand

Minor Components

Atsion soils

Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Concave

Berryland, rarely flooded soils

Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Concave

Mullica soils

Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Concave

PstAt Psammaquents, sulfidic substratum, 0 to 3 percent slopes, frequently flooded

Setting

Landscape: Coastal plains
Elevation: 20 to 30 feet
Mean annual precipitation: 42 to 48 inches
Mean annual air temperature: 50 to 57 degrees F
Frost-free period: 180 to 200 days

Composition

Psammaquents, sulfidic substratum, frequently flooded, and similar soils: 85 percent
Minor components: 15 percent

Description of Psammaquents, sulfidic substratum, frequently flooded

Setting

Landform: Flats
Anthropogenic features: Filled marshlands
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy lateral spread deposits over organic material

Properties and Qualities

Slope: 0 to 3 percent
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high or very high (0.60 to 20.00 in/hr)
Depth to water table: About 0 to 0 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Calcium carbonate maximum: 0 percent
Gypsum maximum: 0 percent
Salinity maximum: Non saline or strongly saline (2.0 to 32.0 mmhos/cm)
Available water capacity: Moderate (about 7.9 inches)

Interpretive Groups

Land capability (non irrigated): 8w

Typical Profile

0 to 12 inches: coarse sand
12 to 36 inches: gravelly sand
36 to 43 inches: mucky peat
43 to 80 inches: mucky peat

Minor Components

Pawcatuck, very frequently flooded soils

Percent of map unit: 5 percent
Landform: Tidal marshes
Down-slope shape: Linear
Across-slope shape: Linear

Transquaking, very frequently flooded soils

Percent of map unit: 5 percent
Landform: Tidal marshes
Down-slope shape: Linear
Across-slope shape: Linear

Appoquinimink, very frequently flooded soils

Percent of map unit: 5 percent
Landform: Tidal marshes
Landform position (two-dimensional): Toeslope
Down-slope shape: Linear
Across-slope shape: Linear

Classification of the Soils

Soil Name	Family or higher Taxonomic Class
Cottman	Coarse-loamy, mixed, subactive, nonacid, mesic Haplic Sulfiwassents
Demas	Siliceous, mesic Typic Psammowassents
Figgs	Fine-loamy, mixed, subactive, nonacid, mesic Fluventic Sulfiwassents
Herring Creek	Fine-silty, mixed, subactive, nonacid, mesic Fluventic Sulfiwassents
Indian River	Siliceous, mesic Fluventic Psammowassents
Indian River (taxa.)	Siliceous, mesic Sulfic Psammowassents
Sinepuxent	Coarse-loamy, siliceous, subactive, nonacid, mesic Typic Sulfiwassents
Southpoint	Fine-silty, mixed, subactive, nonacid, mesic Thapto-Histic Sulfiwassents
Tingles	Fine-silty, mixed, subactive, nonacid, mesic Fluventic Sulfiwassents
Trappe	Siliceous, mesic Typic Psammowassents
Truitt	Fine-silty, mixed, subactive, nonacid, mesic Fluventic Sulfiwassents
Tumagan	Euic, mesic Sapric Sulfiwassists

Site Number:	1	Mapping Unit:	WIrs2	Description	Siliceous, mesic Fluventic Psammowassents
Date:	8/9/2012	Location Description:	Approximately .40 mile southwest of M		Water Column measurements:
Start Time:	11:30 AM	Water Depth (ft/m):	2.2'		
End Time:	12:30 PM	Temp (F/C)	83		
Surveyors:	C.Adams & R. Tunstead	Bottom Type:	Bare sand		
Waypoint:		SAV cover:	Very Sparsley Covered		
GPS		Observation Method:	Bucket Auger		
UTM Easting:	74º 05' 40.1" W	Site Notes:			
UTM Northing:	39º 57' 17.5" N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	80.7		

Bottom Type: Sand with some Zostara (approximately 5-10% coverage).
Indian River (relict flood tidal delta slope).

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Cg	0-23	clear	S	slightly fluid (0.7)	5Y 4/1		2% Gravel	None		Pockets of organic materials	Marine sands
2Abg	23-60+cm		S	slightly fluid (0.7)	5Y 3/1	5% Gravel		None		Possible glauconite pellets	Marine sands

Notes:

sandy, mesic Typic Psammowassents
Indian River Series

Site Number:	FN2	Mapping Unit:	WIrr1	Description	Sulfic Psammowassents			
Date:	8/14/2012	Location Description:	South of Mikes Island off the beach		Water Column measurements:			
Start Time:	10:12 AM	Water Depth (ft/m):	27 cm			Surface	Mid	Bottom
End Time:	10:28 AM	Temp (F/C)	75 F		pH			
Surveyors:	C.Adams, R. Tunstead,JM	Bottom Type:	Bare sand		DO (mg/l)			
Waypoint:		SAV cover:	None		salinity (ppt)			
GPS		Observation Method:	Bucket Auger		temp (F/C)	78.6 F		
UTM Easting:	74 05 08.9 W	Site Notes:						
UTM Northing:	39 57 05.4 N							

Indian River taxadjunct. Landform = South of a dredge island on a relict flood tidal delta flat from Cranberry Inlet.

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Cg1	0-25		s	nonfluid (0)	5Y 4.5/1	5% Gravel	0%	None			Marine sand
Cse1	25-56		s	nonfluid (0)	5Y 5/1	5% Gravel	0%	Strong			Marine sand
Cse2	56-65+		s	nonfluid (0)	5Y 4/1	5% Gravel	0%	Strong			Marine sand

Notes:

Sulfic Psammowassents
Indian River taxadjunct

Site Number:	FN 3	Mapping Unit:	WIrr1	Description	Sulfic Psammowassents
Date:	7/14/2012	Location Description:	North of Sand Spot		
Start Time:	10:34 AM	Water Depth (ft/m):	60 cm		
End Time:	11:02 AM	Temp (F/C)	75 F		
Surveyors:	CA, RT, JM	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:	Bucket Auger		
UTM Easting:	74 5 7.9001 W	Site Notes:			
UTM Northing:	39 57 6.2293 N				

Water Column measurements:			
	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	79.1 F		

Water not clear. **Indian River taxadjunct.** Landform = Relict Flood tidal delta flat from Cranberry Inlet.

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n- value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase1	0-15		mucky sand	moderately fluid (1)	5Y 2/.5	0%		Strong		Worms Present	Marine sand
Ase2	15-30		LS	nonfluid (0)	5Y 3/1	0%		Moderate			Marine sand
Cse1	30-47		COS	nonfluid (0)	5Y 5/1	0%		Slight			Marine sand
Cse2	47-65+		S	nonfluid (0)	5Y 5/1	0%		Slight			Marine sand

Notes:

Sulfic Psammowassents

Site Number:	FN4	Mapping Unit:	PstAt	Description	mesic Sulfic Psammowassents			
Date:	8/14/2012	Location Description:	East of Mike's Island		Water Column measurements:			
Start Time:	11:17 AM	Water Depth (ft/m):	38cm			Surface	Mid	Bottom
End Time:	11:40 AM	Temp (F/C)	75 F		pH			
Surveyors:	CA, RT, JM	Bottom Type:			DO (mg/l)			
Waypoint:		SAV cover:			salinity (ppt)			
GPS	ProXYZ	Observation Method:	Bucket Auger		temp (F/C)	79.4 F		
UTM Easting:	74 04 59.0 W	Site Notes:						
UTM Northing:	39 57 07.2 N							

Indian River taxadjunct.

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Oese	0-20		MUCKY PEAT	slightly fluid (0.7)	2.5Y 3/2	None		Slight		Rubbed Fiber 20%	Organic, tidal
Cse1	20-37		COS	nonfluid (0)	5Y 4/1	1-2% Gravel		Strong			Marine sand
Cse2	37-65+		COS	nonfluid (0)	5Y 5/1	1-2% Fine Quartz Gravel		Moderate			Marine sand

Notes:

sandy mesic Aeric Sulfiwassents or sandy mesic Haplic Sulfiwassents

Site Number:	FN5	Mapping Unit:	WIrr1	Description	mesic Sulfic Psammowassents
Date:	8/14/2012	Location Description:	Island off Mike's Island		Water Column measurements:
Start Time:	12:21 PM	Water Depth (ft/m):	70cm		
End Time:		Temp (F/C)	78 F		
Surveyors:	CA, RT, JM	Bottom Type:	Eel grass		
Waypoint:		SAV cover:	80%		
GPS	ProXYZ	Observation Method:	Bucket Auger		
UTM Easting:	74 5 19.2920 W	Site Notes:			
UTM Northing:	39 57 25.6377 N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	79.2 F		

Indian River taxadjunct. Relict Flood-tidal Delta Flat (Cranberry Inlet).

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n- value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ag	0-7cm		S	nonfluid (0)	N 2.5/			None			Marine sand
Cse1	7-20cm		S	nonfluid (0)	5Y 5/1			Moderate			Marine sand
Cse2	20-65+		S	nonfluid (0)	5Y 4/1			Moderate		Former surface roots around 30cm	Marine sand

Notes:

mesic Sulfic Psammowassents

Site Number:	FN 6	Mapping Unit:	WIrr1	Description	Mixed, mesic Sulfic Psammowassents
Date:	8/15/2012	Location Description:	South Side of Large Shoal		Water Column measurements:
Start Time:	9:46 AM	Water Depth (ft/m):	83cm		
End Time:	10:20 AM	Temp (F/C)			
Surveyors:	Adams, R. Tunstead, J. Mo	Bottom Type:			
Waypoint:		SAV cover:	90% Zostara-Marina		
GPS	ProXYZ	Observation Method:			
UTM Easting:	74 5' 27.9599"W	Site Notes:			
UTM Northing:	39 57' 40.8994" N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	78.6 F		

Water column is murky. **Indian River but with a sulfidic horizon (taxadjunct).**

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase1	0-8cm		Loamy fine Sand	Non-Fluid	5Y 2.5/1			Strong		Worm is in soil	
Ase2	8-18cm		Loamy fine Sand	Non-Fluid	10Y 2.5/			Medium			
Cse1	18-33cm		Fine Sand	Non-Fluid	10Y 2.5/			Medium		Mica Flakes	
Cse2	33-65 + cm		Fine Sand	Non-Fluid	5Y 5/1			Very Strong			

Notes:

Mixed, mesic Sulfic Psammowassents

Site Number:	FN 7	Mapping Unit:	WIrs2	Description	mesic Sulfic Psammowassents
Date:	8/15/2012	Location Description:	Close to main lagoon channel		Water Column measurements:
Start Time:	10:34 AM	Water Depth (ft/m):	152 cm		
End Time:	11:00 AM	Temp (F/C)	80		
Surveyors:	JLM, CDA, RBT	Bottom Type:	sand		
Waypoint:		SAV cover:	none		
GPS	ProXYZ	Observation Method:			
UTM Easting:	74 6 4.4326" W	Site Notes:			
UTM Northing:	39 57 39.6935" N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	78.6		

Indian River taxadjunct. Relict Flood-tidal Delta Slope (Cranberry Inlet). site too deep for SAV as water column is very murky or unclear. SAV present to the East.

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase	0-10		fs	<0.7	N 2.5/	0	1	faint			Marine Sands
Cse1	10-30cm		fs	<0.7	5Y 3/1	0	0	faint			Marine Sands
Cse2	30-60		fs	<0.7	10Y3/	0	0	faint			Marine Sands
Cg	60-76+		fs	<0.7	25% N 2.5/ 75% 5Y 3/1		1	none			Marine Sands

Notes:

mesic Sulfic Psammowassents

Site Number:	FN 8	Mapping Unit:	WIrr1	Description	Mixed, mesic Sulfic Psammowassents
Date:	8/15/2012	Location Description:	Middle of largest Shoal		
Start Time:	11:40 AM	Water Depth (ft/m):	83cm		
End Time:	11:57 AM	Temp (F/C)	85		
Surveyors:	JLM, CDA, and RBT	Bottom Type:			
Waypoint:		SAV cover:	80%		
GPS	ProXYZ	Observation Method:	Bucket Auger		
UTM Easting:	74 5 37.7363	Site Notes:			
UTM Northing:	39 57 54.7983				

Water Column measurements:

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	79.9		

80% Zostara marina cover on surface. **Indian River taxadjunct** but with a Sulfidic horizon (taxadjunct).

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ag	0-10		fs	nonfluid (0)	N 2.5/	0	0	None			Marine sand
Cse1	10-32 cm		fs	nonfluid (0)	N 3/	0	1	Slight		dredge material w/ shell frags	Marine sand
Cse2	32-60+ cm		fs	nonfluid (0)	5Y 4/1	0	5	Strong		dredge material w/ shell frags	Marine sand

Notes:

Site Number:	FN9	Mapping Unit:	WIrr1 (inclusion)	Description	Euic, mesic Sapric Sulfiwassists
Date:	8/15/2012	Location Description:	In an old AptAv map unit. Salt marsh r		Water Column measurements:
Start Time:	12:42 PM	Water Depth (ft/m):	91 cm		
End Time:	1:00 AM	Temp (F/C)	78		
Surveyors:	JLM, CDA, and RBT	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	10%		
GPS	Good core spot	Observation Method:	McCauly		
UTM Easting:	74 5 23.7691W	Site Notes:	In an old salt marsh map unit that no longer exists and has been eroded and destroyed **(Tumagan Series?)**. Chris and I feel this site could potentially be a Terric Sulfiwassists based on the surrounding shoals and sands on those adjac ent landforms.		
UTM Northing:	39 57 20.8395N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	79.9		

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n- value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Oase1	0-6 cm		MUCK	very fluid (2)	N 2.5/	0	0	Strong			Organic, tidal
Oase2	6-54+ cm		MUCK	very fluid (2)	5Y 2.5/1	0	0	Strong		Sand minerals intermixed in layer	Organic, tidal

Notes:

Euic, mesic Sapric Sulfiwassents

Site Number:	FN 10	Mapping Unit:	WIrr1	Description	Mixed, mesic Sulfic Psammowassents
Date:	8/16/2012	Location Description:			Water Column measurements:
Start Time:	10:00 AM	Water Depth (ft/m):	76 cm		
End Time:	10:30 AM	Temp (F/C)	75		
Surveyors:	EM, RS, SD, CA, &	Bottom Type:			
Waypoint:		SAV cover:	60% zostara		
GPS	ProXYZ	Observation Method:	Bucket Auger		
UTM Easting:	74 5 44.4922" W	Site Notes:			
UTM Northing:	39 57 34.8794" N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	76.8		

Indian River taxadjunct (sulfidic materials = taxadjunct).

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n- value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase	0-8 cm		fs	nonfluid (0)	2.5Y 3/1			Slight		root concent 3% live roots	Marine sand
Cse1	8-62 cm		fs	nonfluid (0)	5Y 4/1		2%	Slight			Marine sand
Cse2	62-74cm		s	nonfluid (0)	5Y 4/1			Slight		fine Mica	Marine sand

Notes:

Mixed, mesic Sulfic Psammowassents

Site Number:	FN 11	Mapping Unit:	WIrr1	Description	Mixed, mesic Sulfic Psammowassents.
Date:	8/16/2012	Location Description:			Water Column measurements:
Start Time:	10:40 AM	Water Depth (ft/m):	92 cm		
End Time:	10:58 AM	Temp (F/C)	78 F		
Surveyors:	RS	Bottom Type:	Eel grass		
Waypoint:		SAV cover:	45		
GPS	ProXYZ	Observation Method:	Bucket Auger		
UTM Easting:	74 05 20.0168" W	Site Notes:			
UTM Northing:	39 57 48.8966" N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	76.3		

West of a residential dredge island. Could be dredge sands but not sure on origins. **Indian River taxadjunct** but with sulfurous odor which would make it a taxadjunct.

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase	0-10		FS	nonfluid (0)	5y3\1-10% n 2/	0	0	Moderate		Life snails	Dredge sands
Cse1	10-50		S	nonfluid (0)	10y 3\1	10	1	Slight			Dredge sands
Cse2	50-58		S	nonfluid (0)	N 5/	0	1	Slight		5% N2	Marine sand

Notes:

mixed mesic Haplic Sulfiwassents

Site Number:	FN12	Mapping Unit:	WSn1	Description	Mixed, mesic Sulfic Psammowassents
Date:	8/16/2012	Location Description:	30 feet west of dredge island		Water Column measurements:
Start Time:	11:15 AM	Water Depth (ft/m):	90cm		
End Time:	11:45 AM	Temp (F/C)	80		
Surveyors:	SD, EM, RS, CA, & RT	Bottom Type:	Eel grass		
Waypoint:		SAV cover:	25		
GPS		Observation Method:	Bucket Auger		
UTM Easting:	74 05 5.3023	Site Notes:	Ilmenite is an indicator of the Cohansey formation. **Indian River taxadjunct.** The dredge island with the residential houses is probably a former **Flood-tidal delta sand flat from Cranberry Inlet** and dredge was deposited over the delta to make for houses.		
UTM Northing:	39 57 44.7559				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	77.9		

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase	0-8		FS	nonfluid (0)	2.5y 3\1	0	0	Slight			Dredge sands
Cse1	8-40		S	nonfluid (0)	2.5y 4/1	2 rnd Qz 5mm	1	Slight		10% ilmenite	Dredge sands
Cse2	40-58		S	nonfluid (0)	n 4/	0	0	Moderate		15% ilmenite	Marine sand

Notes:

Notes:
mixed mesic Sulfic Psammowassents

Site Number:	FN13	Mapping Unit:	WIrr1	Description	Mixed, mesic Sulfic Psammowassents			
Date:	8/16/2012	Location Description:	On the large flood tidal delta sand flat r		Water Column measurements:			
Start Time:	12:05 PM	Water Depth (ft/m):	80 cm			Surface	Mid	Bottom
End Time:	12:42 PM	Temp (F/C)	80 F		pH			
Surveyors:	SD, EM, RS, CA, RT	Bottom Type:	Eel grass		DO (mg/l)			
Waypoint:		SAV cover:	35% eelgrass Zoestra		salinity (ppt)			
GPS	ProXYZ	Observation Method:	Bucket Auger		temp (F/C)	78.5		
UTM Easting:	74 05 11.89" W	Site Notes:						
UTM Northing:	39 58 3.02" N		buried salt marsh site starting at 80 cm in 2Cg3 horizon. **Indian River but with sulfidic materials = taxadjunct = Mixed, mesic Sulfic Psammowassents**					

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase	0-30 CM		FS	nonfluid (0)	10Y2.5/1	0	0	Moderate		5%	Dredge sands
Cse1	30-53 CM		S	nonfluid (0)	10Y4/1	0		Moderate		30% illmenite/1% 10YR 3/3	Dredge sands
Cse2	53-80Cm		S	nonfluid (0)	10Y5/1	0		Slight			Marine sand
2Cse3	80-92Cm		sil/vfsl	slightly fluid (0.7)	10Y3/1	1%		Strong		.7 n value	Marine silt
3Cse4	90-96Cm		LS	nonfluid (0)	10Y3/1	0		Moderate			Marine sand

Notes:

Mixed, mesic Sulfic Psammowassents

Site Number:	FN 14	Mapping Unit:	WHe2	Description	Euic, mesic Typic Sulfiwassists
Date:	8/16/2012	Location Description:	Just off Cattus Island Park		
Start Time:	1:46 PM	Water Depth (ft/m):	215 cm		
End Time:	2:30 PM	Temp (F/C)	81.1 f		
Surveyors:	EM, RS, SD, CA, & RT	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	0		
GPS	ProXYZ	Observation Method:	McCauly		
UTM Easting:	74 08 00.5160" W	Site Notes:			
UTM Northing:	39 59 28.2271" N				

Water Column measurements:

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)			

Tumagan (taxadjunct) and inclusion within the map unit of WHe2. **Landform = Estuarine Tidal Creek.**

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase1	0-11		SIL	slightly fluid (0.7)	2.5y 3/1	0	0	Slight			Organic, tidal
Ase2	11-21		mk-SIL	slightly fluid (0.7)	10yr 3/1	0	0	Slight		5% unrub fiber	Organic, tidal
Ase3	21-38		mk-SIL	slightly fluid (0.7)	5y 2.5/1	0	0	Slight		3% unrub fiber	Organic, tidal
2Oese1	38-92		MUCKY PEAT		2.5y 3/2	0	0	Slight		20 unrub fiber	Organic, tidal
2Oese2	92-100		MUCKY PEAT		10yr 2/2	0	0	Moderate		70 unrun fiber 25 rub fiber	Organic, tidal

Notes:

Euic, mesic Typic Sulfiwassists

Site Number:	FN 15	Mapping Unit:	WTr1	Description	Sulfic Psammowassents?
Date:	8/21/2012	Location Description:	Submerged mainland beach immediate		Water Column measurements:
Start Time:	1:33 PM	Water Depth (ft/m):	110 cm		
End Time:	1:50 PM	Temp (F/C)	78 F		
Surveyors:	JM, CA, RT	Bottom Type:	Bare sand		
Waypoint:		SAV cover:	Eelgrass		
GPS	ProXYZ	Observation Method:	Bucket Auger		
UTM Easting:	74 06 49.6964" W	Site Notes:			
UTM Northing:	39 59 34.0641" N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	77.3 F		

Wave action was too intense to get good samples.

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n- value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
					10Y						

Notes:

Site Number:	FN16	Mapping Unit:	WHe1	Description	?
Date:	8/20/2012	Location Description:	South of Lakehurst out crop beach		
Start Time:	10:13 AM	Water Depth (ft/m):	200cm		
End Time:	10:45 AM	Temp (F/C)	75 F		
Surveyors:	RT CA	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:	McCauly		
UTM Easting:	74 7 43.1433 N	Site Notes:			
UTM Northing:	39 59 9.3977 W				

Water Column measurements:

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	74.3F		

Just aroundthe corner in the cove from the Lakehurst series outcrop beach.Also tried Bucket Auger

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ag	0-3cm		MUCKY SIL	very fluid (2)	N 2.5/			None			Marine silt
Cg	3-25cm		MUCKY SIL	moderately fluid (1)	5Y 3/1			None		Some sand grains	Marine silt
2Oa	25-33cm		HPM	moderately fluid (1)	10Y 2.5/1			None		40% unrubbed 10%rubbed	Organic, fresh
2Abg	33-50cm		S	nonfluid (0)	2.5Y 3/1 20% 2.5Y 4/1	2% Quartz		None		Spodic Material	Fluviomarine deposit

Notes:

Site Number:	FN17	Mapping Unit:	WHe1	Description	Fine-silty, mixed, subactive, nonacid mesic Fluventic S
Date:	8/21/2012	Location Description:	Estuarine Tidal Creek		
Start Time:	8:33 AM	Water Depth (ft/m):	120cm		
End Time:	9:00 AM	Temp (F/C)	70 F		
Surveyors:	CDA, RBT, JLM	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:	McCauly		
UTM Easting:	74 8' 12.6434"	Site Notes:			
UTM Northing:	40 00' 07.7331"				

Water Column measurements:			
	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	74.6 F		

Herring Creek?

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n- value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase	0-8cm		MUCKY L	moderately fluid (1)	N 2.5/	0	0	Slight			Marine silt
Cse1	8-39cm		MUCKY L	moderately fluid (1)	10Y 2.5/1	0	0	Moderate			Marine silt
Cse2	39-47cm		MUCKY SIL	very fluid (2)	5Y 2.5/2	0	0	Slight		Soil is a little more yellow. Perhaps a result of a storm event. Also had very fine roots	Marine silt
Cse3	47-62cm		MUCKY L	moderately fluid (1)	5Y 2.5/1	0	0	Slight			Marine silt
2Abse	62-92cm		MUCKY L	moderately fluid (1)	10YR 2/2	0	0	Strong		10-15% of very fine roots. We think it was a former surface.	Marine silt
2Cse4	92-190cm		MUCKY SICL	moderately fluid (1)	5Y2.5/1	0	0	Slight			Marine silt

3Abg	190-208+cm		MUCKY L	slightly fluid (0.7)	10YR 2/2	0	0	None		20% of roots. Second former surface.	Fluviomarine deposit

Notes:

Site Number:	FN 18	Mapping Unit:	WHe2	Description	Fine-silty, mixed, subactive, nonacid, mesic Fluventic
Date:	8/21/2012	Location Description:	Mainland Cove- Middle of Silver Bay		Water Column measurements:
Start Time:	9:58 AM	Water Depth (ft/m):	210cm		
End Time:	10:27 AM	Temp (F/C)	75 F		
Surveyors:	CDA, RBT, JLM	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:	McCauly		
UTM Easting:	74 7' 37.0650"	Site Notes:			
UTM Northing:	39 59' 44.7475"				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	75 F		

Herring Creek? Landform = Estuarine Tidal Creek

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase	0-4cm		MUCKY SICL	moderately fluid (1)	N2.5/	0	0	Slight		5% Sand Grains	Marine silt
Cse1	4-34cm		MUCKY SICL	moderately fluid (1)	10Y2.5/1	0	2%	Slight			Marine silt
2Abse1	34-41cm		MUCKY L	moderately fluid (1)	5Y2.5/2	0	0	Moderate		10% Roots, Former Surface	Marine silt
2Cg2	41-130cm		MUCKY L	moderately fluid (1)	10Y3/1	0	0	Moderate			Marine silt
3Abse2	130-148cm		MUCKY L	slightly fluid (0.7)	10YR2/1	0	0	Slight		15% Roots	Fluviomarine deposit

Notes:

Site Number:	FN 19	Mapping Unit:	WHe1	Description	Fine-silty, mixed, subactive, nonacid, mesic, Fluventic
Date:	8/21/2012	Location Description:	Cove inside silver bay, near pirate boat		Water Column measurements:
Start Time:	12:20 PM	Water Depth (ft/m):	128cm		
End Time:	1:03 PM	Temp (F/C)	80		
Surveyors:	JM, CA, & RT	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:	McCauly		
UTM Easting:	74 06 51.7134"W	Site Notes:			
UTM Northing:	40 00 14.5054"N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	77.6		

The lithologic discontinuity indicates a former surface as it has a darker color 10YR and contains 8% roots. **Possible Herring Creek series. Landform = Estuarine Tidal Creek.**

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase	0-7cm		Mucky VFSL	moderately fluid (1)	N2.5/	0%	1%	Slight		Mica-flakes	Marine silt
Cse1	7-61cm		MUCKY L	moderately fluid (1)	10Y2.5/1	0%	1%	Moderate		Mica-flakes	Marine silt
2Abse	61-99cm		MUCKY SIL	slightly fluid (0.7)	10YR2/2	0%	0%	Moderate		Mica-flakes. 8% Roots	Marine silt
2Cse2	99-134cm		MUCKY L	slightly fluid (0.7)	5Y2.5/1	0%	0%	Moderate		Mica-flakes	Marine silt
2Cse3	134-156+cm		MUCKY SICL	slightly fluid (0.7)	10Y2.5/1	0%	0%	Moderate		Mica-Flakes	Marine silt

Notes:

Site Number:	FN21	Mapping Unit:	WHe2	Description	Fine-silty, mixed, subactive, nonacid, mesic, Fluventic			
Date:	8/23/2012	Location Description:	Cove south of seaside bridge.		Water Column measurements:			
Start Time:	10:25 AM	Water Depth (ft/m):	209cm			Surface	Mid	Bottom
End Time:	11:05 AM	Temp (F/C)	80		pH			
Surveyors:	JM, CA, & RT	Bottom Type:	Bare mud		DO (mg/l)			
Waypoint:		SAV cover:	None		salinity (ppt)			
GPS	ProXYZ	Observation Method:	McCauly		temp (F/C)	77		
UTM Easting:	74 7' 38.7845" W	Site Notes:						
UTM Northing:	39 56' 28.5309" N							

Landform = Estuarine Tidal Creek (Toms River). Route 37 bridge in site. Off of park to North and at the mouth of Toms River. **Possible Herring Creek??**

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase	0-7cm		MUCKY L	very fluid (2)	10Y2.5/1	0	0	Moderate		2% Roots. 2% Sand Grains	Marine silt
Cse1	7-33cm		MUCKY L	very fluid (2)	5Y3/1	0	0	Moderate		2% Sand Grains	Marine silt
Cse2	33-70cm		MUCKY L	very fluid (2)	10Y2.5/1	0	0	Moderate		2% Sand Grains	Marine silt
Cse3	70-159cm		MUCKY L	very fluid (2)	10Y2.5/2	0	0	Slight		1% Sand Grains	Marine silt
Cse4	159-177cm		MUCKY SIL	moderately fluid (1)	5Y2.5/2	0	0	Moderate		5% Mica flakes.	Marine silt

Notes:

Site Number:	FN22	Mapping Unit:	WHe2	Description	Euic, mesic Typic Sulfiwassists
Date:	9/11/2012	Location Description:			Water Column measurements:
Start Time:	1:45 PM	Water Depth (ft/m):	153cm		
End Time:	2:00 PM	Temp (F/C)	70.0 F		
Surveyors:	RS, Clint, & RT	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:	McCauly		
UTM Easting:	74 09 00.1582" W	Site Notes:			
UTM Northing:	39 56 00.7424" N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	71.9 F		

Tumagan taxadjunct, Landform = Estuarine Tidal Creek.

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Oase1	0-11cm		MUCK	moderately fluid (1)	10YR 2/2	0	0	Slight		50% unrubbed; 12% rubbed; phrag root	Organic, tidal
Oase2	11-44cm		MUCK	moderately fluid (1)	10YR 2/2	0	0	Moderate		50% unrubbed; 15% rubbed	Organic, tidal
Oese1	44-55		MUCKY PEAT	slightly fluid (0.7)	7.5YR 2.5/1	0	0	Moderate		60% unrubbed; 25% rubbed	Organic, tidal
Oese2	55-93		MUCKY PEAT	slightly fluid (0.7)	5YR 2.5/2	0	0	Slight		65% unrubbed; 38% rubbed	Organic, tidal

Notes:

Site Number:	FN22A	Mapping Unit:	WHe2	Description	Euic, mesic Typic Sulfiwassists
Date:	9/11/2012	Location Description:	Estuarine Tidal Creek		Water Column measurements:
Start Time:	1:45 PM	Water Depth (ft/m):	153cm		
End Time:	2:15 PM	Temp (F/C)	70.0 F		
Surveyors:	RS, Clint, & RT	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:	McCauly		
UTM Easting:	74 09 00.1582 W	Site Notes:	**Tumagan taxadjunct.** Field note 22A was taken immediately near FN22 but the depth of description was from 100cm on as FN22 covered the upper 100cm. Auger was refused on FN22 but on FN22A we were able to get to the 2 meter depth but couldn't connect 22A to FN22 in terms of horizonation as it looked totally different.		
UTM Northing:	39 56 00.7424 N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	71.9 F		

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n- value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Oase	104-123 cm		MUCK	very fluid (2)	N 2.5/	0	0	Slight		7% unrubbed and 2 % rubbed	Organic, fresh
Oa1	123-137 cm		MUCK	very fluid (2)	2.5Y 2.5/1	0	0	None		3% unrubbed and 1% rubbed fiber content	Organic, fresh
Oa2	137-159 cm		MUCK	very fluid (2)	N 2.5/	0	0	None		10% unrubbed and 2% rubbed fiber content	Organic, fresh
Oa3	159-203 cm		MUCK	very fluid (2)	10Y 2.5/1	0	0	None		40% unrubbed and 5% rubbed fiber content	Organic, fresh

Notes:

Site Number:	FN 28	Mapping Unit:	WHe1	Description	Fine-silty, mixed, subactive, nonacid, mesic Thapto-H
Date:	8/20/2012	Location Description:	Mainland Cove		
Start Time:	11:33 AM	Water Depth (ft/m):	190cm		
End Time:	12:10 PM	Temp (F/C)	75 F		
Surveyors:	RT CA	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	none		
GPS	ProXYZ	Observation Method:	McCauly		
UTM Easting:	74 7 44.7634 N	Site Notes:			
UTM Northing:	39 59 8.2436 W				

Water Column measurements:			
	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	74.7 F		

Southpoint soil series. Landform = Estuarine Tidal Creek. Couldn't penetrate below 152cm with McCauly

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase	0-4cm		MUCKY SIL	moderately fluid (1)	N 2.5/	0	0	Moderate			Marine silt
Cse	4-50cm		Mu SiCL	moderately fluid (1)	5Y 3/1	0	0	Moderate			Marine silt
2Oeseb	50-103cm		MUCKY PEAT	slightly fluid (0.7)	10YR 2/2	0	0	Moderate			Organic, fresh
3Cg	103-152cm		S							unobservable with McCauly	Fluviomarine deposit

Notes:

Site Number:	FN 29	Mapping Unit:	WHe1	Description	Fine-silty, mixed, subactive, nonacid, mesic Thapto-H			
Date:	8/20/2012	Location Description:	Estuarine Tidal Creek Silver Bay		Water Column measurements			
Start Time:	12:50 PM	Water Depth (ft/m):	175 cm			Surface	Mid	Bottom
End Time:	1:45 AM	Temp (F/C)	77 F		pH			
Surveyors:	C Adams & R Tunstead	Bottom Type:	Bare mud		DO (mg/l)			
Waypoint:		SAV cover:	None		salinity (ppt)			
GPS	ProXYZ	Observation Method:	McCauley&Bucket		temp (F/C)	76.6 F		
UTM Easting:	74 08 41.7014" W	Site Notes:	**Southpoint soil series.** 1st full pedon description on bay to 159cm. Located in upper most reaches of Silver Bay. Stunted Phragmites on shore in subaerial soils. Old Atlantic White Cedar Swamp materials encountered at 74 cm.					
UTM Northing:	39 59 49.4433" N							

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase	0-5 cm		mucky loam	very fluid (2)	N 2.5/	0	0	Moderate		Worm present. Concentrations 2% 10YR 3/2	Marine silt
Cse1	5-25 cm		mucky loam	moderately fluid (1)	10Y 2.5/1	0	0	Moderate		No roots.	Marine silt
2Aseb	25-35 cm		mucky loam	moderately fluid (1)	5Y 2.5/2	0	0	Slight		Old surface so lithologic discontinuity.	Marine silt
2Cse2	35-74 cm		mucky silty clay loam	moderately fluid (1)	10Y 2.5/1	0	0	Moderate		No roots.	Marine silt
3Oaseb	74-84 cm		MUCK	moderately fluid (1)	10Y 2.5/1	0	0	Slight		10% rubbed, 50% unrubbed fibers.	Organic, fresh
3Oeseb	84-159cm +		MUCKY PEAT	moderately fluid (1)	7.5YR 2.5/2	0	0	Moderate		30% rubbed, 75% unrubbed fibers.	Organic, fresh

Notes:

Site Number:	FN 30	Mapping Unit:	WTr1	Description	Sulfic Psammowassents
Date:	8/21/2012	Location Description:	Submerged beach, just off of Spodisol		Water Column measurements:
Start Time:	10:58 AM	Water Depth (ft/m):	87cm		
End Time:	11:32 AM	Temp (F/C)	76 F		
Surveyors:	JM, CA, & RT	Bottom Type:	Bare sand		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:	Bucket Auger		
UTM Easting:	74 7'46.5611" W	Site Notes:			
UTM Northing:	39 59' 20.1108" N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	76 F		

Trappe soil series. (taxadjunct as sulfidic materials).

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
ACse1	0-10cm		S	nonfluid (0)	2.5Y3/2	0	0	Slight		Concentration of N2.5/	
ACse2	10-18cm		S	nonfluid (0)	10YR5/3	1%	0	Slight			
B1	18-33cm		S	nonfluid (0)	10YR5/6	3%	0	None		Rock Fragment present. Bhs coloration 10YR5/4	
B2	33-55+cm		S	nonfluid (0)	10YR5/6	6%	0	None			

Notes:

Site Number:	FN 31	Mapping Unit:	WHe1	Description	Fine-silty, mixed, subactive, nonacid, mesic Thapto-H
Date:	8/22/2012	Location Description:	Estuarine Tidal Creek. Inter-most reac		
Start Time:	10:18 AM	Water Depth (ft/m):	150cm		
End Time:	11:16 AM	Temp (F/C)	77 F		
Surveyors:	CA, RT, JM, RS	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:	McCauly		
UTM Easting:	74 8' 42.7652"	Site Notes:			
UTM Northing:	39 59' 48.6509"				

Water Column measurements:			
	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	77 F		

Southpoint taxadjunct as there were no sulfidic materials sniffed / detected.

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ag	0-4cm		MUCKY L	moderately fluid (1)	N2.5/	0	0	None			Marine silt
Cg1	4-44cm		MUCKY SIL	moderately fluid (1)	10Y2.5/1	0	0	None		3% of Very Fine Roots.	Marine silt
Cg2	44-65cm		MUCKY SIL	moderately fluid (1)	5Y2.5/1	0	0	None		7% of Fine Roots.	Marine silt
Cg3	65-75cm		MUCKY SIL	slightly fluid (0.7)	5Y4/1	0	0	None			Marine silt
Oa1	75-139cm		MUCK	slightly fluid (0.7)	2.5Y3/3	0	0	None		40% Unrubbed fiber. 10% Rubbed Fiber.	Organic, fresh
Oe	139-167cm		MUCKY PEAT	slightly fluid (0.7)	10YR2/2	0	0	None		65% Unrubbed Roots. 27% Rubbed Roots.	Organic, fresh
Oa2	167-190cm		MUCK	very fluid (2)	10YR2/1	0	0	None		20% Unrubbed Roots. 2% Rubbed Roots.	Organic, fresh

Notes:

Site Number:	FN32	Mapping Unit:	WHe1	Description	Fine-silty, mixed, subactive, nonacid, mesic Fluventic
Date:	8/22/2012	Location Description:	Next to FN 31. Estuarine Tidal Creek (		Water Column measurements:
Start Time:	11:48 AM	Water Depth (ft/m):	165cm		
End Time:	1:05 PM	Temp (F/C)	78 F		
Surveyors:	CA, RT, JM, RS	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:	McCauly		
UTM Easting:	74 08' 36.9486"	Site Notes:			
UTM Northing:	39 59' 51.0190"				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	78.7F		

Herring Creek

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ag	0-6cm		MUCKY SIL	very fluid (2)	N2.5/	0	0	None			Marine silt
Cse1	6-20cm		MUCKY SIL	very fluid (2)	10Y2.5/1	0	0	Slight			Marine silt
Cse2	20-33cm		MUCKY SIL	very fluid (2)	5Y2.5/1	0	0	Slight		10% Fine Roots.	Marine silt
Cse3	33/68cm		MUCKY SIL	very fluid (2)	5Y3/1	0	0	Slight			Marine silt
Cg	68-99cm		MUCKY L	moderately fluid (1)	5Y3/1	0	0	None			Marine silt
Cse4	99-130cm		MUCKY SIL	very fluid (2)	5Y2.5/1	0	0	Slight			Marine silt
Cse5	130-150cm		MUCKY L	slightly fluid (0.7)	2.5Y2.5/1	0	0	Slight			Marine silt
2Oase1	150-174cm		MUCK	moderately fluid (1)	10YR2/2	0	0	Slight		70% Unrubbed Fiber. 10% Rubbed Fiber.	Organic, fresh

2Oase2	174-185+cm		MUCK	very fluid (2)	7.5YR2.5/1	0	0	Slight		40% Unrubbed Fiber. 5% Rubbed Fiber.	Organic, fresh

Notes:

Site Number:	FN33	Mapping Unit:	WHe2	Description	Sulfic Psammowassents			
Date:	8/22/2012	Location Description:	First hole in Tom's River in a cove off c		Water Column measurements:			
Start Time:	1:50 AM	Water Depth (ft/m):	210cm			Surface	Mid	Bottom
End Time:	2:26 PM	Temp (F/C)	79.2 F		pH			
Surveyors:	CA, RT, JM, RS	Bottom Type:	Bare mud		DO (mg/l)			
Waypoint:		SAV cover:	None		salinity (ppt)			
GPS	ProXYZ	Observation Method:	McCauley&Bucket		temp (F/C)	85 F		
UTM Easting:	74 9' 49.5338" W	Site Notes:						
UTM Northing:	39 56' 44.9276" N							

Brackish Water. 50cm might be a buried Berryland below marine silts. Good core / vibracore location. Could be a preserved spodosol.

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n- value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase	0-5cm		MUCKY SIL	very fluid (2)	N2.5/	0	0	Slight		Sand Grains are Present	Marine silt
Cse1	5-25cm		MUCKY SIL	very fluid (2)	10Y2.5/1	0	0	Slight		Sand Grains are Present	Marine silt
2Oase	25-50cm		MUCK	very fluid (2)	10YR2/1	0	0	Moderate		15% Unrubbed Roots. 4% Rubbed Roots.	Organic, fresh
2Ase2	50-57cm		S	nonfluid (0)	10YR2/1	0	0	Moderate		4% Roots	Fluviomarine deposit
2Cse2	57-65+cm		S	nonfluid (0)	10YR3/1	0	0	Slight			Fluviomarine deposit

Notes:

Site Number:	FN34	Mapping Unit:	WHe2	Description	Fine-silty, mixed, subactive, nonacid, mesic Fluventic
Date:	8/23/2012	Location Description:	Next to point 21 in Estuarine Tidal Cree		Water Column measurements:
Start Time:	11:30 AM	Water Depth (ft/m):	190cm		
End Time:	12:04 PM	Temp (F/C)	81		
Surveyors:	JM, CA, & RT	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:	McCauly		
UTM Easting:	74 7' 54.9815" W	Site Notes:			
UTM Northing:	39 56' 20.6671" N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	77.8		

Herring Creek. Near the mouth of the Toms River.

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase	0-18cm		MUCKY SIL	very fluid (2)	10Y2.5/1	0	1%	Slight		At bottom of horizon there is one hard shell clam. It is 1.75cm.	Marine silt
Cse1	18-60cm		MUCKY L	very fluid (2)	10Y3/1	0	0	Moderate			Marine silt
Cse2	60-85cm		MUCKY L	very fluid (2)	5Y2.5/2	0	0	Moderate		3% Roots.	Marine silt
Cse3	85-179cm		MUCKY SIL	very fluid (2)	10Y2.5/1	0	0	Moderate		7% Mica flakes.	Marine silt
Cse4	179-198		MUCKY SIL	slightly fluid (0.7)	5Y2.5/2	0	0	Moderate		10% Mica flakes.	Marine silt

Notes:

Site Number:	FN 35	Mapping Unit:	WHe1	Description	Euic, mesic Sapric Sulfiwassists
Date:	8/27/2012	Location Description:	Very close to Cattus Island Park (Estua		Water Column measurements:
Start Time:	10:50 AM	Water Depth (ft/m):	204 cm		
End Time:	11:30 AM	Temp (F/C)	72.0 F		
Surveyors:	RS, EM, & RT	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:	McCauly		
UTM Easting:	74 08 11.7413" W	Site Notes:			
UTM Northing:	39 59 29.7733" N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	77.0 F		

Tumagan soil series in an Estuarine Tidal Creek (Silver Bay).

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n- value)	Munsell Color (Matrix)	Coarse Frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase1	0-3 cm		MUCKY SIL	very fluid (2)	10Y 2.5/1	0	0	Slight		Sand grains in the sample, horizon is thin.	Marine silt
Oase1	3-25 cm		MUCK	very fluid (2)	2.5Y 2.5/1	0	0	Moderate		rubbed roots = 2%	Organic, tidal
Oase2	25-61 cm		MUCK	moderately fluid (1)	10YR 2/1	0	0	Moderate		8% rubbed roots, unrubbed =	Organic, fresh
Oase3	61-78 cm		MUCK	moderately fluid (1)	10YR 3/1	0	0	Moderate		75% unrubbed and 15% rubbed	Organic, fresh
Oase4	78-102 cm		MUCK	moderately fluid (1)	10YR 2/1	0	0	Moderate		2% wood fragments fine sized. 2%	Organic, fresh
Ase2	102-114 cm		mucky LS	moderately fluid (1)	N 2.5/	0	0	Slight		7% unrubbed and 1% rubbed	Fluviomarine deposit
Ase3	122cm+		S	nonfluid (0)	N 2.5/	0	0	Slight		15% uncoated sand grains	Fluviomarine deposit

Notes:

Site Number:	FN36	Mapping Unit:	WTr1	Description	Mesic Typic Psammowassents
Date:	8/28/2012	Location Description:	Just off Cattus Island Barrier		
Start Time:	11:20 AM	Water Depth (ft/m):	73 cm		
End Time:	11:45 AM	Temp (F/C)			
Surveyors:	RS, EM, SD, & RT	Bottom Type:	Bare sand		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:	Bucket Auger		
UTM Easting:	74 07 6.390" W	Site Notes:			
UTM Northing:	39 59 29.208" N				

Water Column measurements:			
	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	76.3 F		

Trappe soil series on a submerged mainland beach.

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ag	0-3 cm		Sand	nonfluid (0)	2.5Y 3/1	5% fine mixed gravel	0%	None		Brine smell	Marine sand
Cg1	3-16 cm		vcos	nonfluid (0)	10YR 4/2	7% fine SR gravel	0%	None			Marine sand
Cg2	16-33 cm		vcos	nonfluid (0)	2.5Y 4/2	10% mixed SR gravel (5-10mm)	5% broken shell frags	None			Dredge sands
Cg3	33-		vcos	nonfluid (0)	10YR 3/2	4% mixed SR gravel	1% very fine	None			Dredge sands

Notes:

Site Number:	FN37	Mapping Unit:	WTr1	Description	Sandy, mixed, subactive, nonacid, mesic Thapto-Histi
Date:	8/28/2012	Location Description:	At the mouth of Cattus Island park nex		
Start Time:	12:03 PM	Water Depth (ft/m):	100 cm		
End Time:	12:22 PM	Temp (F/C)	75.0 F		
Surveyors:	RS, EM, SD & RT	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	none		
GPS	ProXYZ	Observation Method:	McCauley&Bucket		
UTM Easting:	74 06 53.322" W	Site Notes:			
UTM Northing:	39 59 36.120" N				

Water Column measurements:			
	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	77.0 F		

Mainland Submerged Beach. Edwin was in water. **Southpoint taxadjunct.**

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n- value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ag	0-13 cm		LFS	nonfluid (0)	2.5Y 2.5/1	0%	0%	None			Marine sand
Cg	13-26 cm		Loam	moderately fluid (1)	5Y 3/1	0%	0%	None			Marine silt
Oese	26-60 cm		MUCKY PEAT		5Y 2.5/1	0%	0%	Moderate		60% unrubbed and 20% rubbed	Organic, tidal
C'g	60-160 cm		S	nonfluid (0)	10YR 2/1 and 5% 10YR 5/1	1% gravel quartzite (10mm)	0%	None		8% roots	Fluviomarine deposit
Cse	160-180 cm		S	nonfluid (0)	10YR 4/2 5% 2.5Y 3/1	1% gravel	0%	Slight			Fluviomarine deposit

Notes:

Site Number:	FN38	Mapping Unit:	WHe2	Description	Fine-silty, mixed, subactive, nonacid, mesic Fluventic
Date:	8/28/2012	Location Description:	At the very mouth of the river		
Start Time:	1:29 PM	Water Depth (ft/m):	235 cm		
End Time:	2:10 PM	Temp (F/C)	80.0 F		
Surveyors:	RS, EM, SD, & RT	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:	McCauly		
UTM Easting:	74 07 05.5558" W	Site Notes:			
UTM Northing:	39 56 32.5532" N				

Water Column measurements:			
	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	77.7 F		

Herring Creek? At the very edge of the Estuarine Tidal Creek at the mouth of the Toms River.

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase	0-40 cm		SIL	moderately fluid (1)	2.5Y 3/1	0%	0%	Slight			Marine silt
Cse1	40-117 cm		SIL	moderately fluid (1)	2.5Y 2.5/1	0%	0%	Slight		7-8% mica flakes	Marine silt
Cse2	117-145cm		SIL	slightly fluid (0.7)	2.5Y 3/1	0%	1% shells, very weathered	Moderate		3% mica flakes	Marine silt

Notes:

Site Number:	FN39	Mapping Unit:	WIrr1	Description	Mesic Sulfic Psammowassents
Date:	9/11/2012	Location Description:			Water Column measurements:
Start Time:	9:27 AM	Water Depth (ft/m):	99cm		
End Time:	10:00 AM	Temp (F/C)	65 F		
Surveyors:	RS, Clint, and RT	Bottom Type:	Widgeon grass		
Waypoint:		SAV cover:	30%		
GPS	ProXYZ	Observation Method:	Bucket Auger		
UTM Easting:	74 5 54.0288 W	Site Notes:			
UTM Northing:	39 54 16.7431 N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	67.3F		

Indian River (taxadjunct). Relict Flood-tidal delta sand flat

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase1	0-3cm		mucky sand	moderately fluid (1)	2.5Y 2.5/1	0	0	Slight			Marine sand
Ase2	3-25cm		sand	nonfluid (0)	2.5Y 3/1	0	0	Slight		7% unrubbed fibers and 1% rubbed	Marine sand
Cse	25-58		sand	nonfluid (0)	2.5Y 4/1	1% gravel	5% shell frags	Moderate			Marine sand

Notes:

Site Number:	FN40	Mapping Unit:	WIrr1	Description	Mesic Sulfic Psammowassents
Date:	9/11/2012	Location Description:			Water Column measurements:
Start Time:	10:20 AM	Water Depth (ft/m):	83 cm		
End Time:	10:45 AM	Temp (F/C)	64.0 F		
Surveyors:	RS, Clint, & RT	Bottom Type:	Widgeon grass		
Waypoint:		SAV cover:	40% cover		
GPS	ProXYZ	Observation Method:	Bucket Auger		
UTM Easting:	74 05 55.3794" W	Site Notes:	**Indian River taxadjunct.** Relict Flood Tidal-delta Sand Flat FN 39 and FN 40 have a soft surface that leaves a scar when a hole or human disturbance is made. 90% of the SAV is widgeon grass and 10% is eelgrass		
UTM Northing:	39 54 03.4888" N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	67.5 F		

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase1	0-5 cm		MUCKY S	slightly fluid (0.7)	N 2.5/	0%	0%	Slight		10% ilmenite	Marine sand
Ase2	5-25 cm		S	nonfluid (0)	2.5Y 3/1	0%	1%	Moderate		10% ilmenite	Marine sand
Cse	25-51.5 cm		S	nonfluid (0)	5Y 4/1	0%	0%	Moderate		10% ilmenite	Marine sand

Notes:

Site Number:	FN42	Mapping Unit:	WIrr1	Description	Mixed, mesic Sulfic Psammowassents
Date:	8/29/2012	Location Description:			Water Column measurements:
Start Time:	12:16 PM	Water Depth (ft/m):	120 cm		
End Time:	12:50 PM	Temp (F/C)	78		
Surveyors:	RS, EM, BC, TD, RT	Bottom Type:	Widgeon grass		
Waypoint:		SAV cover:	Widgeon grass		
GPS	ProXYZ	Observation Method:	Bucket Auger		
UTM Easting:	74 06 08.7806" W	Site Notes:			
UTM Northing:	39 53 43.1264" N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	76.2		

Indian River (taxadjunct). Flood Tidal-delta Sand Flat (Relict) landform. Widgeongrass is plentiful, but mostly dead

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase	0-29		LS	nonfluid (0)	N2.5	0%	0%	Slight			Marine sand
Cg1	29-60		S	nonfluid (0)	10Y 3/1	5%	0%	None			Marine sand
Cg2	60-79		S	nonfluid (0)	10Y 3/1	8%	5%	None			Marine sand
Cg3	79-90		S	nonfluid (0)	5Y5/1	13%	0%	None			Marine sand

Notes:

Site Number:	FN43	Mapping Unit:	WIrr1	Description	Mixed, mesic Sulfic Psammowassents
Date:	8/28/2012	Location Description:			Water Column measurements:
Start Time:	9:19 AM	Water Depth (ft/m):	115 cm		
End Time:	10:00 AM	Temp (F/C)	77.0 F		
Surveyors:	RS, EM, RT, EC, & TD	Bottom Type:	Eel grass		
Waypoint:		SAV cover:	Ruppia (40% cover)		
GPS	ProXYZ	Observation Method:	Bucket Auger		
UTM Easting:	74 06 2.8474" W	Site Notes:			
UTM Northing:	39 53 23.9970" N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	73.9 F		

Indian River (taxadjunct). Flood tidal delta sand flat (relict). Flatworm found in soil profile with bucket (Cerebratulus lacteus, milky nemertean) and widgeous grass

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n- value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase	0-28		LS	nonfluid (0)	10Y 2.5/	0%	0%	Slight		Few roots	Marine sand
Cse1	28-70		med sand	nonfluid (0)	10Y 3/1	2%	0%	Slight		20% illmenite grains	Marine sand
Cse2	70-80+		S	nonfluid (0)	10Y 4/1	2%	2%	Moderate		15% illmenite	Marine sand

Notes:

Site Number:	FN44	Mapping Unit:	WIrr1	Description	Mixed, mesic Sulfic Psammowassents			
Date:	8/28/2012	Location Description:	Behind Island beach state park.		Water Column measurements:			
Start Time:	10:10 AM	Water Depth (ft/m):	88 cm			Surface	Mid	Bottom
End Time:	10:45 AM	Temp (F/C)	75.0 F		pH			
Surveyors:	RS, EM, EC, TD, & RT	Bottom Type:	Widgeon grass		DO (mg/l)			
Waypoint:		SAV cover:	Widgeon grass		salinity (ppt)			
GPS	ProXYZ	Observation Method:	Bucket Auger		temp (F/C)	75.6 F		
UTM Easting:	74 05 49.8523" W	Site Notes:	**Indian River (taxadjunct).** Flood Tidal-delta Sand Flat (Relict). 5 x 5 patches of bare cover but mostly vegetated. 85% - 100% cover of Widgeon grass (Ruppia maritima). Overall cover was around 50% bare and vegetated. Some eelgrass was discovered.					
UTM Northing:	39 52 59.8109" N							

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase	0-3 cm		S	nonfluid (0)	N 2.5/	0%	0%	Slight		10% illmenite, 8% roots fine	Marine sand
Cse1	3-70 cm		S	nonfluid (0)	2.5Y 3/1 90%	0%	0%	Slight		10% ilmenite, 2% fine roots, 10% 7.5YR 4/4	Marine sand
Cse2	70-86 cm		S	nonfluid (0)	2.5Y 3/1	0%	5%	Strong		10% ilmenite, 7.5YR 3/4 concentrations	Marine sand

Notes:

Site Number:	FN46	Mapping Unit:	WTf3	Description	Coarse-loamy, mixed, nonacid, mesic Thapto-Histic S
Date:	9/13/2012	Location Description:	Main Lagoon Channel		Water Column measurements:
Start Time:	1:25 PM	Water Depth (ft/m):	252 cm		
End Time:	1:55 PM	Temp (F/C)	76 F		
Surveyors:	Clint, SD, & RT	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:	McCauly		
UTM Easting:	74 07 21.8257 W	Site Notes:			
UTM Northing:	39 53 57.4730 N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	73.7 F		

Cottman (taxadjuct) would probably be the best fit for this field note.Billinton series would be the closest fit to this field note but we aren't in a mainland cove

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase	0-12 cm	clear	MUCKY SIL	very fluid (2)	N 2.5/	0%	0%	Slight			Marine silt
Cse	12-32 cm	clear	Loam	very fluid (2)	5Y 3/1	1% fine gravel (10mm)	1%	Slight		5% Mica flakes and maybe 1% shell frags.	Marine silt
2Oase	32-60 cm	gradual	MUCK		10YR 3/1	3% at bottom of horizon (last 5cm)	1% very fine broken shells	Moderate		40% unrubbed and 10% rubbed fiber	Organic, tidal
2Cse2	60-80 cm	clear	LCOS	slightly fluid (0.7)	5Y 3/1	12% fine quartizite gravels	0%	Slight		1-2% mica flakes, 2-3% fibers	Marine sand
2Abse	80-89 cm	abrupt	MUCKY LS	slightly fluid (0.7)	5Y 2.5/1	5% fine quartzite gravels	0%	Slight			Marine sand
2Cse3	89-99 cm		LS	slightly fluid (0.7)	5Y 3/2	3% fine quartzite gravels	0%	Slight		Organic fragments in horizon	Marine sand

Notes:

Site Number:	FN47	Mapping Unit:	WDe1	Description	Mixed, mesic Sulfic Psammowassents				
Date:	8/29/2012	Location Description:	washover fan immediately west of Islar		Water Column measurements:				
Start Time:	11:05 AM	Water Depth (ft/m):	74 cm			Surface	Mid	Bottom	
End Time:	11:25 AM	Temp (F/C)	75.0 F		pH				
Surveyors:	RS, EM, BC, TD,RT	Bottom Type:	Widgeon grass		DO (mg/l)				
Waypoint:		SAV cover:	Widgeon grass		salinity (ppt)				
GPS	ProXYZ	Observation Method:	Bucket Auger		temp (F/C)	76.2 F			
UTM Easting:	74 05 15.9840" W	Site Notes:	**Demas (taxadjunct)**. Landform = Storm Surge Washover Fan Flat. 20% of bottom has vegetation in patches. 50% coverage in the patches. Bottom has microtopography that undulates with the washover waves depositing the sediment load.						
UTM Northing:	39 52 44.5680" N								

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Cse	0-45 cm		S	nonfluid (0)	5Y 4/1	1-2%	2%	Slight		5Y 4/3 concentration 10% ilmenite	Marine sand

Notes:

Site Number:	FN48	Mapping Unit:	WHe2	Description	Fine-silty, mixed, subactive, nonacid, mesic Thapto-H
Date:	8/29/2012	Location Description:	Within the mouth of Toms River, just w		Water Column measurements:
Start Time:	1:22pm	Water Depth (ft/m):	255 cm		
End Time:	2:00 PM	Temp (F/C)	78		
Surveyors:	RS, EM, BC, TD, RT	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	none		
GPS	ProXYZ	Observation Method:	McCauly		
UTM Easting:	74 07 27.3427" W	Site Notes:			
UTM Northing:	39 55 54.1225" N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	76.7		

Southpoint soil series. Landform = Estuarine Tidal Creek

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase	0-10		MUCKY SIL		N 2.5/0	0%	0%	Moderate			Marine silt
Cse	10-47cm		MUCKY SIL	very fluid (2)	10Y3/1	0%	0%	Strong		1-2% mostly dead roots	Marine silt
Oase1	47-67cm		MUCK	very fluid (2)	10YR2/2	0%	0%	Strong		50-60% unrubbed fibers, 5%	Organic, fresh
Oase2	67-94		MUCK	very fluid (2)	7.5YR2.5/2	0%	0%	Strong		unrubbed fiber content 55%, rubbed root	Organic, fresh
Oase3	94-122		MUCK	very fluid (2)	5Y3/2	0%	0%	Strong		unrubbed fiber 40%,	Organic, fresh
Oase4	122-139cm		MUCK	very fluid (2)	10YR2/2	0%	0%	Strong		unrubbed fiber 40%, rubbed 10%	Organic, fresh
Oese1	139-168cm		MPT	moderately fluid (1)	10YR2/1	0%	0%	Strong		unrubbed fiber 70%, rubbed fiber 20%	Organic, fresh
Oese2	168-192+		MUCKY PEAT	moderately fluid (1)	7.5YR2.5/2	0%	0%	Strong		unrubbed fiber 60%, rubbed fiber 20%	Organic, fresh

Notes:

Site Number:	FN49	Mapping Unit:	WTf4	Description	Coarse-loamy, mixed, subactive, nonacid, mesic Typi
Date:	9/19/2012	Location Description:	Deepest of deep Lagoon water		
Start Time:	1:45 PM	Water Depth (ft/m):	363 cm		
End Time:	2:30 PM	Temp (F/C)	65.0 F		
Surveyors:	RS, EM, SD, RT, & Paige	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:	McCauly		
UTM Easting:	74 07 57.978 W	Site Notes:			
UTM Northing:	39 49 59.160 N				

Water Column measurements:

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)	23.6	24.6	25.1
temp (F/C)	72.3	71.8	72

Cottman (taxadjunct). Typic instead of Haplic. Very deep water.

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase	0-12 cm	clear	MUCKY FSL	very fluid (2)	N 2.5/	0%	0%	Slight		Live razor clam	Marine silt
Cse	12-58 cm		FSL	moderately fluid (1)	10Y 2.5/	1% very fine gravel 2.5mm size	5%	Moderate			Marine silt

Notes:

Site Number:	FN50	Mapping Unit:	WTs2	Description	Submerged mainland beach???????????
Date:	9/13/2012	Location Description:			Water Column measurements:
Start Time:	12:55 PM	Water Depth (ft/m):	230 cm		
End Time:	1:00 PM	Temp (F/C)			
Surveyors:	Clint, SD, & RT	Bottom Type:	Bare sand		
Waypoint:		SAV cover:	None		
GPS	ArcMap / Toughbook	Observation Method:	McCauly		
UTM Easting:	74 07 44.472" W	Site Notes:			
UTM Northing:	39 53 37.492" N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)			

McCauley auger refusal. Hard sand bottom and wasn't able to get the auger in. Good potential vibracore location.

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n- value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin

Notes:

Site Number:	FN51	Mapping Unit:	WCf2	Description	
Date:	9/13/2012	Location Description:			
Start Time:	10:43 AM	Water Depth (ft/m):	212 cm		
End Time:	10:56 AM	Temp (F/C)			
Surveyors:	Clint, SD, & RT	Bottom Type:	Bare sand		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:			
UTM Easting:	74 06 51.7045 W	Site Notes:	UNABLE TO RETRIEVE SAMPLES!! We'll need to vibracore this location as we can't get the McCauley in as it's hard bottom materials. Its going to be difficult to bucket auger and find your hole location with 212 cm of water.		
UTM Northing:	39 53 45.5132 N				

Water Column measurements:			
	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)			

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n- value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ag			MUCKY LFS	slightly fluid (0.7)	10YR 2/1						Marine sand

Notes:

Site Number:	FN52	Mapping Unit:	WTs2	Description	Submerged mainland beach or Wave-cut platform???
Date:	9/13/2012	Location Description:			Water Column measurements:
Start Time:	12:45 PM	Water Depth (ft/m):	200cm		
End Time:	12:50 PM	Temp (F/C)			
Surveyors:	Clint, SD, & RT	Bottom Type:	Bare sand		
Waypoint:		SAV cover:	None		
GPS	ArcMap / Toughbook	Observation Method:	McCauly		
UTM Easting:	74 07 50.721" W	Site Notes:			
UTM Northing:	39 53 43.079" N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)			

McCauley auger refusal. Hard sand bottom and wasn't able to get the auger in. Landform could be a submerged mainland beach or anthropogenic influences on the site???????

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n- value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin

Notes:

Site Number:	FN53	Mapping Unit:	DreChl	Description	Fine-silty, mixed, subactive, nonacid, mesic Fluventic
Date:	9/11/2012	Location Description:	South Seaside park very close to shore		Water Column measurements:
Start Time:	11:20 AM	Water Depth (ft/m):	184cm		
End Time:	12:00 PM	Temp (F/C)	67.0 F		
Surveyors:	RS, Clint, & RT	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:	McCauly		
UTM Easting:	74 05 14.2011 W	Site Notes:	In a dredge hole just north of where the boundary for Island Beach State Park starts near a small boat marina there.		
UTM Northing:	39 54 26.9573 N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	68.3 F		

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n- value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase	0-26cm		mucky sil	very fluid (2)	10Y 2.5/1	0	0	Strong		2-3% unrubbed; 0 after rubbing	Marine silt
Cse	26-32 cm		mucky sil	very fluid (2)	10Y 3/1	0	0	Strong		no roots	Marine silt
A'se1	32-83 cm		mucky sil	very fluid (2)	10Y 2.5/1	0	0	Strong		1-2% unrubbed; 0 after rubbing	Marine silt
A'se2	83-100.5 cm		mucky sicl	very fluid (2)	10Y 2.5/1	0	0	Strong		no roots	Marine silt
C'se	100.5-116 cm		coarse sand	nonfluid (0)	10Y 5/1	3% gravel	0	Moderate		10% ilmenite	Marine sand

Notes:

Site Number:	FN54	Mapping Unit:	WIrr1	Description	Siliceous, mesic Typic Psammowassents
Date:	9/11/2012	Location Description:	Just south of where Seaside park resid		Water Column measurements:
Start Time:	12:50 PM	Water Depth (ft/m):	72cm		
End Time:	1:15 PM	Temp (F/C)	70 F		
Surveyors:	RS, Clint, & RT	Bottom Type:	Widgeon grass		
Waypoint:		SAV cover:	40%*		
GPS	ProXYZ	Observation Method:	Bucket Auger		
UTM Easting:	74 05 22.3417" W	Site Notes:			
UTM Northing:	39 54 19.5404" N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	69.3F		

Indian River. Landform = Flood Tidal-delta Sand Flat (Relict). Very shallow water area. 1.8 feet of water on depth finder.

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n- value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ag1	0-2		mucky sand	slightly fluid (0.7)	2.5Y 2.5/1	0	0	None		*half of veg cover is dead	Marine sand
Ag2	2-24cm		cos	nonfluid (0)	2.5Y 3/1	0	0	None			Marine sand
Cg	24-42		cos	nonfluid (0)	2.5Y 5/1	9% gravel	0	None		10% ilmenite	Marine sand

Notes:

Site Number:	FN57	Mapping Unit:	WTf3	Description	Fine-silty, mixed, subactive, nonacid, mesic Fluventic
Date:	9/13/2012	Location Description:	Main Lagoon Channel near green char		Water Column measurements:
Start Time:	11:12 AM	Water Depth (ft/m):	240 cm		
End Time:	11:55 AM	Temp (F/C)	74.0 F		
Surveyors:	Clint, SD, & RT	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:	McCauly		
UTM Easting:	74 07 051677 W	Site Notes:			
UTM Northing:	39 53 54.7420 N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)			
temp (F/C)	72.2 F		

Tingles soil series. Landform = Main Lagoon Channel. We got auger refusal at 150cm and I think it's sands below.

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase	0-13 cm	abrupt	MUCKY L	moderately fluid (1)	N 2.5/	0%	0%	Slight		A good amount of vfs in the horizon.	Marine silt
Cse1	13-58 cm	clear	VFSL	slightly fluid (0.7)	5Y 3/1	1%	5%	Slight		Shells are oyster frags. Mica in 2nd	Marine silt
Cse2	58-150 cm		SIL	slightly fluid (0.7)	5Y 4/1	0%	0%	Strong		30% root fragments throughout	Marine silt

Notes:

Site Number:	FN58	Mapping Unit:	WTs2	Description	Euic, mesic Sapric Sulfiwassists
Date:	9/20/2012	Location Description:	Mainland Cove		Water Column measurements:
Start Time:	8:40 AM	Water Depth (ft/m):	266 cm		
End Time:	9:20 AM	Temp (F/C)	65.0 F		
Surveyors:	RS, EM, SD, RT & Paige	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:	McCauly		
UTM Easting:	74 07 20.712	Site Notes:			
UTM Northing:	39 52 39.738				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)	18.8	18.8	23.3
temp (F/C)	69	69.1	71.1

Tumagan soil series. Landform = Mainland Cove

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase	0-11cm		MUCKY L	moderately fluid (1)	N 2.5/	0%	5%	Moderate			Marine silt
Cse	11-32 cm		loam	moderately fluid (1)	10Y 3/1	0%	2%	Moderate		3% mica: 5% fibers 2.5Y 4/4	Marine silt
Oese	32-82 cm		MUCKY PEAT		10Y 3/1	0%	1%	Strong		40% unrubbed 2.5Y 4/4; 20% after rubbing	Organic, tidal
Oase	82-108 cm		MUCK		10YR 2/1	0%		Strong		15% uncoated sand grains N 9/ ; 65%	Organic, fresh

Notes:

Site Number:	FN59	Mapping Unit:	WTs2	Description	Euic, mesic Sapric Sulfiwassists			
Date:	9/20/2012	Location Description:	Main Lagoon North of Lanoka Harbor		Water Column measurements:			
Start Time:	1:37 PM	Water Depth (ft/m):	243 cm			Surface	Mid	Bottom
End Time:	2:30 PM	Temp (F/C)	67.0 F		pH			
Surveyors:	RS, EM, SD, RT, & Paige	Bottom Type:	Bare mud		DO (mg/l)			
Waypoint:		SAV cover:	None		salinity (ppt)	18.5	18.6	19.8
GPS	ProXYZ	Observation Method:	McCauly		temp (F/C)	69.9 F	69.6 F	69.95 F
UTM Easting:	74 08 07.026 W	Site Notes:	**Tumagan Soil series, Landform = Mainland Cove;** 18.6 ppt or 29.6 millisiemens per centimeter, auger refusal at 153cm, 109cm is a lithologic discontinuity and what we think is a former Atlantic White Cedar Swamp,					
UTM Northing:	39 52 51.438 N							

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Oase1	0-7 cm	clear	MUCK		5Y 2.5/1 unrubbed and	0%	0%	Moderate		75% unrubbed & 15% rubbed fiber content	Organic, tidal
Oase2	7-44 cm	clear	MUCK		5Y 3/1 unrubbed and	0%	0%	Strong		45% unrubbed & 15% rubbed fiber content	Organic, tidal
Oase3	44-51 cm	abrupt	MUCK		5Y 3/2 unrubbed & 5Y 3/1	0%	0%	Strong		35% unrubbed & 10% rubbed fiber content,	Organic, tidal
Oase4	51-87 cm	clear	MUCK		2.5Y 3/2 unrubbed & 2.5Y 3/1	0%	0%	Strong		60% unrubbed & 15% rubbed fiber content	Organic, tidal
Oese	87-109 cm	clear	MUCKY PEAT		2.5Y 3/2 unrubbed & 2.5Y 3/1	0%	0%	Strong		70% unrubbed & 23% rubbed fiber content ; a	Organic, tidal
2Oase5	109-153 cm		MUCK		10YR 2/2	0%	0%	Strong		30% unrubbed & 10% rubbed fiber content	Organic, fresh

Notes:

Site Number:	FN60	Mapping Unit:	WHe1	Description	Fine-silty, mixed, subactive, nonacid, mesic Typic Sul
Date:	9/20/2012	Location Description:	Inside a **Estuarine Tidal Creek** a form		Water Column measurements:
Start Time:	10:30 AM	Water Depth (ft/m):	120 cm		
End Time:	11:05 AM	Temp (F/C)	65.0 F		
Surveyors:	RS, EM, SD, RT & Paige	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:	McCauly		
UTM Easting:	74 08 32.634	Site Notes:	**Herring Creek? Or Truitt taxadjunct.** Could be fluventic but don't know about the irregular increase and decrease in organic carbon. Rich and Susan say probably not and Rob says probably yes. Large tube worms picked up on the anchors.		
UTM Northing:	39 52 09.066				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)	17	17	17.1
temp (F/C)	69.4	69.4	69.5

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ag	0-7 cm	clear	MUCKY SIL	very fluid (2)	N 2.5/	0%	0%	None		3% mica	Marine silt
Cse1	7-29 cm	gradual	SIL	slightly fluid (0.7)	10Y 3/1	0%	1%	Moderate		3% mica	Marine silt
Cse2	29-163 cm		SIL	moderately fluid (1)	5Y 3/1	0%	0%	Moderate		3% mica; slight increase in clay; 2% 2.5Y	Marine silt

Notes:

Site Number:	FN61	Mapping Unit:	WCf3	Description	Coarse-loamy, mixed, subactive, nonacid, mesic Typi
Date:	9/20/2012	Location Description:			
Start Time:	9:49 AM	Water Depth (ft/m):	291 cm		
End Time:	10:08 AM	Temp (F/C)	67.0 F		
Surveyors:	RS, EM, SD, RT, & Paige	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:	McCauly		
UTM Easting:	74 07 11.274	Site Notes:			
UTM Northing:	39 51 50.502				

Water Column measurements:

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)	20	20	25.3
temp (F/C)	69.5	69.3	70.8

Not able to push McCauley any deeper then 48 cm. **Cottman taxadjunct (not Haplic and is Typic).**

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n- value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase	0-23 cm	clear	MUCKY SIL	very fluid (2)	10Y 2.5/1	0%	5% small	Moderate			Marine silt
Cse1	23-38 cm	clear	LOAM	moderately fluid (1)	5GY 2.5/1	0%	0%	Moderate			Marine silt
Cse2	38-48 cm		SL	moderately fluid (1)	5GY 2.5/1	0%	2%	Moderate		3% uncoated sand grains; N 8/	Marine sand

Notes:

Site Number:	FN64	Mapping Unit:	WTf3	Description	Fine-silty, mixed, subactive, nonacid, mesic Fluventic
Date:	9/19/2012	Location Description:	East of Forked River and south of marl		Water Column measurements:
Start Time:	9:42 AM	Water Depth (ft/m):	275 cm		
End Time:	10:37 AM	Temp (F/C)	62.0 F		
Surveyors:	RS, EM, SD, RT & Paige	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:	McCauly		
UTM Easting:	74 08 13.6262 W	Site Notes:			
UTM Northing:	39 50 38.4626 N				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)	22.8	23.1	24.3
temp (F/C)	71	71.3	71.8

Tingles soil series & Main Lagoon. Middle water column depth was around 4.5 feet. If you ignore O horizon then pedon would classify as a Fluventic Sulfiwassents.

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ag	0-8 cm	gradual	MUCKY SIL	very fluid (2)	N 2.5/	0%	1%	None			Marine silt
Cse1	8-43 cm	gradual	SIL	moderately fluid (1)	5Y 3/1	0%	1% (very fine)	Moderate		3-4% mica flakes	Marine silt
Cse/Ose	43-93 cm	gradual	MUCKY SIL	moderately fluid (1)	5Y 3/1	0%	4% oysters / flat	Moderate		Unrubbed 35% and rubbed. Borderline Oe /	Organic, tidal
Cse2	93-150 cm		SIL	slightly fluid (0.7)	5Y 4/1	0%	0%	Moderate		1% mica flakes	

Notes:

Site Number:	FN66	Mapping Unit:	WTs2	Description	Euic, mesic Typic Sulfiwassists
Date:	9/19/2012	Location Description:	Just south of Development where we n		Water Column measurements:
Start Time:	12:57 PM	Water Depth (ft/m):	224 cm		
End Time:	1:20 AM	Temp (F/C)	65.0 F		
Surveyors:	RS, EM, SD, RT, Paige	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:	McCauly		
UTM Easting:	74 09 04.4	Site Notes:			
UTM Northing:	39 50 01.8				

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)	23.3	25.3	25.5
temp (F/C)	72.2	71.9	71.9

Former eroded salt marsh. **Tumagan (taxadjunct) Typic Sulfiwassits instead of Sapric. Landform = Mainland Cove.**

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ase	0-10 cm	clear	MUCKY SIL	moderately fluid (1)	N 2.5/	0%	1%	Moderate			Marine silt
Oase	10-23 cm	diffuse	MUCK		10Y 3/1	1% 3mm gravel	0%	Moderate		35% unrubbed 2.5Y 4/4 fibers; 10% rubbed	Organic, tidal
Oese	23-100cm		MUCKY PEAT		80% 10Y 4/1;20% N 2/	0%	0%	Strong		60% unrubbed 2.5Y 4/4 fibers; 15 % rubbed	Organic, tidal

Notes:

Site Number:	FN67	Mapping Unit:	WHe1	Description	Coarse-loamy, mixed, subactive, nonacid, mesic Typi
Date:	9/20/2012	Location Description:	Estuarine Tidal Creek / Brackish water		
Start Time:	11:49 AM	Water Depth (ft/m):	140 cm		
End Time:	12:17 PM	Temp (F/C)	66.0 F		
Surveyors:	RS, EM, SD, RT & Paige	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:	McCauly		
UTM Easting:	74 09 12.3415 W	Site Notes:			
UTM Northing:	39 52 13.3099 N				

Water Column measurements:			
	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)	10.8	15.7	21.1
temp (F/C)	68.9 F	70.8 F	72.8 F

Potential Wequetequock

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
Ag	0-25 cm	clear	MUCKY SIL	very fluid (2)	N 2.5/	0%	1%	None		Live snail in the surface horizon.	Marine silt
Ase	25-44 cm	clear	MUCKY SIL	very fluid (2)	5Y 2.5/1	0%	1%	Moderate		More fine sand then the surface	Marine silt
Cse	44-52 cm		SL	moderately fluid (1)	5Y 3/1	2%	0%	Moderate		Very fine fibers throughout	Marine sand

Notes:

Site Number:	FN68	Mapping Unit:	WHe1	Description	Psammowassents
Date:	9/20/2012	Location Description:	Mainland Cove very far inland (Lanoka		Water Column measurements:
Start Time:	12:26 PM	Water Depth (ft/m):	86 cm		
End Time:		Temp (F/C)	66.0 F		
Surveyors:	RS, EM, SD, RT & Paige	Bottom Type:	Bare mud		
Waypoint:		SAV cover:	None		
GPS	ProXYZ	Observation Method:	Bucket Auger		

	Surface	Mid	Bottom
pH			
DO (mg/l)			
salinity (ppt)	3.6	3.6	17.3
temp (F/C)	67.0 F	66.9 F	71.3 F

UTM Easting:	74 09 37.824 W
UTM Northing:	39 52 08.490 N

Site Notes:

Possible dredge spoil site inside a Estuarine Tidal Creek (Lanoka Harbor). Couldn't get McCauley down too sandy. Good potential vibracore site.

Horizon	Depth (cm)	Boundary Dist.	Field Texture Class	fluidity (n-value)	Munsell Color (Matrix)	Coarse frags (%)	Shell frags (%)	H_2S odor	Peroxide Color change	Notes	Origin
ACse	0-5 cm	abrupt	MUCKY SL	slightly fluid (0.7)	10YR 2/1	0%	0%	Slight		Possible Dredge	Marine sand
AC	5-29 cm		COS	nonfluid (0)	10YR 2/1	25 - 30% gravel	0%	None		Possible Dredge	Marine sand

Notes:

United State Department of Agriculture - Natural Resources Conservation Services
X-Ray Flourescence Trace Metal Analysis Report

Project: Barnegat Bay

Reading	Depth (cm)	S	Cl	K	Ca	Ti	Cr	Mn	Fe	Co	Cu	Zn	As	Rb	Sr	Zr	Mo	Ba	Pb	Unit
	FN-10																			
#10	0-8		2657	1498	673	1280		59	2181	38		25.5		14.2	45.1	485		49	6.5	PPM
#11	8-62	3440	2456	2085	524	2686		85	2672			22.8		13.2	40.3	744		89	6.5	PPM
#12	62-74		2700	2552	1099	3310	11	126	5371			26.3		12.2	40.7	716		93	5.2	PPM
	FN-12																			
#13	0-8		3224	830		2106		40	1608	29		21.6		9.3	30.4	1253	14	63		PPM
#14	8-40	891	3147	1380	239	1724	11	61	2771			15.4		10.5	27.3	899		61		PPM
#15	40-60	769	2895	2864	1799	1928	31	79	5711			28		17.4	51.3	337		89	6	PPM
	FN-13																			
#16	0-30		2955	1911	526	1768		62	2263	42		25.9		15.6	52.1	537		62	8	PPM
#17	30-53		3041	778		372	11	28	936	24		17.1		8.2	19.8	125				PPM
#18	53-80	1482	3463	5007	2859	1715	31	116	9759	112		42	4.1	36.7	103	344	7.1	149	8.5	PPM
#19	80-92	917	3306	2395	1130	1376	18	78	4472	46		23.2		23.7	69	360		80	7.1	PPM
#20	92-96	2248	2593	5832	4054	1710	34	143	12145	113		43	3.5	47.1	106	391		105	9.1	PPM
	FN-14																			
#21	0-11	1971	2522	4425	1866	1620	30	136	12974	133	11	57	6.4	34	76	156		114	15.6	PPM
#22	11-21	2048	2090	4780	1848	1260	38	124	14252	156		38		40.5	78	103		118	10.7	PPM
#23	21-38	1954	1480	5241	2469	1705	44	157	16695	209		45	5.6	48.1	120	249		120	8.2	PPM
#24	38-92	1349	743	1628	398	427	15	39	7499	171		22.8		19	28.7	28.4	4.8	29	5.7	PPM
#25	92-100	1540	834	1535	516	467	12	41	7323	88		16.6	2.8	21.3	39.7	54.6		41		PPM

United State Department of Agriculture - Natural Resources Conservation Services

X-Ray Flourescence Trace Metal Analysis Report

Project: Barnegat Bay Surface Layers

Reading	Sample	S	Cl	K	Ca	Ti	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Se	Rb	Sr	Zr	Mo	Ba	Hg	Pb	Unit
#4	FN22	30213	17804	3063	8075	558	22	48	13753	192			71	4.2		33	78.6	186	4.7	198		18.4	PPM
#5	FN31	17114	6788	18730	10171	4609	69	243	57289		32		65	13.2		84.3	175	444		332		29	PPM
#6	FN32	7474	3263	16797	7498	4660	74	240	34294	349			57	11.5		71.9	154	333		257		17.4	PPM
#7	FN33	14057	1945	16122	8200	4456	102	246	43809	426		47	160	20		63.9	127	289		352	6.4	78	PPM
#8	FN53	18389	11959	11231	5658	2618	59	233	20543	220		34	136	5.7		59.1	122	290	5.6	226		69	PPM
#9	FN60	10902	3517	15914	10926	4408	50	245	18547	124		16	85	8.6	2.5	63.5	249	770		193	6.8	30	PPM
#10	FN65	10692	3942	12456	7379	2843	38	165	15555	136			38			44.3	154	485		163		15.9	PPM
#11	FN67	18420	4591	13026	6313	3048	66	243	25750	307		45	131	11.8	2.5	61.1	134	303		236		54	PPM

Glossary of Subaqueous Landscape and Landforms Terms

anthropogenic feature - An artificial feature on the earth's surface (including those in shallow water), having a characteristic shape and range in composition, composed of unconsolidated earthy, organic materials, artificial materials, or rock, that is the direct result of human manipulation or activities; can be either constructional (e.g., artificial levee) or destructional (quarry). SW

barrier cove - A subaqueous area adjacent to a barrier island or submerged barrier beach that forms a minor embayment or cove within the larger basin. Compare – cove, mainland cove. SSS

barrier island - A long, narrow, sandy island, that is above high tide and parallel to the shore that commonly has dunes, vegetated zones, and swampy **or marshy** terrains extending lagoonward from the beach. Compare – barrier beach. GG

bay [coast] – a) A wide, curving open indentation, recess, or arm of a sea (e.g. Chesapeake Bay) or lake (e.g. Green Bay, WI) into the land or between two capes or headlands, larger than a cove [coast], and usually smaller than, but of the same general character as, a gulf. b) A large tract of water that penetrates into the land and around which the land forms a broad curve. By international agreement a bay is a water body having a baymouth that is less than 24 nautical miles wide and an area that is equal to or greater than the area of a semicircle whose diameter is equal to the width of the bay mouth. Compare – gulf. GG

channel - (a) [stream] The hollow bed where a natural body of surface water flows or may flow. The deepest or central part of the bed of a stream, containing the main current and occupied more or less continuously by water. (b) (colloquial: western U.S.A.) The bed of a single or braided watercourse that commonly is barren of vegetation and is formed of modern alluvium. Channels may be enclosed by banks or splayed across and slightly mounded above a fan surface and include bars and mounds of cobbles and stones. (c) [Microfeature] Small, trough-like, arcuate or sinuous channels separated by small bars or ridges, caused by fluvial processes; common to flood plains and young alluvial terraces; a constituent part of *bar and channel* topography. GG, FFP, & SW.

consistence – The degree and kind of cohesion and adhesion that soil exhibits, and / or the resistance of soil to deformation or rupture under an applied stress. Moist consistence is often used in soil survey inventories.

cove [coast] – a) [water] A small, narrow sheltered bay, inlet, creek or recess in an estuary, often inside a larger embayment. Compare – lagoon bottom. SSS & GG b) A small, often circular, wave-cut indentation in a cliff; it usually has a restricted or narrow entrance. c) A fairly broad, looped embayment in a lake shoreline. d) A shallow tidal river, or the backwater near the mouth of a tidal river. Compare - estuary. GG

creek [streams] – (not preferred, refer to intermittent stream) A general term used throughout the USA (except New England), Canada, and Australia for a small, intermittent stream that is larger than a brook but smaller than a river. GG

dredged channel - A roughly linear, deep water area formed by a dredging operation for navigation purposes (after Wells et al., 1994; dredged hole). Compare – dredge-deposit shoal. SSS

dredge-deposit shoal - A subaqueous area, substantially shallower than the surrounding area that resulted from the deposition of materials from dredging and dumping (modified from Demas 1998). Compare – dredged channel, shoal. SSS

estuarine deposit - Fine-grained sediments (very fine sand, silt and clay) of marine and fluvial origin commonly containing decomposed organic matter, laid down in the brackish waters of an estuary; characteristically finer sediments than deltaic deposits. Compare – fluviomarine deposit, lacustrine deposit, lagoonal deposit, marine deposit, overbank deposit. GG

estuarine subaqueous soils - Soils that form in sediment found in shallow-subtidal environments in protected estuarine coves, bays, inlets, and lagoons. Excluded from the definition of these soils are any areas "permanently covered by water too deep (typically greater than 2.5 m) for the growth of rooted plants". SSS

flood-tidal delta - A largely subaqueous (sometimes intertidal), crudely fan-shaped deposit of sand-sized sediment formed on the landward side of a tidal inlet (modified from Boothroyd et al., 1985; Davis, 1994; Ritter et al., 1995). Flood tides transport sediment through the tidal inlet and into the lagoon over a flood ramp where currents slow and dissipate (Davis, 1994). Generally, flood-tidal deltas along microtidal coasts are multi-lobate and unaffected by ebbing currents (modified from Davis, 1994). Compare – flood-tidal delta slope. SSS

flood-tidal delta flat - The relatively flat, dominant component of the flood-tidal delta. At extreme low tide this landform may be exposed for a relatively short period (modified from Boothroyd et al., 1985). SSS

flood-tidal delta slope - An extension of the flood-tidal delta that slopes toward deeper water in a lagoon or estuary, composed of flood channels, inactive lobes (areas of the flood-tidal delta that are not actively accumulating sand as a result of flood tides), and parts of the terminal lobe of the flood-tidal delta (modified from Boothroyd et al., 1985). SSS

fluidity (manner of failure and n Value) – The rate of change and the physical condition soil attains when subjected to compression. This test is used to predict whether a soil can support loading and if subsidence would occur after drainage. Samples are moist or wetter and a palmful of soil us squeezed in the hand.
Nonfluid – no soil material flows through the fingers during full compression (<0.7).
Slightly Fluid – Some soil flows through the fingers, most remains in the palm, after full pressure (0.7 – 1.0).
Moderately Fluid – Most of the soil flows easily through the fingers, some remains in the palm, after full pressure (1.0 – 2.0).
Very Fluid – Most of the soil flows easily through the fingers, very little remains in the palm, after gently pressure is applied (>2.0).

mainland cove - A subaqueous area adjacent to the mainland or a submerged mainland beach that forms a minor recess or embayment within the larger basin. Compare – cove, barrier cove. SSS

lagoon - [coast] A shallow stretch of salt or brackish water, partly or completely separated from a sea or lake by an offshore reef, barrier island, sandbank or spit. GG'87. [relict landform] A nearly level, filled trough or depression behind the longshore bar on a barrier beach and built by a receding pluvial or glacial lake. Compare - sewage lagoon. FFP

lagoonal deposit – Sand, silt or clay-sized sediments transported and deposited by wind, currents, and storm washover in the relatively low-energy, brackish to saline, shallow waters of a lagoon. Compare – estuarine deposit, fluviomarine deposit, marine deposit. SSS

lagoon bottom - The nearly level or slightly undulating central portion of a submerged, low-energy, depositional estuarine basin (McGinn, 1982) characterized by relatively deep water (1.0 to >2.5 m). Compare – bay bottom. SSS

lagoon channel - A subaqueous, sinuous area within a lagoon that likely represents a relict channel (paleochannel) (Wells et al., 1994) that is maintained by strong currents during tidal cycles (Short, 1975). SSS

landform - Any physical, recognizable form or feature on the earth's surface, having a characteristic shape, internal composition, and produced by natural causes; a distinct individual produced by a set of processes. Landforms can span a large size (e.g., *dune* encompasses a number of feature including *parabolic dune,* which is tens-of-meters across and *seif dune,* which can be up to a 100 kilometers across. Landforms provide an empirical description of the earth's surface features. SW & GG

landscape [soils] A broad or unique land area comprised of an assemblage or collection of landforms that define a general geomorphic form or setting (e.g., mountain range, lake plain, lava plateau, or loess hill) Landforms within a landscape are spatially associated, but may vary in formation processes and age. SW & GSST

landscape position (hillslope profile position) – A two-dimensional descriptor of parts of line segments along a transect that runs down the slope. Appropriate choices are summit, shoulder, backslope, footslope, and toeslope.

parent material - The unconsolidated and more or less chemically weathered mineral or organic matter from which a soil's solum is developed by pedogenic processes. GSST

relict - (adjective) Pertaining to surface landscape features e.g., landforms, geomorphic surfaces, and paleosols that have never been buried and yet are predominantly products of past environments. Compare - exhumed, buried, ground soil. HP

relict-tidal inlet - A channel remnant of a former tidal inlet. The channel was cutoff or abandoned by infilling from migrating shore sediments. Compare – inlet, tidal inlet. SSS

salinity – The concentration of water soluable salts in soils. Salinity has been broken into classes with measurable units to millimhos per centimeter.

shoal - (noun) (a) A relatively shallow place in a stream, lake, sea, or other body of water; a shallows. (b) A natural, subaqueous ridge, bank, or bar consisting of, or covered by, sand or other unconsolidated material, rising from the bed of a body of water (e.g. estuarine floor) to near the surface. It may be exposed at low water. Compare - reef. SSS & GG

storm surge - An abnormal, sudden rise of sea level along an open coast during a storm, caused primarily by onshore-wind stresses, or less frequently by atmospheric pressure reduction, resulting in water piled up against the coast. It is most severe when accompanied by a high tide. GG

subaerial - (adjective) Said of conditions and processes, such as erosion, that exist or operate in the open air on or immediately adjacent to the land surface; or of features and materials, such as eolian deposits, that are formed or situated on the land surface. Compare – subaqueous. GG

subaqueous – (adjective) Said of conditions and processes, features or deposits, that exist or operate in or under water. Compare – subaerial. SSS & GG

subaqueous landscapes - Permanently submerged areas that are fundamentally the same as subaerial (terrestrial) systems in that they have a discernable topography composed of mappable, subaqueous landforms. SSS

subaqueous soils - Soils that form in sediment found in shallow, permanently flooded environments. Excluded from the definition of these soils are any areas "permanently covered by water too deep (typically greater than 2.5 m) for the growth of rooted plants". SSS

submerged-upland tidal marsh – An extensive nearly level, intertidal landform composed of unconsolidated sediments (clays, silts, and/or sand and organic materials), a resistant root mat, vegetated dominantly by hydrophytic (water loving) plants. The mineral sediments largely retain pedogenic horizonation and morphology (e.g. argillic horizons) developed under subaerial conditions prior to submergence due to sea level rise; a type of tidal marsh. Compare – tidal marsh. SW

submerged back-barrier beach - A permanently submerged extension of the back-barrier beach that generally parallels the boundary between estuary and the barrier island. Compare – submerged mainland beach, barrier beach. SSS

submerged mainland beach - A permanently submerged extension of the mainland beach that generally parallels the boundary between an estuary or lagoon and the mainland. Compare – submerged back-barrier beach, barrier beach. SSS

submerged point bar [coastal] - The submerged extension of an exposed (subaerial) point bar. SSS

submerged wave-built terrace - A subaqueous, relict depositional landform originally constructed by river or longshore sediment deposits along the outer edge of a wave-cut platform and later submerged by rising sea level or subsiding land surface. Compare wave – built terrace, wave-cut platform. GG

submerged wave-cut platform - A subaqueous, relict erosional landform that originally formed as a wave-cut bench and abrasion platform from coastal wave erosion and later submerged by rising sea level or subsiding land surface. Compare – wave-built terrace, wave-cut platform. GG

subtidal - (adjective) – Continuous submergence of substrate in an estuarine or marine ecosystem; these areas are below the mean low tide. Compare – intertidal. SSS & CC

subtidal wetlands - Permanently inundated areas within estuaries dominated by subaqueous soils and submerged aquatic vegetation. SSS

taxadjunct – A soil that is correlated as a recognized, existing soil series but the soils have one or more differentiating characteristics that are outside the taxonomic class limits of the family or higher category for the named soil series.

tidal flat - An extensive, nearly horizontal, barren or sparsely vegetated tract of land that is alternately covered and uncovered by the tide, and consists of unconsolidated sediment (mostly clays, silts and/or sands and organic materials). Compare – tidal marsh**,** wind-tidal flat. GG

tidal inlet - Any inlet through which water alternately floods landward with the rising tide and ebbs seaward with the falling tide. Compare – inlet, relict tidal inlet. GG

tidal marsh – An extensive, nearly level marsh bordering a coast (as in a shallow lagoon, sheltered bay or estuary) and regularly inundated by high tides; formed mostly of unconsolidated sediments (e.g. clays, silts, and/or sands and organic materials), and the resistant root mat of salt tolerant plants; a marshy tidal flat. Compare – tidal flat. SW & GG

washover fan - A fan-like deposit of sand washed over a barrier island or spit during a storm and deposited on the landward side. Washover fans can be small to medium sized and completely subaerial, or they can be quite large and include subaqueous margins extending into adjacent lagoons or estuaries. Large fans can be subdivided into sequential parts: ephemeral washover channel (microfeature) cut through dunes or beach ridges, back-barrier flats, (subaqueous) washover-fan flat, (subaqueous) washover-fan slope. Subaerial portions can range from barren to completely vegetated.. SSS

washover-fan flat - A gently sloping, fan-like, subaqueous landform created by overwash from storm surges that transports sediment from the seaward side to the landward side of a barrier island (GG). Sediment is carried through temporary overwash channels that cut through the dune complex on the barrier spit (Fisher and Simpson, 1979; Boothroyd et al., 1985; Davis, 1994) and spill out onto the lagoon-side platform where they coalesce to form a broad belt. Also called storm-surge platform flat (Boothroyd et al., 1985) and washover fan apron (GG). Compare – washover fan slope. SSS

washover-fan slope - A subaqueous extension of a washover-fan flat that slopes toward deeper water of a lagoon or estuary and away from the washover-fan flat. Compare – washover-fan flat. SSS

water [soil survey] - A generic map unit for any permanent, open body of water (pond, lake, reservoir, etc.) that does not support rooted plants. SW

The definitions listed here were taken from the National Soil Survey Handbook (NSSH) Part 629 – Glossary of Landform and Geologic Terms (September 2012).

Sources from which definitions were taken, whole or in part, are identified by a code (e.g. GG) following each definition. Underlined codes (e.g. GG) signify a definition modification form the original source. The reference codes are:

CC Cowardin, L.M., Carter, V., Golet, F.C., and Laroe, E.T. 1979. Classification of wetlands and deepwater habitats of the United States. US Dept. Interior, US Fish and Wildlife Service, US Government Printing Office, Washington, DC.

FFP Peterson, F.F. 1981. Landforms of the Basin and Range Province defined for soil survey. Nevada Agricultural Experiment Station Technical Bulletin No. 28, Reno, NV. 52p.

GG Jackson, J.A. (ed) 1997. Glossary of geology, 4th Ed. American Geological Institute, Alexandria, VA. 769p. ISBN 0-922152-34-9

GG'87 Bates, R.L., and Jackson, J.A. (ed) 1987. Glossary of geology, 3rd Ed. American Geological Institute, Alexandria, VA.788p.

GD Demas, G.P. 1998. Subaqueous soil of Sinepuxent Bay, Maryland. PhD dissertation, Department of Natural Resources and Landscape Architecture, University of Maryland, College Park, MD.

GSST Soil Science Society of America. 2001. Glossary of Soil Science terms. Soil Science Society of America, Madison, WI. 135p.

HP Hawley, J.W., and Parsons, R.B. 1980. Glossary of selected geomorphic and geologic terms. Mimeo. USDA Soil Conservation Service, West National Technical Center, Portland, OR. 30 p.

SSS Subaqueous Soils Subcommittee. 2005. Glossary of terms for subaqueous soils, landscapes, landforms, and parent materials of estuaries and lagoons. National Cooperative Soil Survey Conference, USDA-NRCS, National Soil Survey Center, Lincoln, NE.

SW Schoeneberger, P.J. and Wysocki, D.A. (personal communication), National Soil Survey Center, NRCS, Lincoln, NE.

MakAt
PstAt
AptAv
DreChl
WHe1
WHe2
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