

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant Species?

Sampling Point: Wet - 1

Tree Stratum (Plot size: 30 m)	Absolute % Cover	Rel.Strat. Cover	Indicator Status
1. <i>Pinus elliotii</i>	5	<input checked="" type="checkbox"/> 23.8%	FACW
2. <i>Magnolia virginiana</i>	10	<input checked="" type="checkbox"/> 47.6%	FACW
3. <i>Nyssa sylvatica</i>	5	<input checked="" type="checkbox"/> 23.8%	FAC
4. <i>Taxodium ascendens</i>	1	<input type="checkbox"/> 4.8%	OBL
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
8.	0	<input type="checkbox"/> 0.0%	
50% of Total Cover:	10.5	20% of Total Cover: 4.2	21 = Total Cover

Sapling or Sapling/Shrub Stratum (Plot size: 30 m)	Absolute % Cover	Rel.Strat. Cover	Indicator Status
1. <i>Magnolia virginiana</i>	15	<input checked="" type="checkbox"/> 50.0%	FACW
2. <i>Nyssa sylvatica</i>	10	<input checked="" type="checkbox"/> 33.3%	FAC
3. <i>Cyrilla racemiflora</i>	3	<input type="checkbox"/> 10.0%	FACW
4. <i>Acer rubrum</i>	2	<input type="checkbox"/> 6.7%	FAC
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
8.	0	<input type="checkbox"/> 0.0%	
50% of Total Cover:	15	20% of Total Cover: 6	30 = Total Cover

Shrub Stratum (Plot size: 30m)	Absolute % Cover	Rel.Strat. Cover	Indicator Status
1. <i>Cyrilla racemiflora</i>	10	<input checked="" type="checkbox"/> 31.3%	FACW
2. <i>Ilex coriacea</i>	15	<input checked="" type="checkbox"/> 46.9%	FACW
3. <i>Ilex glabra</i>	5	<input type="checkbox"/> 15.6%	FACW
4. <i>Acer rubrum</i>	2	<input type="checkbox"/> 6.3%	FAC
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
50% of Total Cover:	16	20% of Total Cover: 6.4	32 = Total Cover

Herb Stratum (Plot size: 30 m)	Absolute % Cover	Rel.Strat. Cover	Indicator Status
1. <i>Woodwardia areolata</i>	5	<input checked="" type="checkbox"/> 62.5%	OBL
2. <i>Woodwardia virginica</i>	3	<input checked="" type="checkbox"/> 37.5%	OBL
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
8.	0	<input type="checkbox"/> 0.0%	
9.	0	<input type="checkbox"/> 0.0%	
10.	0	<input type="checkbox"/> 0.0%	
11.	0	<input type="checkbox"/> 0.0%	
12.	0	<input type="checkbox"/> 0.0%	
50% of Total Cover:	4	20% of Total Cover: 1.6	8 = Total Cover

Woody Vine Stratum (Plot size: 30 m)	Absolute % Cover	Rel.Strat. Cover	Indicator Status
1.	0	<input type="checkbox"/> 0.0%	
2.	0	<input type="checkbox"/> 0.0%	
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
50% of Total Cover:	0	20% of Total Cover: 0	0 = Total Cover

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 9 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: 91 (A) Multiply by:

OBL species 9 x 1 = 9

FACW species 63 x 2 = 126

FAC species 19 x 3 = 57

FACU species 0 x 4 = 0

UPL species 0 x 5 = 0

Column Totals: 91 (A) 192 (B)

Prevalence Index = B/A = 2.110

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0 ¹
 - Problematic Hydrophytic Vegetation ¹ (Explain)
- ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

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

SOIL

Sampling Point: Wet - 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc ²			
0-3	10YR	3/2							Loamy Sand	
3-16	10YR	5/2	95	10YR	7/2	5	C	M	Sandy Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 153B)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Muck Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input checked="" type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
 Stripped depleted matrix lower in soil column > 4 inches with some small redox concentrations.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation **City/County:** Waveland - Hancock **Sampling Date:** 07-Oct-16

Applicant/Owner: NASA **State:** MS **Sampling Point:** Wet - 2

Investigator(s): Lars Larson, Randy Ellis **Section, Township, Range:** S 20 T 7 S R 16 W

Landform (hillslope, terrace, etc.): Floodplain **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °

Subregion (LRR or MLRA): LRR T **Lat.:** 30° 24' 53.385" N **Long.:** 89° 36' 51.572" W **Datum:** NAD83

Soil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes **NWI classification:** PFO 1/4 C

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)	
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): 12		Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Saturation begins to develop around 10 to 12 inches below ground surface. However, numerous other hydrology indicators are evident.			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: Wet - 2

Tree Stratum (Plot size: 30 m)	Absolute % Cover	Rel.Strat. Cover	Dominant Species?	Indicator Status
1. <i>Magnolia virginiana</i>	15	<input checked="" type="checkbox"/>	48.4%	FACW
2. <i>Nyssa sylvatica</i>	10	<input checked="" type="checkbox"/>	32.3%	FAC
3. <i>Pinus elliotii</i>	5	<input type="checkbox"/>	16.1%	FACW
4. <i>Taxodium ascendens</i>	1	<input type="checkbox"/>	3.2%	OBL
5.	0	<input type="checkbox"/>	0.0%	
6.	0	<input type="checkbox"/>	0.0%	
7.	0	<input type="checkbox"/>	0.0%	
8.	0	<input type="checkbox"/>	0.0%	
50% of Total Cover:	15.5	20% of Total Cover:	6.2	31 = Total Cover

Sapling or Sapling/Shrub Stratum (Plot size: 30 m)	Absolute % Cover	Rel.Strat. Cover	Dominant Species?	Indicator Status
1. <i>Magnolia virginiana</i>	25	<input checked="" type="checkbox"/>	59.5%	FACW
2. <i>Pinus elliotii</i>	10	<input checked="" type="checkbox"/>	23.8%	FACW
3. <i>Nyssa sylvatica</i>	5	<input type="checkbox"/>	11.9%	FAC
4. <i>Acer rubrum</i>	2	<input type="checkbox"/>	4.8%	FAC
5.	0	<input type="checkbox"/>	0.0%	
6.	0	<input type="checkbox"/>	0.0%	
7.	0	<input type="checkbox"/>	0.0%	
8.	0	<input type="checkbox"/>	0.0%	
50% of Total Cover:	21	20% of Total Cover:	8.4	42 = Total Cover

Shrub Stratum (Plot size: 30 m)	Absolute % Cover	Rel.Strat. Cover	Dominant Species?	Indicator Status
1. <i>Cyrilla racemiflora</i>	20	<input checked="" type="checkbox"/>	71.4%	FACW
2. <i>Magnolia virginiana</i>	5	<input type="checkbox"/>	17.9%	FACW
3. <i>Acer rubrum</i>	3	<input type="checkbox"/>	10.7%	FAC
4.	0	<input type="checkbox"/>	0.0%	
5.	0	<input type="checkbox"/>	0.0%	
6.	0	<input type="checkbox"/>	0.0%	
50% of Total Cover:	14	20% of Total Cover:	5.6	28 = Total Cover

Herb Stratum (Plot size: 30 m)	Absolute % Cover	Rel.Strat. Cover	Dominant Species?	Indicator Status
1. <i>Arundinaria tecta</i>	5	<input checked="" type="checkbox"/>	62.5%	FACW
2. <i>Woodwardia areolata</i>	3	<input checked="" type="checkbox"/>	37.5%	OBL
3.	0	<input type="checkbox"/>	0.0%	
4.	0	<input type="checkbox"/>	0.0%	
5.	0	<input type="checkbox"/>	0.0%	
6.	0	<input type="checkbox"/>	0.0%	
7.	0	<input type="checkbox"/>	0.0%	
8.	0	<input type="checkbox"/>	0.0%	
9.	0	<input type="checkbox"/>	0.0%	
10.	0	<input type="checkbox"/>	0.0%	
11.	0	<input type="checkbox"/>	0.0%	
12.	0	<input type="checkbox"/>	0.0%	
50% of Total Cover:	4	20% of Total Cover:	1.6	8 = Total Cover

Woody Vine Stratum (Plot size: 30 m)	Absolute % Cover	Rel.Strat. Cover	Dominant Species?	Indicator Status
1. <i>Vitis rotundifolia</i>	5	<input checked="" type="checkbox"/>	100.0%	FAC
2.	0	<input type="checkbox"/>	0.0%	
3.	0	<input type="checkbox"/>	0.0%	
4.	0	<input type="checkbox"/>	0.0%	
5.	0	<input type="checkbox"/>	0.0%	
50% of Total Cover:	2.5	20% of Total Cover:	1	5 = Total Cover

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	Result
OBL species	4 x 1 =	4
FACW species	85 x 2 =	170
FAC species	25 x 3 =	75
FACU species	0 x 4 =	0
UPL species	0 x 5 =	0
Column Totals:	114 (A)	249 (B)

Prevalence Index = B/A = 2.184

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0¹
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

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

SOIL

Sampling Point: **Wet - 2**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc ²			
0-4	10YR	3/1	100							
4-20	10YR	4/2	95	10YR	6/2	5	D	M	Sandy Loam	Very fine grained

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) (LRR P, T, U)
- 5 cm Mucky Mineral (A7) (LRR P, T, U)
- Muck Presence (A8) (LRR U)
- 1 cm Muck (A9) (LRR P, T)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) (MLRA 150A)
- Sandy Muck Mineral (S1) (LRR O, S)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)

- Polyvalue Below Surface (S8) (LRR S, T, U)
- Thin Dark Surface (S9) (LRR S, T, U)
- Loamy Mucky Mineral (F1) (LRR O)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR U)
- Depleted Ochric (F11) (MLRA 151)
- Iron-Manganese Masses (F12) (LRR O, P, T)
- Umbric Surface (F13) (LRR P, T, U)
- Delta Ochric (F17) (MLRA 151)
- Reduced Vertic (F18) (MLRA 150A, 150B)
- Piedmont Floodplain Soils (F19) (MLRA 149A)
- Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR O)
- 2 cm Muck (A10) (LRR S)
- Reduced Vertic (F18) (outside MLRA 150A,B)
- Piedmont Floodplain Soils (F19) (LRR P, S, T)
- Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (Inches): _____

Hydric Soil Present? Yes No

Remarks:

Depletions in lower soil column appear to be scattered throughout the primary matrix. Very light, but not dominant.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: NASA - Stennis; 1.100 Acre Wetland Delineation **City/County:** Waveland - Hancock **Sampling Date:** 11-Oct-16

Applicant/Owner: NASA **State:** MS **Sampling Point:** Wet - 5

Investigator(s): Lars Larson, Randy Ellis **Section, Township, Range:** S 28 T 7 s R 16 W

Landform (hillslope, terrace, etc.): Swale-drainage **Local relief (concave, convex, none):** **Slope:** 2.0 % / 1.1 °

Subregion (LRR or MLRA): LRR T **Lat.:** 30° 24' 42.445" N **Long.:** 89° 36' 41.842" W **Datum:** NAD83

Soil Map Unit Name: Su, Smithton fine sandy loam, frequently flooded **NWI classification:** PFO 1/4 C

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Are Vegetation **, Soil** **, or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No

Are Vegetation **, Soil** **, or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of 2 required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
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Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): 12	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: Wet - 5

Tree Stratum (Plot size: 30 m)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. <i>Magnolia virginiana</i>	15	<input checked="" type="checkbox"/> 45.5%	FACW
2. <i>Nyssa sylvatica</i>	15	<input checked="" type="checkbox"/> 45.5%	FAC
3. <i>Quercus nigra</i>	3	<input type="checkbox"/> 9.1%	FAC
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
8.	0	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>16.5</u> 20% of Total Cover: <u>6.6</u> <u>33</u> = Total Cover			
Sapling or Sapling/Shrub Stratum (Plot size: 30 m)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. <i>Magnolia virginiana</i>	20	<input checked="" type="checkbox"/> 52.6%	FACW
2. <i>Quercus nigra</i>	10	<input checked="" type="checkbox"/> 26.3%	FAC
3. <i>Acer rubrum</i>	5	<input type="checkbox"/> 13.2%	FAC
4. <i>Cyrilla racemiflora</i>	3	<input type="checkbox"/> 7.9%	FACW
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
8.	0	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>19</u> 20% of Total Cover: <u>7.6</u> <u>38</u> = Total Cover			
Shrub Stratum (Plot size: 30 m)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. <i>Cyrilla racemiflora</i>	20	<input checked="" type="checkbox"/> 57.1%	FACW
2. <i>Ilex coriacea</i>	10	<input checked="" type="checkbox"/> 28.6%	FACW
3. <i>Magnolia virginiana</i>	5	<input type="checkbox"/> 14.3%	FACW
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>17.5</u> 20% of Total Cover: <u>7</u> <u>35</u> = Total Cover			
Herb Stratum (Plot size: 30 m)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. <i>Arundinaria tecta</i>	5	<input checked="" type="checkbox"/> 33.3%	FACW
2. <i>Woodwardia areolata</i>	10	<input checked="" type="checkbox"/> 66.7%	OBL
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
8.	0	<input type="checkbox"/> 0.0%	
9.	0	<input type="checkbox"/> 0.0%	
10.	0	<input type="checkbox"/> 0.0%	
11.	0	<input type="checkbox"/> 0.0%	
12.	0	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>7.5</u> 20% of Total Cover: <u>3</u> <u>15</u> = Total Cover			
Woody Vine Stratum (Plot size: 30 m)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. <i>Vitis rotundifolia</i>	5	<input checked="" type="checkbox"/> 100.0%	FAC
2.	0	<input type="checkbox"/> 0.0%	
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>2.5</u> 20% of Total Cover: <u>1</u> <u>5</u> = Total Cover			

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 9 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: 10 Multiply by: 1

OBL species 10 x 1 = 10

FACW species 78 x 2 = 156

FAC species 38 x 3 = 114

FACU species 0 x 4 = 0

UPL species 0 x 5 = 0

Column Totals: 126 (A) 280 (B)

Prevalence Index = B/A = 2.222

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

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

SOIL

Sampling Point: Wet - 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR	3/1	95	10YR	6/6	5	C	M	Sandy Loam
5-22	10YR	3/2	90	10YR	6/2	10	D	M	Sandy Loam

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) (LRR P, T, U)
- 5 cm Mucky Mineral (A7) (LRR P, T, U)
- Muck Presence (A8) (LRR U)
- 1 cm Muck (A9) (LRR P, T)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) (MLRA 150A)
- Sandy Muck Mineral (S1) (LRR O, S)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)

- Polyvalue Below Surface (S8) (LRR S, T, U)
- Thin Dark Surface (S9) (LRR S, T, U)
- Loamy Mucky Mineral (F1) (LRR O)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR U)
- Depleted Ochric (F11) (MLRA 151)
- Iron-Manganese Masses (F12) (LRR O, P, T)
- Umbric Surface (F13) (LRR P, T, U)
- Delta Ochric (F17) (MLRA 151)
- Reduced Vertic (F18) (MLRA 150A, 150B)
- Piedmont Floodplain Soils (F19) (MLRA 149A)
- Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR O)
- 2 cm Muck (A10) (LRR S)
- Reduced Vertic (F18) (outside MLRA 150A,B)
- Piedmont Floodplain Soils (F19) (LRR P, S, T)
- Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

Spotty areas with lighter coloring that appear stripped of darker organic material.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation City/County: Waveland - Hancock Sampling Date: 11-Oct-16
 Applicant/Owner: NASA State: MS Sampling Point: Wet- 6
 Investigator(s): Lars Larson, Randy Ellis Section, Township, Range: S 28 T 7 s R 16 W
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): undulating Slope: 1.0 % / 0.6 °
 Subregion (LRR or MLRA): LRR T Lat.: 30° 24' 40.727" N Long.: 89° 36' 31.790" W Datum: NAD83
 Soil Map Unit Name: Atmore NWI classification: PFO 1/4 C

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Remarks:
 Low bottom-drainge area approximately 60-70 feet from UP-6 within riparian flood plain of Turtleskin Creek.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	Secondary Indicators (minimum of 2 required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
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Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Drainage patterns, low bottom area with numerous buttressed trees.

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: Wet-6

Tree Stratum (Plot size: 30 m)		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.	<i>Nyssa sylvatica</i>	15	<input checked="" type="checkbox"/> 55.6%	FAC
2.	<i>Quercus nigra</i>	10	<input checked="" type="checkbox"/> 37.0%	FAC
3.	<i>Pinus elliotii</i>	2	<input type="checkbox"/> 7.4%	FACW
4.		0	<input type="checkbox"/> 0.0%	
5.		0	<input type="checkbox"/> 0.0%	
6.		0	<input type="checkbox"/> 0.0%	
7.		0	<input type="checkbox"/> 0.0%	
8.		0	<input type="checkbox"/> 0.0%	
50% of Total Cover: 13.5		20% of Total Cover: 5.4	27	= Total Cover
Sapling or Sapling/Shrub Stratum (Plot size: 30 m)		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.	<i>Nyssa sylvatica</i>	10	<input checked="" type="checkbox"/> 50.0%	FAC
2.	<i>Quercus nigra</i>	5	<input checked="" type="checkbox"/> 25.0%	FAC
3.	<i>Cyrilla racemiflora</i>	3	<input type="checkbox"/> 15.0%	FACW
4.	<i>Magnolia virginiana</i>	2	<input type="checkbox"/> 10.0%	FACW
5.		0	<input type="checkbox"/> 0.0%	
6.		0	<input type="checkbox"/> 0.0%	
7.		0	<input type="checkbox"/> 0.0%	
8.		0	<input type="checkbox"/> 0.0%	
50% of Total Cover: 10		20% of Total Cover: 4	20	= Total Cover
Shrub Stratum (Plot size: 30 m)		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.	<i>Magnolia virginiana</i>	10	<input checked="" type="checkbox"/> 58.8%	FACW
2.	<i>Acer rubrum</i>	5	<input checked="" type="checkbox"/> 29.4%	FAC
3.	<i>Pinus elliotii</i>	2	<input type="checkbox"/> 11.8%	FACW
4.		0	<input type="checkbox"/> 0.0%	
5.		0	<input type="checkbox"/> 0.0%	
6.		0	<input type="checkbox"/> 0.0%	
50% of Total Cover: 8.5		20% of Total Cover: 3.4	17	= Total Cover
Herb Stratum (Plot size: 30 m)		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.	<i>Woodwardia areolata</i>	10	<input checked="" type="checkbox"/> 66.7%	OBL
2.	<i>Arundinaria tecta</i>	3	<input checked="" type="checkbox"/> 20.0%	FACW
3.	<i>Woodwardia virginica</i>	2	<input type="checkbox"/> 13.3%	OBL
4.		0	<input type="checkbox"/> 0.0%	
5.		0	<input type="checkbox"/> 0.0%	
6.		0	<input type="checkbox"/> 0.0%	
7.		0	<input type="checkbox"/> 0.0%	
8.		0	<input type="checkbox"/> 0.0%	
9.		0	<input type="checkbox"/> 0.0%	
10.		0	<input type="checkbox"/> 0.0%	
11.		0	<input type="checkbox"/> 0.0%	
12.		0	<input type="checkbox"/> 0.0%	
50% of Total Cover: 7.5		20% of Total Cover: 3	15	= Total Cover
Woody Vine Stratum (Plot size: 30 m)		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.		0	<input type="checkbox"/> 0.0%	
2.		0	<input type="checkbox"/> 0.0%	
3.		0	<input type="checkbox"/> 0.0%	
4.		0	<input type="checkbox"/> 0.0%	
5.		0	<input type="checkbox"/> 0.0%	
50% of Total Cover: 0		20% of Total Cover: 0	0	= Total Cover

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: 79 (A) Multiply by: 191 (B)

OBL species 12 x 1 = 12

FACW species 22 x 2 = 44

FAC species 45 x 3 = 135

FACU species 0 x 4 = 0

UPL species 0 x 5 = 0

Column Totals: 79 (A) 191 (B)

Prevalence Index = B/A = 2.418

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

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

SOIL

Sampling Point: Wet-6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix			Redox Features				Loc ²	Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹				
0-5	10YR	3/1	100							
5-16	10YR	3/2	90	10YR	7/2	10	C	M	Sandy Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) (LRR P, T, U)
- 5 cm Mucky Mineral (A7) (LRR P, T, U)
- Muck Presence (A8) (LRR U)
- 1 cm Muck (A9) (LRR P, T)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) (MLRA 150A)
- Sandy Muck Mineral (S1) (LRR O, S)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)

- Polyvalue Below Surface (S8) (LRR S, T, U)
- Thin Dark Surface (S9) (LRR S, T, U)
- Loamy Mucky Mineral (F1) (LRR O)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR U)
- Depleted Ochric (F11) (MLRA 151)
- Iron-Manganese Masses (F12) (LRR O, P, T)
- Umbric Surface (F13) (LRR P, T, U)
- Delta Ochric (F17) (MLRA 151)
- Reduced Vertic (F18) (MLRA 150A, 150B)
- Piedmont Floodplain Soils (F19) (MLRA 149A)
- Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR O)
- 2 cm Muck (A10) (LRR S)
- Reduced Vertic (F18) (outside MLRA 150A,B)
- Piedmont Floodplain Soils (F19) (LRR P, S, T)
- Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation **City/County:** Waveland - Hancock **Sampling Date:** 11-Oct-16
Applicant/Owner: NASA **State:** MS **Sampling Point:** Wet - 7
Investigator(s): Lars Larson, Randy Ellis **Section, Township, Range:** S 28 T 7 s R 16 W
Landform (hillslope, terrace, etc.): Terrace **Local relief (concave, convex, none):** none **Slope:** 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T **Lat.:** 30° 24' 46.797" N **Long.:** 89° 36' 26.603" W **Datum:** NAD83
Soil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes **NWI classification:** PFO 1/4 C

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: Terrace area within 100 feet of power line ROW. Area seems possibly disturbed with a mix of vegetative species... just north of heavy pine overstory.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 		
Remarks: 		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: Wet - 7

Tree Stratum (Plot size: 30 m)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. <i>Pinus elliotii</i>	10	<input checked="" type="checkbox"/> 52.6%	FACW
2. <i>Nyssa sylvatica</i>	5	<input checked="" type="checkbox"/> 26.3%	FAC
3. <i>Quercus nigra</i>	3	<input type="checkbox"/> 15.8%	FAC
4. <i>Magnolia virginiana</i>	1	<input type="checkbox"/> 5.3%	FACW
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
8.	0	<input type="checkbox"/> 0.0%	
50% of Total Cover: 9.5	20% of Total Cover: 3.8	19	= Total Cover
Sapling or Sapling/Shrub Stratum (Plot size: 30 m)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. <i>Pinus elliotii</i>	10	<input checked="" type="checkbox"/> 55.6%	FACW
2. <i>Magnolia virginiana</i>	5	<input checked="" type="checkbox"/> 27.8%	FACW
3. <i>Acer rubrum</i>	3	<input type="checkbox"/> 16.7%	FAC
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
8.	0	<input type="checkbox"/> 0.0%	
50% of Total Cover: 9	20% of Total Cover: 3.6	18	= Total Cover
Shrub Stratum (Plot size: 30 m)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. <i>Morella cerifera</i>	10	<input checked="" type="checkbox"/> 40.0%	FAC
2. <i>Acer rubrum</i>	7	<input checked="" type="checkbox"/> 28.0%	FAC
3. <i>Nyssa sylvatica</i>	5	<input checked="" type="checkbox"/> 20.0%	FAC
4. <i>Persea palustris</i>	3	<input type="checkbox"/> 12.0%	FACW
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
50% of Total Cover: 12.5	20% of Total Cover: 5	25	= Total Cover
Herb Stratum (Plot size: 30 m)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. <i>Woodwardia areolata</i>	5	<input checked="" type="checkbox"/> 71.4%	OBL
2. <i>Woodwardia virginica</i>	2	<input checked="" type="checkbox"/> 28.6%	OBL
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
8.	0	<input type="checkbox"/> 0.0%	
9.	0	<input type="checkbox"/> 0.0%	
10.	0	<input type="checkbox"/> 0.0%	
11.	0	<input type="checkbox"/> 0.0%	
12.	0	<input type="checkbox"/> 0.0%	
50% of Total Cover: 3.5	20% of Total Cover: 1.4	7	= Total Cover
Woody Vine Stratum (Plot size: 30 m)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. <i>Vitis rotundifolia</i>	10	<input checked="" type="checkbox"/> 90.9%	FAC
2. <i>Rubus argutus</i>	1	<input type="checkbox"/> 9.1%	FAC
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
50% of Total Cover: 5.5	20% of Total Cover: 2.2	11	= Total Cover

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 10 (A)

Total Number of Dominant Species Across All Strata: 10 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: 80 (A) Multiply by: 197 (B)

OBL species 7 x 1 = 7

FACW species 29 x 2 = 58

FAC species 44 x 3 = 132

FACU species 0 x 4 = 0

UPL species 0 x 5 = 0

Column Totals: 80 (A) 197 (B)

Prevalence Index = B/A = 2.463

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0 ¹
 - Problematic Hydrophytic Vegetation ¹ (Explain)
- ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

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

SOIL

Sampling Point: Wet - 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR	3/1	100						
6-16	10YR	4/2	90	10YR	7/2	10	D	M	Loamy Sand

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) (LRR P, T, U)
- 5 cm Mucky Mineral (A7) (LRR P, T, U)
- Muck Presence (A8) (LRR U)
- 1 cm Muck (A9) (LRR P, T)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) (MLRA 150A)
- Sandy Muck Mineral (S1) (LRR O, S)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)

- Polyvalue Below Surface (S8) (LRR S, T, U)
- Thin Dark Surface (S9) (LRR S, T, U)
- Loamy Mucky Mineral (F1) (LRR O)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR U)
- Depleted Ochric (F11) (MLRA 151)
- Iron-Manganese Masses (F12) (LRR O, P, T)
- Umbric Surface (F13) (LRR P, T, U)
- Delta Ochric (F17) (MLRA 151)
- Reduced Vertic (F18) (MLRA 150A, 150B)
- Piedmont Floodplain Soils (F19) (MLRA 149A)
- Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR O)
- 2 cm Muck (A10) (LRR S)
- Reduced Vertic (F18) (outside MLRA 150A,B)
- Piedmont Floodplain Soils (F19) (LRR P, S, T)
- Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation **City/County:** Waveland - Hancock **Sampling Date:** 11-Oct-16

Applicant/Owner: NASA **State:** MS **Sampling Point:** Wet - 8

Investigator(s): Lars Larson, Randy Ellis **Section, Township, Range:** S 28 T 7 s R 16 W

Landform (hillslope, terrace, etc.): **Local relief (concave, convex, none):** **Slope:** 0.0 % / 0.0 °

Subregion (LRR or MLRA): LRR T **Lat.:** 30° 24' 39.246" N **Long.:** 89° 36' 46.299" W **Datum:** NAD83

Soil Map Unit Name: Su, Smithton fine sandy loam, frequently flooded **NWI classification:** PFO 1/4 C

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: Low drainage area.	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
<u>Primary Indicators (minimum of one required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input checked="" type="checkbox"/> Crazyfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant Species?

Sampling Point: Wet - 8

Tree Stratum (Plot size: 30 m)	Absolute % Cover	Rel.Strat. Cover	Indicator Status
1. <i>Pinus elliotii</i>	10	<input checked="" type="checkbox"/> 50.0%	FACW
2. <i>Nyssa aquatica</i>	5	<input checked="" type="checkbox"/> 25.0%	OBL
3. <i>Quercus virginiana</i>	5	<input checked="" type="checkbox"/> 25.0%	FACU
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
8.	0	<input type="checkbox"/> 0.0%	

50% of Total Cover: 10 20% of Total Cover: 4 20 = Total Cover

Sapling or Sapling/Shrub Stratum (Plot size: 30 m)	Absolute % Cover	Rel.Strat. Cover	Indicator Status
1. <i>Liquidambar styraciflua</i>	5	<input checked="" type="checkbox"/> 35.7%	FAC
2. <i>Pinus elliotii</i>	5	<input checked="" type="checkbox"/> 35.7%	FACW
3. <i>Quercus virginiana</i>	2	<input type="checkbox"/> 14.3%	FACU
4. <i>Acer rubrum</i>	2	<input type="checkbox"/> 14.3%	FAC
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
8.	0	<input type="checkbox"/> 0.0%	

50% of Total Cover: 7 20% of Total Cover: 2.8 14 = Total Cover

Shrub Stratum (Plot size: 30 m)	Absolute % Cover	Rel.Strat. Cover	Indicator Status
1. <i>Cyrilla racemiflora</i>	15	<input checked="" type="checkbox"/> 28.8%	FACW
2. <i>Ilex coriacea</i>	25	<input checked="" type="checkbox"/> 48.1%	FACW
3. <i>Ilex opaca</i>	10	<input type="checkbox"/> 19.2%	FAC
4. <i>Morella cerifera</i>	2	<input type="checkbox"/> 3.8%	FAC
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	

50% of Total Cover: 26 20% of Total Cover: 10.4 52 = Total Cover

Herb Stratum (Plot size: 30 m)	Absolute % Cover	Rel.Strat. Cover	Indicator Status
1. <i>Woodwardia virginica</i>	10	<input checked="" type="checkbox"/> 27.8%	OBL
2. <i>Woodwardia areolata</i>	10	<input checked="" type="checkbox"/> 27.8%	OBL
3. <i>Arundinaria tecta</i>	8	<input checked="" type="checkbox"/> 22.2%	FACW
4. <i>Hypericum cistifolium</i>	5	<input type="checkbox"/> 13.9%	FACW
5. <i>Dichantherium scabriusculum</i>	3	<input type="checkbox"/> 8.3%	OBL
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
8.	0	<input type="checkbox"/> 0.0%	
9.	0	<input type="checkbox"/> 0.0%	
10.	0	<input type="checkbox"/> 0.0%	
11.	0	<input type="checkbox"/> 0.0%	
12.	0	<input type="checkbox"/> 0.0%	

50% of Total Cover: 18 20% of Total Cover: 7.2 36 = Total Cover

Woody Vine Stratum (Plot size:)	Absolute % Cover	Rel.Strat. Cover	Indicator Status
1.	0	<input type="checkbox"/> 0.0%	
2.	0	<input type="checkbox"/> 0.0%	
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	

50% of Total Cover: 0 20% of Total Cover: 0 0 = Total Cover

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC:	<u>9</u>	(A)
Total Number of Dominant Species Across All Strata:	<u>10</u>	(B)
Percent of dominant Species That Are OBL, FACW, or FAC:	<u>90.0%</u>	(A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>28</u>	x 1 = <u>28</u>
FACW species <u>68</u>	x 2 = <u>136</u>
FAC species <u>19</u>	x 3 = <u>57</u>
FACU species <u>7</u>	x 4 = <u>28</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals:	<u>122</u> (A) <u>249</u> (B)
Prevalence Index = B/A =	<u>2.041</u>

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0¹
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

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

SOIL

Sampling Point: **Wet - 8**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc ²		
0-7	10YR	2/1	90					Clay Loam	
7-16	10YR	4/1	80	10YR	3/1	20			

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) (LRR P, T, U)
- 5 cm Mucky Mineral (A7) (LRR P, T, U)
- Muck Presence (A8) (LRR U)
- 1 cm Muck (A9) (LRR P, T)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) (MLRA 150A)
- Sandy Muck Mineral (S1) (LRR O, S)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)

- Polyvalue Below Surface (S8) (LRR S, T, U)
- Thin Dark Surface (S9) (LRR S, T, U)
- Loamy Mucky Mineral (F1) (LRR O)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR U)
- Depleted Ochric (F11) (MLRA 151)
- Iron-Manganese Masses (F12) (LRR O, P, T)
- Umbric Surface (F13) (LRR P, T, U)
- Delta Ochric (F17) (MLRA 151)
- Reduced Vertic (F18) (MLRA 150A, 150B)
- Piedmont Floodplain Soils (F19) (MLRA 149A)
- Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR O)
- 2 cm Muck (A10) (LRR S)
- Reduced Vertic (F18) (outside MLRA 150A,B)
- Piedmont Floodplain Soils (F19) (LRR P, S, T)
- Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation **City/County:** Waveland - Hancock **Sampling Date:** 11-Oct-16

Applicant/Owner: NASA **State:** MS **Sampling Point:** Wet - 9

Investigator(s): Lars Larson, Randy Ellis **Section, Township, Range:** 5 28 T 7 s R 16 W

Landform (hillslope, terrace, etc.): **Local relief (concave, convex, none):** **Slope:** 0.0 % / 0.0 °

Subregion (LRR or MLRA): LRR T **Lat.:** 30° 24' 29.150" N **Long.:** 89° 36' 46.346" W **Datum:** NAD83

Soil Map Unit Name: HIB, Harleston fine sandy loam, 2 to 5 percent slopes **NWI classification:** PFO 1/4 C

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15) (LRR U)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift Deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Water Marks (B1)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		Secondary Indicators (minimum of 2 required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)																															
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)																															
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																															
<input type="checkbox"/> Water Marks (B1)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																															
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)																																
<input type="checkbox"/> Water-Stained Leaves (B9)																																
<input type="checkbox"/> Surface Soil Cracks (B6)																																
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
<input checked="" type="checkbox"/> Drainage Patterns (B10)																																
<input type="checkbox"/> Moss Trim Lines (B16)																																
<input type="checkbox"/> Dry Season Water Table (C2)																																
<input checked="" type="checkbox"/> Crayfish Burrows (C8)																																
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)																																
<input checked="" type="checkbox"/> Geomorphic Position (D2)																																
<input type="checkbox"/> Shallow Aquitard (D3)																																
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)																																
<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)																																

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (Inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: Wet - 9

		Dominant Species?			
Tree Stratum (Plot size: <u>30 m</u>)					
1. <u>Magnolia virginiana</u>	25	<input checked="" type="checkbox"/>	62.5%	FACW	
2. <u>Pinus elliotii</u>	10	<input checked="" type="checkbox"/>	25.0%	FACW	
3. <u>Nyssa sylvatica</u>	5	<input type="checkbox"/>	12.5%	FAC	
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
8. _____	0	<input type="checkbox"/>	0.0%		
50% of Total Cover: <u>20</u>	20% of Total Cover: <u>8</u>	40	= Total Cover		
Sapling or Sapling/Shrub Stratum (Plot size: <u>30 m</u>)					
1. <u>Magnolia virginiana</u>	20	<input checked="" type="checkbox"/>	44.4%	FACW	
2. <u>Cyrilla racemiflora</u>	15	<input checked="" type="checkbox"/>	33.3%	FACW	
3. <u>Morella cerifera</u>	10	<input checked="" type="checkbox"/>	22.2%	FAC	
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
8. _____	0	<input type="checkbox"/>	0.0%		
50% of Total Cover: <u>22.5</u>	20% of Total Cover: <u>9</u>	45	= Total Cover		
Shrub Stratum (Plot size: <u>30 m</u>)					
1. <u>Ilex coriacea</u>	20	<input checked="" type="checkbox"/>	43.5%	FACW	
2. <u>Cyrilla racemiflora</u>	15	<input checked="" type="checkbox"/>	32.6%	FACW	
3. <u>Ilex vomitoria</u>	10	<input checked="" type="checkbox"/>	21.7%	FAC	
4. <u>Morella cerifera</u>	1	<input type="checkbox"/>	2.2%	FAC	
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
50% of Total Cover: <u>23</u>	20% of Total Cover: <u>9.2</u>	46	= Total Cover		
Herb Stratum (Plot size: <u>30 m</u>)					
1. <u>Dichanthelium scabriusculum</u>	50	<input checked="" type="checkbox"/>	87.7%	OBL	
2. <u>Hypericum cistifolium</u>	5	<input type="checkbox"/>	8.8%	FACW	
3. <u>Eriocaulon decangulare</u>	2	<input type="checkbox"/>	3.5%	OBL	
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
8. _____	0	<input type="checkbox"/>	0.0%		
9. _____	0	<input type="checkbox"/>	0.0%		
10. _____	0	<input type="checkbox"/>	0.0%		
11. _____	0	<input type="checkbox"/>	0.0%		
12. _____	0	<input type="checkbox"/>	0.0%		
50% of Total Cover: <u>28.5</u>	20% of Total Cover: <u>11.4</u>	57	= Total Cover		
Woody Vine Stratum (Plot size: _____)					
1. <u>Smilax laurifolia</u>	5	<input checked="" type="checkbox"/>	50.0%	FACW	
2. <u>Rubus trivialis</u>	5	<input checked="" type="checkbox"/>	50.0%	FACU	
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
50% of Total Cover: <u>5</u>	20% of Total Cover: <u>2</u>	10	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 10 (A)

Total Number of Dominant Species Across All Strata: 11 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 90.9% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 52 x 1 = 52

FACW species 115 x 2 = 230

FAC species 26 x 3 = 78

FACU species 5 x 4 = 20

UPL species 0 x 5 = 0

Column Totals: 198 (A) 380 (B)

Prevalence Index = B/A = 1.919

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

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

SOIL

Sampling Point: Wet - 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)	3/1	%	Color (moist)	%	Type ¹		
0-5	10YR	3/1	90	10YR	2/1	10		
5-18	10YR	3/2	80	10YR	2/1	20		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 153B)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Muck Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input checked="" type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Remarks:
Stripped/depleted matrix below 5 inches

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation
 City/County: Waveland - Hancock
 Sampling Date: 12-Oct-16
Applicant/Owner: NASA
 State: MS
 Sampling Point: Wet -10
Investigator(s): Lars Larson, Randy Ellis
 Section, Township, Range: S 31 T 7 s R 16 W
Landform (hillslope, terrace, etc.): Swale
 Local relief (concave, convex, none): concave
 Slope: 2.0 % / 1.1 °
Subregion (LRR or MLRA): LRR T
 Lat.: 30° 24' 8.987" N
 Long.: 89° 37' 35.144" W
 Datum: NAD83
Soil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes
 NWI classification: PFO 1/4 C

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?**
 Are "Normal Circumstances" present? Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?**
 (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Remarks:
 Natural drain to ephemeral stream approximately 30-40 feet west of access path.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	Secondary Indicators (minimum of 2 required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
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Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): 9	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: