

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

Sampling Point: Up - 43

Tree Stratum (Plot size: 30 m)	Absolute % Cover	Rel.Strat. Cover	Dominant Species?	Indicator Status
1. <i>Pinus elliotii</i>	10	<input checked="" type="checkbox"/> 66.7%		FACW
2. <i>Magnolia virginiana</i>	3	<input checked="" type="checkbox"/> 20.0%		FACW
3. <i>Nyssa sylvatica</i>	0	<input type="checkbox"/> 0.0%		FAC
4. <i>Pinus taeda</i>	2	<input type="checkbox"/> 13.3%		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: 7.5 20% of Total Cover: 3 15 = Total Cover

Sapling or Sapling/Shrub Stratum (Plot size: 30 m)	Absolute % Cover	Rel.Strat. Cover	Dominant Species?	Indicator Status
1. <i>Pinus elliotii</i>	15	<input checked="" type="checkbox"/> 68.2%		FACW
2. <i>Magnolia virginiana</i>	5	<input checked="" type="checkbox"/> 22.7%		FACW
3. <i>Magnolia grandiflora</i>	1	<input type="checkbox"/> 4.5%		FAC
4. <i>Liquidambar styraciflua</i>	1	<input type="checkbox"/> 4.5%		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: 11 20% of Total Cover: 4.4 22 = Total Cover

Shrub Stratum (Plot size: 30 m)	Absolute % Cover	Rel.Strat. Cover	Dominant Species?	Indicator Status
1. <i>Ilex coriacea</i>	10	<input checked="" type="checkbox"/> 21.7%		FACW
2. <i>Ilex glabra</i>	30	<input checked="" type="checkbox"/> 65.2%		FACW
3. <i>Liquidambar styraciflua</i>	5	<input type="checkbox"/> 10.9%		FAC
4. <i>Persea palustris</i>	1	<input type="checkbox"/> 2.2%		FACW
5.	0	<input type="checkbox"/> 0.0%		
6.	0	<input type="checkbox"/> 0.0%		

50% of Total Cover: 23 20% of Total Cover: 9.2 46 = Total Cover

Herb Stratum (Plot size: 30 m)	Absolute % Cover	Rel.Strat. Cover	Dominant Species?	Indicator Status
1. <i>Lycopodiella alopecuroides</i>	1	<input type="checkbox"/> 4.8%		OBL
2. <i>Ilex glabra</i>	20	<input checked="" type="checkbox"/> 95.2%		FACW
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: 10.5 20% of Total Cover: 4.2 21 = Total Cover

Woody Vine Stratum (Plot size: 30 m)	Absolute % Cover	Rel.Strat. Cover	Dominant Species?	Indicator Status
1. <i>Smlax rotundifolia</i>	1	<input type="checkbox"/> 50.0%		FAC
2. <i>Vitis rotundifolia</i>	1	<input type="checkbox"/> 50.0%		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: 1 20% of Total Cover: 0.4 2 = Total Cover

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

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

Prevalence Index worksheet:

Total % Cover of: 1 Multiply by: 1

OBL species 1 x 1 = 1

FACW species 94 x 2 = 188

FAC species 11 x 3 = 33

FACU species 0 x 4 = 0

UPL species 0 x 5 = 0

Column Totals: 106 (A) 222 (B)

Prevalence Index = B/A = 2.094

- 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: Up - 43

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)	3/2	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR	3/2	100	4-15				Loamy Sand	
4-15	10YR	5/3	100					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:** 25-Oct-16
Applicant/Owner: NASA **State:** MS **Sampling Point:** Up - 44
Investigator(s): Lars Larson, Randy Ellis **Section, Township, Range:** S 37 T 7 s R 16 W
Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** none **Slope:** 1.0 % / 0.6 °
Subregion (LRR or MLRA): LRR T **Lat.:** 30° 23' 47.297" N **Long.:** 89° 37' 20.892" W **Datum:** NAD83
Soil Map Unit Name: EsB, Escambia loam, 2 to 5 percent slopes **NWI classification:** N/A

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 type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Remarks:
 Transect between Northwest-Southeast trending site road within the SW portion of the overall AOI.

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 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 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 type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" 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: Up - 44

Tree Stratum (Plot size: 30 m)	Absolute % Cover	Ref. Strat. Cover	Indicator Status
1. <i>Pinus elliotii</i>	20	<input checked="" type="checkbox"/> 51.3%	FACW
2. <i>Pinus taeda</i>	5	<input type="checkbox"/> 12.8%	FAC
3. <i>Magnolia virginiana</i>	10	<input checked="" type="checkbox"/> 25.6%	FACW
4. <i>Magnolia grandiflora</i>	3	<input type="checkbox"/> 7.7%	FAC
5. <i>Nyssa sylvatica</i>	1	<input type="checkbox"/> 2.6%	FAC
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>19.5</u> 20% of Total Cover: <u>7.8</u>	<u>39</u>	= Total Cover	

Sapling or Sapling/Shrub Stratum (Plot size: 30 m)	Absolute % Cover	Ref. Strat. Cover	Indicator Status
1. <i>Pinus elliotii</i>	15	<input checked="" type="checkbox"/> 62.5%	FACW
2. <i>Magnolia virginiana</i>	5	<input checked="" type="checkbox"/> 20.8%	FACW
3. <i>Liquidambar styraciflua</i>	3	<input type="checkbox"/> 12.5%	FAC
4. <i>Nyssa sylvatica</i>	1	<input type="checkbox"/> 4.2%	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: <u>12</u> 20% of Total Cover: <u>4.8</u>	<u>24</u>	= Total Cover	

Shrub Stratum (Plot size: 30 m)	Absolute % Cover	Ref. Strat. Cover	Indicator Status
1. <i>Ilex coriacea</i>	20	<input checked="" type="checkbox"/> 52.6%	FACW
2. <i>Ilex vomitoria</i>	10	<input checked="" type="checkbox"/> 26.3%	FAC
3. <i>Vaccinium ellottii</i>	5	<input type="checkbox"/> 13.2%	FACW
4. <i>Ilex glabra</i>	3	<input type="checkbox"/> 7.9%	FACW
5.	0	<input type="checkbox"/> 0.0%	
6.	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	

Herb Stratum (Plot size: 30 m)	Absolute % Cover	Ref. Strat. Cover	Indicator Status
1. <i>Ilex glabra</i>	5	<input checked="" type="checkbox"/> 100.0%	FACW
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%	
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>2.5</u> 20% of Total Cover: <u>1</u>	<u>5</u>	= Total Cover	

Woody Vine Stratum (Plot size: 30 m)	Absolute % Cover	Ref. Strat. Cover	Indicator Status
1. <i>Vitis rotundifolia</i>	2	<input 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>1</u> 20% of Total Cover: <u>0.4</u>	<u>2</u>	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC:	<u>7</u>	(A)
Total Number of Dominant Species Across All Strata:	<u>7</u>	(B)
Percent of dominant Species That Are OBL, FACW, or FAC:	<u>100.0%</u>	(A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>83</u>	x 2 = <u>166</u>
FAC species <u>25</u>	x 3 = <u>75</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>108</u> (A)	<u>241</u> (B)
Prevalence Index = B/A = <u>2.231</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).

Heavy pine litter on ground.

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

SOIL

Sampling Point: **Up - 44**

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		
0-5	10YR	4/2	100				Loamy Sand	
5-16	10YR	5/3	100				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:** 25-Oct-16
Applicant/Owner: NASA **State:** MS **Sampling Point:** Up - 45
Investigator(s): Lars Larson, Randy Ellis **Section, Township, Range:** S 37 T 7 s R 16 W
Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** none **Slope:** 1.0 % / 0.6 °
Subregion (LRR or MLRA): LRR T **Lat.:** 30° 23' 44.917" N **Long.:** 89° 37' 23.042" W **Datum:** NAD83
Soil Map Unit Name: EsB, Escambia loam, 2 to 5 percent slopes **NWI classification:** N/A

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 type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: plot is near disturbed area previously impacted by (apparently) heavy equipment use.	

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 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 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 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 type="radio"/> No <input checked="" 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: Up - 45

Tree Stratum (Plot size: 30 m)	Absolute % Cover	Dominant Species?		Indicator Status
		Rel.Strat. Cover		
1. <i>Pinus elliotii</i>	15	<input checked="" type="checkbox"/>	55.6%	FACW
2. <i>Nyssa sylvatica</i>	5	<input type="checkbox"/>	18.5%	FAC
3. <i>Magnolia virginiana</i>	5	<input type="checkbox"/>	18.5%	FACW
4. <i>Magnolia grandiflora</i>	2	<input type="checkbox"/>	7.4%	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: <u>13.5</u>	20% of Total Cover: <u>5.4</u>	<u>27</u>	= Total Cover	

Sapling or Sapling/Shrub Stratum (Plot size: 30 m)				
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>Magnolia virginiana</i>	3	<input type="checkbox"/>	15.8%	FACW
4. <i>Liquidambar styraciflua</i>	1	<input type="checkbox"/>	5.3%	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: <u>9.5</u>	20% of Total Cover: <u>3.8</u>	<u>19</u>	= Total Cover	

Shrub Stratum (Plot size: 30 m)				
1. <i>Ilex coriacea</i>	15	<input checked="" type="checkbox"/>	42.9%	FACW
2. <i>Ilex glabra</i>	10	<input checked="" type="checkbox"/>	28.6%	FACW
3. <i>Ilex vomitoria</i>	5	<input type="checkbox"/>	14.3%	FAC
4. <i>Ilex opaca</i>	2	<input type="checkbox"/>	5.7%	FAC
5. <i>Liquidambar styraciflua</i>	3	<input type="checkbox"/>	8.6%	FAC
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)				
1. <i>Hypericum cistifolium</i>	1	<input type="checkbox"/>	50.0%	FACW
2. <i>Lycopodiella alopecuroides</i>	1	<input type="checkbox"/>	50.0%	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>1</u>	20% of Total Cover: <u>0.4</u>	<u>2</u>	= Total Cover	

Woody Vine Stratum (Plot size: 30 m)				
1. <i>Vitis rotundifolia</i>	1	<input 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>0.5</u>	20% of Total Cover: <u>0.2</u>	<u>1</u>	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

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

Prevalence Index worksheet:

Total % Cover of: 1 Multiply by: 1

OBL species 1 x 1 = 1

FACW species 59 x 2 = 118

FAC species 24 x 3 = 72

FACU species 0 x 4 = 0

UPL species 0 x 5 = 0

Column Totals: 84 (A) 191 (B)

Prevalence Index = B/A = 2.274

- 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.

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:** 26-Oct-16
Applicant/Owner: NASA **State:** MS **Sampling Point:** Up - 47
Investigator(s): Lars Larson, Randy Ellis **Section, Township, Range:** S 31 T 7 s R 16 W
Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** undulating **Slope:** 2.0 % / 1.1 °
Subregion (LRR or MLRA): LRR T **Lat.:** 30° 24' 14.486" N **Long.:** 89° 37' 44.011" W **Datum:** NAD83
Soil Map Unit Name: EuB, Escambia loamy fine sand, 2 to 5 percent slopes **NWI classification:** N/A

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 type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Remarks:
 Sideslope approximately 60-70 feet up from Wet - 47.

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 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 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 type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" 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: Up - 47

Tree Stratum (Plot size: 30 m)	Absolute % Cover	Dominant Species? <input type="checkbox"/>	Rel.Strat. Cover	Indicator Status
1. <i>Pinus elliotii</i>	10	<input checked="" type="checkbox"/>	62.5%	FACW
2. <i>Nyssa sylvatica</i>	5	<input checked="" type="checkbox"/>	31.3%	FAC
3. <i>Magnolia grandiflora</i>	1	<input type="checkbox"/>	6.3%	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:	8	20% of Total Cover:	3.2	16 = Total Cover
Sapling or Sapling/Shrub Stratum (Plot size: 30 m)				
1. <i>Pinus elliotii</i>	1	<input type="checkbox"/>	7.1%	FACW
2. <i>Nyssa sylvatica</i>	3	<input checked="" type="checkbox"/>	21.4%	FAC
3. <i>Ilex opaca</i>	5	<input checked="" type="checkbox"/>	35.7%	FAC
4. <i>Magnolia grandiflora</i>	5	<input checked="" type="checkbox"/>	35.7%	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:	7	20% of Total Cover:	2.8	14 = Total Cover
Shrub Stratum (Plot size: 30 m)				
1. <i>Ilex vomitoria</i>	50	<input checked="" type="checkbox"/>	79.4%	FAC
2. <i>Ilex coriacea</i>	10	<input type="checkbox"/>	15.9%	FACW
3. <i>Vaccinium elliotii</i>	2	<input type="checkbox"/>	3.2%	FACW
4. <i>Quercus nigra</i>	1	<input type="checkbox"/>	1.6%	FAC
5.	0	<input type="checkbox"/>	0.0%	
6.	0	<input type="checkbox"/>	0.0%	
50% of Total Cover:	31.5	20% of Total Cover:	12.6	63 = Total Cover
Herb Stratum (Plot size: 30 m)				
1. <i>Ilex coriacea</i>	5	<input checked="" type="checkbox"/>	100.0%	FACW
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%	
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:	2.5	20% of Total Cover:	1	5 = Total Cover
Woody Vine Stratum (Plot size: 30 m)				
1. <i>Lygodium japonicum</i>	5	<input checked="" type="checkbox"/>	83.3%	FAC
2. <i>Vitis rotundifolia</i>	1	<input type="checkbox"/>	16.7%	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:	3	20% of Total Cover:	1.2	6 = 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: 104 (A) Multiply by:

OBL species	0	x 1 =	0
FACW species	28	x 2 =	56
FAC species	76	x 3 =	228
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	104	(A)	284 (B)

Prevalence Index = B/A = 2.731

- 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: Up - 47

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)	4/2	%	Color (moist)	%	Type ¹		
0-5	10YR	4/2	100					
5-15	10YR	6/4	100					

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: 26-Oct-16
Applicant/Owner: NASA
 State: MS
 Sampling Point: Up - 48
Investigator(s): Lars Larson, Randy Ellis
 Section, Township, Range: S 20 T 7 s R 16 W
Landform (hillslope, terrace, etc.): Terrace
 Local relief (concave, convex, none): flat
 Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T
 Lat.: 30° 25' 1.579" N
 Long.: 89° 37' 6.912" W
 Datum: NAD83
Soil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes
 NWI classification: N/A

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 type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" 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 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 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 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 type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 No real hydrology indicators in this plot... primary or secondary. Soil has slight evidence of REDOX, but chroma brightens slightly with depth.

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

Sampling Point: Up - 48

		Dominant Species?		Indicator Status
Tree Stratum (Plot size: 30 m)	Absolute % Cover	Rel.Strat. Cover		
1. <i>Pinus elliotii</i>	15	<input checked="" type="checkbox"/> 75.0%	FACW	
2. <i>Magnolia virginiana</i>	5	<input checked="" type="checkbox"/> 25.0%	FACW	
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%		
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		
1. <i>Pinus elliotii</i>	10	<input checked="" type="checkbox"/> 50.0%	FACW	
2. <i>Magnolia virginiana</i>	10	<input checked="" type="checkbox"/> 50.0%	FACW	
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%		
50% of Total Cover:	10	20% of Total Cover: 4	20 = Total Cover	
Shrub Stratum (Plot size: 30 m)	Absolute % Cover	Rel.Strat. Cover		
1. <i>Ilex coriacea</i>	60	<input checked="" type="checkbox"/> 85.7%	FACW	
2. <i>Ilex vomitoria</i>	10	<input type="checkbox"/> 14.3%	FAC	
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%		
50% of Total Cover:	35	20% of Total Cover: 14	70 = Total Cover	
Herb Stratum (Plot size: 30 m)	Absolute % Cover	Rel.Strat. Cover		
1. <i>Ilex glabra</i>	10	<input checked="" type="checkbox"/> 100.0%	FACW	
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%		
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:	5	20% of Total Cover: 2	10 = Total Cover	
Woody Vine Stratum (Plot size: 30 m)	Absolute % Cover	Rel.Strat. Cover		
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: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

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

Prevalence Index worksheet:

Total % Cover of: Multiply by:

OBL species 0 x 1 = 0

FACW species 110 x 2 = 220

FAC species 10 x 3 = 30

FACU species 0 x 4 = 0

UPL species 0 x 5 = 0

Column Totals: 120 (A) 250 (B)

Prevalence Index = B/A = 2.083

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: Up - 48

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	100						Loamy Sand	
3-11	10YR	4/2	99	10YR	6/6	1	C	M	Loamy Sand	
11-20	10YR	5/3	99	10YR	6/6	1	C	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:

- 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:

Some minor redox present below 10-inches. Low chroma soil (<2), but begins to brighten slightly with depth.

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:** 26-Oct-16

Applicant/Owner: NASA **State:** MS **Sampling Point:** Up - 49

Investigator(s): Lars Larson, Randy Ellis **Section, Township, Range:** S 20 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° 25' 1.706" N **Long.:** 89° 37' 1.780" W **Datum:** NAD83

Soil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes **NWI classification:** N/A

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 type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: East to west Transect point approximately 500-600 feet south of access path along northeast property fenceline.	

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 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 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 type="radio"/> No <input checked="" 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: Up - 49

Tree Stratum (Plot size: 30 m)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. <i>Pinus elliotii</i>	15	<input checked="" type="checkbox"/> 65.2%	FACW
2. <i>Magnolia virginiana</i>	5	<input checked="" type="checkbox"/> 21.7%	FACW
3. <i>Acer rubrum</i>	2	<input type="checkbox"/> 8.7%	FAC
4. <i>Quercus nigra</i>	1	<input type="checkbox"/> 4.3%	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:	11.5	20% of Total Cover: 4.6	23 = Total Cover
Sapling or Sapling/Shrub Stratum (Plot size: 30 m)			
1. <i>Pinus elliotii</i>	5	<input type="checkbox"/> 18.5%	FACW
2. <i>Magnolia virginiana</i>	10	<input checked="" type="checkbox"/> 37.0%	FACW
3. <i>Acer rubrum</i>	7	<input checked="" type="checkbox"/> 25.9%	FAC
4. <i>Quercus nigra</i>	5	<input type="checkbox"/> 18.5%	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:	13.5	20% of Total Cover: 5.4	27 = Total Cover
Shrub Stratum (Plot size: 30 m)			
1. <i>Ilex coriacea</i>	50	<input checked="" type="checkbox"/> 90.9%	FACW
2. <i>Ilex vomitoria</i>	5	<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%	
6.	0	<input type="checkbox"/> 0.0%	
50% of Total Cover:	27.5	20% of Total Cover: 11	55 = Total Cover
Herb Stratum (Plot size: 30 m)			
1. <i>Ilex coriacea</i>	5	<input checked="" type="checkbox"/> 100.0%	FACW
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%	
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:	2.5	20% of Total Cover: 1	5 = Total Cover
Woody Vine Stratum (Plot size: 30 m)			
1. <i>Smilax laurifolia</i>	1	<input type="checkbox"/> 100.0%	FACW
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:	0.5	20% of Total Cover: 0.2	1 = Total Cover

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

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

Prevalence Index worksheet:

Total % Cover of: 111 (A) Multiply by:

OBL species 0 x 1 = 0

FACW species 91 x 2 = 182

FAC species 20 x 3 = 60

FACU species 0 x 4 = 0

UPL species 0 x 5 = 0

Column Totals: 111 (A) 242 (B)

Prevalence Index = B/A = 2.180

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).
Heavy pine litter... no herbaceous stratum.

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

SOIL

Sampling Point: Up - 49

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	100						Loamy Sand	
3-12	10YR	4/2	99	10YR	6/2	1	D	M	Loamy Sand	
12-20	10YR	5/3	99	10YR	6/2	1	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:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)		<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)		<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)		<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)		<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)		<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)		<input type="checkbox"/> Other (Explain in Remarks)
<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 checked="" type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input 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 No

Remarks:

Very sandy - loamy soil, dry, crumbly texture - seems to have good draining capacity. Some slight evidence of redox, but not much.

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:** 26-Oct-16

Applicant/Owner: NASA **State:** MS **Sampling Point:** Up - 50

Investigator(s): Lars Larson, Randy Ellis **Section, Township, Range:** S 21 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' 59.955" N **Long.:** 89° 36' 38.830" W **Datum:** NAD83

Soil Map Unit Name: EsA, Escambia loam, 0 to 2 percent slopes **NWI classification:** N/A

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 type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Remarks:
 Upland plot within a transect in NE AOI. This is near an old logging channell/drainage cut that was made apparently to drain/convey surface water away (to the south) from the upland flat for logging puporses.

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 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 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 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 type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: