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

Dominant
Species?

| Tree Stratum (Plot size: 30 m | Absolute % Cover | | l.Strat. Cover | Indicator Status | Dominance Test worksheet: |
|--|---------------------|-------------------|-------------------|---------------------|---|
| Pinus elliottii | 10 | | 66.7% | FACW | Number of Dominant Species |
| Magnolia virginiana | 3 | | 20.0% | FACW | That are OBL, FACW, or FAC: 7 (A) |
| Nyssa sylvatica | 0 | | 0.0% | | Total Number of Dominant |
| | | H | • | FAC | Species Across All Strata: , , (B) |
| Pinus taeda | 2 | Η. | 13.3% | FAC | Percent of dominant Species |
| | 0_ | | 0.0% | | That Are OBL, FACW, or FAC: 100.0% (A/B) |
| | | \sqcup | 0.0% | -7 | |
| The company of the contract of | 0 | | 0.0% | - | Prevalence Index worksheet: |
| | 0 | L., | 0.0% | | Total % Cover of: Multiply by: |
| 0% of Total Cover: 7.5 20% of Total Cover: 3 | 15 | = To | tal Cove | г | OBL species <u>1</u> x 1 = <u>1</u> |
| apling or Sapling/Shrub Stratum (Plot size: 30 m |) | | | | FACW species 94 x 2 = 188_ |
| Pinus elliottil | 15 | V | 68,2% | FACW | FAC species 11 x 3 = 33 |
| Magnolla virginiana | | V | 22.7% | FACW | FACU species $0 \times 4 = 0$ |
| Magnolia grandiflora | | | 4.5% | FAC | UPL species 0 x 5 = 0 |
| Liquidambar styraciflua | | | 4.5% | FAC | · |
| | _ | \Box | 0.0% | 1710 | Column Totals: 106 (A) 222 (B) |
| | | \Box | 0.0% | | Prevalence Index = B/A = 2.094 |
| | | \exists | 0.0% | _ | Hydrophytic Vegetation Indicators: |
| | | | | | |
| | 0 . | Ш. | 0.0% | | ✓ 1 - Rapid Test for Hydrophytic Vegetation |
| 0% of Total Cover: 11 20% of Total Cover: 4.4 | 22 | = Tol | tal Cove | г | ✓ 2 - Dominance Test is > 50% |
| hrub Stratum (Plot size: 30 m) | | | | | ✓ 3 - Prevalence Index is ≤3.0 ¹ |
| Ilex corfacea | 10 | V | 21.7% | FACW | Problematic Hydrophytic Vegetation ¹ (Explain) |
| Ilex glabra | | V | 65.2% | FACW | |
| Liquidambar styraciflua | 5 | $\overline{\Box}$ | 10.9% | FAC | ¹ Indicators of hydric soil and wetland hydrology mus |
| Bours askutt | - | $\overline{\Box}$ | 2.2% | FACW | be present, unless disturbed or problematic. |
| Persea palustris | | _ | | TACT | Definition of Vegetation Strata: |
| - | 0 | H= | 0.0% | | Tree - Woody plants, excluding woody vines, |
| | 0 | Ш_ | 0.0% | - | approximately 20 ft (6 m) or more in height and 3 in. |
| 60% of Total Cover: 23 20% of Total Cover: 9.2 | 46 | = Tol | al Cove | r | (7.6 cm) or larger in diameter at breast height (DBH). |
| erb Stratum (Plot size: 30 m | | | | | |
| Lycopodiella alopecuroides | - 1 | | 4.8% | OBL | Sapling - Woody plants, excluding woody vines, |
| . Ilex glabra | | V | 95.2% | FACW | approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. |
| | 0 | \Box | 0.0% | | dianonii (1.0 oni) ppii |
| | 0 | | 0.0% | | Sapling/Shrub - Woody plants, excluding vines, less |
| TO NOT THE WORLD | | | | | than 3 in. DBH and greater than 3.28 ft (1m) tall. |
| | 0 | | 0.0% | | |
| · | 0 | Η- | 0.0% | | Shrub - Woody plants, excluding woody vines, |
| • | . 0_ | Η | 0.0% | | approximately 3 to 20 ft (1 to 6 m) in height. |
| | | <u> </u> | 0.0% | | Horb. All horbanous (non-used) A - Is-4s in the life |
| · · · · · · · · · · · · · · · · · · · | | <u> </u> | 0.0% | | Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody |
| 4 | | | 0,0% | | plants, except woody vines, less than approximately |
| <u> </u> | | | 0.0% | 6.1 | 3 ft (1 m) in height. |
| | 0 | | 0.0% | | |
| 0% of Total Cover: 10.5 20% of Total Cover: 4.2 | 21 = | = Tot | al Cover | | Woody vine - All woody vines, regardless of height. |
| | | | | | |
| (oody Vine Stratum (Plot size: 30 m | | | E0 6 | | |
| Smilax rotundifolia | 1 | H. | 50.0% | FAC | |
| Vitis rotundifolia | | Ц. | | FAC | |
| | 0 | ∐. | 0.0% | | |
| | 0 | <u> </u> | 0.0% | | No described to |
| | 0 | | 0.0% | | Hydrophytic Vegetation |
| | | T-4 | al Cover | | Present? Yes No O |
| 0% of Total Cover: 1 20% of Total Cover: 0.4 | 2 = | = OT | OI CHAC: | | |

SOIL Sampling Point: Up - 43 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth (inches) Color (moist) % Color (moist) Loc2 **Texture** Remarks 0-4 10YR 100 4-15 3/2 Loamy Sand 10YR 100 Loamy Sand 4-15 5/3 ¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix Hydric Soll Indicators: Indicators for Problematic Hydric Soils³: Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A,B) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) ☐ Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) ☐ 1 cm Muck (A9) (LRR P, T) ☐ Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) ☐ Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) ³Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) wetland hydrology must be present, Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (\$7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: Yes 🔾 No 💿 **Hydric Soil Present?** Depth (inches): Remarks:

| Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation | ity/County: Waveland - Hancock Sampling Date: 25-Oct-16 |
|---|--|
| Applicant/Owner: NASA | State: MS Sampling Point: Up - 44 |
| | Section, Township, Range: S 37 T 7s R 16 W |
| | ocal relief (concave, convex, none): none Slope: 1.0 % / 0.6° |
| | |
| | 0° 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? | |
| Are Vegetation . , Soil . , or Hydrology . significantly | disturbed? Are "Normal Circumstances" present? Yes No |
| Are Vegetation . , Soil . , or Hydrology . naturally pro | |
| SUMMARY OF FINDINGS - Attach site map showing sam | (2. datasa, sapana anj anatona antana, |
| Hydrophytic Vegetation Present? Yes No O | |
| Hydric Soil Present? Yes ○ No ⑥ | Is the Sampled Area |
| Wetland Hydrology Present? Yes No | within a Wetland? Yes O No 🏵 |
| | |
| Remarks: | NA - autica - af the averall AOT |
| Transect between Northwest-Southeast trending site road within the S | w portion of the overall AO1. |
| HYDROLOGY | |
| Wetland Hydrology Indicators: | Secondary Indicators (minimum of 2 required) |
| Primary Indicators (minimum of one required; check all that apply) | Surface Soil Cracks (86) |
| Surface Water (A1) Aquatic Fauna (B13) | |
| High Water Table (A2) Marl Deposits (B15) | |
| ☐ Saturation (A3) ☐ Hydrogen Sulfide Odi | = • • • • • |
| | es along Living Roots (C3) Dry Season Water Table (C2) |
| Sediment Deposits (B2) | |
| ☐ Drift Deposits (B3) ☐ Recent Iron Reduction | |
| ☐ Algal Mat or Crust (B4) ☐ Thin Muck Surface (C | |
| ☐ Iron Deposits (B5) ☐ Other (Explain in Ren | |
| Inundation Visible on Aerial Imagery (B7) | FAC-Neutral Test (D5) |
| Water-Stained Leaves (B9) | Sphagnum moss (D8) (LRR T, U) |
| Field Observations: | |
| Surface Water Present? Yes O No O Depth (inches): | |
| Water Table Present? Yes No Depth (inches): | |
| Saturation Present? (includes capillary fringe) Yes No Depth (inches): | Wetland Hydrology Present? Yes O No 💿 |
| (| - Control of the Cont |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, | previous inspections), if available: |
| | |
| | |
| Remarks: | |
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VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant

| Tree Stratum (Plot size: _30 m) | % Cove | | el.Strat. Cover | Indicator Status | Dominance Test worksheet: |
|--|----------|--------------------|--------------------|---------------------|--|
| 1 Pinus elliottii | 20 | V | 51.3% | FACW | Number of Dominant Species That are ORL FACAL or FAC. 7 (A) |
| | 5 | | 12.8% | FAC | That are OBL, FACW, or FAC: |
| 41 | | | | | Total Number of Dominant |
| | 10 | | 25.6% | FACW | Species Across Ali Strata: 7 (B) |
| 4 Magnolia grandiflora | | | 7.7% | FAC | Percent of dominant Species |
| Nyssa sylvatica | | Η. | 2.6% | FAC | That Are OBL, FACW, or FAC: 100.0% (A/B) |
| 5 | | | 0.0% | | |
| 7. | 0 | Щ, | 0.0% | | Prevalence Index worksheet: |
| 3. | 0 | Щ | 0.0% | 2 | Total % Cover of: Multiply by: |
| 50% of Total Cover: 19.5 20% of Total Cover: 7.8 | 39 | = To | otal Cove | r | OBL species 0 x 1 = 0 |
| Saping or Sapling/Shrub Stratum (Plot size: 30 m | } | | | | FACW species 83 x 2 = 166 |
| Pinus elliottii | 15 | V | 62.5% | FACW | FAC species $25 \times 3 = 75$ |
| 2 Magnolia virginiana | 5 | | 20.8% | FACW | FACU species $0 \times 4 = 0$. |
| 3. Liquidambar styraciflua | 3 | | 12.5% | FAC | |
| | | Ξ, | 4.2% | FAC | ort species X 3 = |
| | - | | | FAC | Column Totals: 108 (A) 241 (B) |
| 5. | | | 0.0% | | Prevalence Index = B/A = 2.231 |
|) | | | 0.0% | | |
| 7 | 0 | \square | 0.0% | | Hydrophytic Vegetation Indicators: |
| 3. , , , , , , , | 0 | | 0.0% | | 1 - Rapid Test for Hydrophytic Vegetation |
| 50% of Total Cover: 12 20% of Total Cover: 4.8 | 24 | = To | tal Cover | | ✓ 2 - Dominance Test is > 50% |
| Shrub Stratum (Plot size: 30 m) | | | | | ✓ 3 - Prevalence Index is ≤3.0 ¹ |
| | 20 | | F2 60/ | F45341 | |
| Ilex coriacea | 20 | | 52.6% | | Problematic Hydrophytic Vegetation 1 (Explain) |
| 2 Ilex vomitoria | | ✓. | 26.3% | FAC | |
| Vaccinium elliottii | | \sqcup | 13,2% | FACW | Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| . Ilex glabra | 3 | Ш, | 7.9% | FACW | <u></u> |
|) | 0 | | 0.0% | | Definition of Vegetation Strata: |
| 6. | | | 0.0% | | Tree - Woody plants, excluding woody vines, |
| 50% of Total Cover: 19 20% of Total Cover: 7.6 Herb Stratum (Plot size: 30 m) | 38 | = To | tal Cover | | approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). |
| 1. Ilex glabra | 5 | 100.0% | | FACIN | Sapling - Woody plants, excluding woody vines, |
| | | | 0.0% | 1 MCAA | approximately 20 ft (6 m) or more in height and less |
| 2. | • | | | | than 3 in. (7.6 cm) DBH. |
| 3 | 0 | | 0.0% | | Carling/Claude Mande and disputer than Jaco |
| 4 | 0 | Ш. | 0.0% | | Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. |
| 5 | 0 | Ш. | 0.0% | | and one por and ground mar 5.25 it (m) tun. |
| 6. | 0 | | 0.0% | | Shrub - Woody plants, excluding woody vines, |
| 7, | 0 | | 0.0% | | approximately 3 to 20 ft (1 to 6 m) in height. |
| 8 | 0 | | 0.0% | | |
| 9. , | 0 | | 0.0% | | Herb - All herbaceous (non-woody) plants, including |
| 0 | 0 | | 0.0% | | herbaceous vines, regardless of size, and woody |
| 1. | 0 | $\overline{\Box}$ | 0.0% | | plants, except woody vines, less than approximately 3 ft (1 m) in height. |
| 2. | | H | | - | on the management |
| - 9.9.1.1 | 0 | <u>.</u> | 0.0% | | Woody vine - All woody vines, regardless of height. |
| 50% of Total Cover: 2.5 20% of Total Cover: 1 Woody Vine Stratum (Plot size: 30 m) | 5: | - 10 | tai Cover | | |
| | 2 | П | 100.0% | FAC | |
| • | - | \vdash | 0.0% | | |
| To many restrictive to the second sec | | 님. | | | |
| | | | 0.0% | | |
| | | | 0.0% | | Hydrophytic |
| | <u>0</u> | | 0.0% | | Hydrophytic Vegetation |
| 50% of Total Cover: 1 20% of Total Cover: 0.4 2 = Total Cover | | Present? Yes No No | | | |

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| SOIL | | | | Sampling Point: Up - 44 |
|--------------------------|-------------------------|----------------------|--|--|
| Profile Desc | ription: (Describe to | the depth | needed to document the indicator or confirm | n the absence of indicators.) |
| Depth | Matrix | | Redox Features | |
| (inches) | Color (moist) | 0/0 | Color (moist) % Type 1 L | oc² Texture Remarks |
| 0-5 | 10YR 4/2 | 100 | | Loamy Sand |
| 5-16 | 10YR 5/3 | 100 | | Loamy Sand |
| | | | | |
| | | | | |
| • | | - | | |
| | .* 6 | | | |
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| | | | | |
| | | | - | |
| ¹ Type: C=Con | centration. D=Depletic | on. RM= R edu | ced Matrix, CS=Covered or Coated Sand Grains | ² Location: PL=Pore Lining. M=Matrix |
| Hydric Soil 1 | Indicators: | | | Indicators for Problematic Hydric Soils ³ : |
| Histosol (| (A1) | | Polyvalue Below Surface (S8) (LRR S, T, | |
| Histic Epi | pedon (A2) | | ☐ Thin Dark Surface (S9) (LRR S, T, U) | 2 cm Muck (A10) (LRR S) |
| Black Hist | tic (A3) | | Loamy Mucky Mineral (F1) (LRR O) | Reduced Vertic (F18) (outside MLRA 150A,B) |
| Hydrogen | Sulfide (A4) | | Loamy Gleyed Matrix (F2) | Piedmont Floodplain Soils (F19) (LRR P, S, T) |
| Stratified | Layers (A5) | | Depleted Matrix (F3) | _ |
| | Bodies (A6) (LRR P, T, | U) | Redox Dark Surface (F6) | Anomalous Bright Loamy Soils (F20) (MLRA 153B) |
| | ky Mineral (A7) (LRR I | • | Depleted Dark Surface (F7) | Red Parent Material (TF2) |
| | sence (A8) (LRR U) | , -, -, | Redox Depressions (F8) | ☐ Very Shallow Dark Surface (TF12) ☐ Transport of the Property of the Proper |
| _ | k (A9) (LRR P, T) | | Marl (F10) (LRR U) | Other (Explain in Remarks) |
| | Below Dark Surface (A | (11) | Depleted Ochric (F11) (MLRA 151) | |
| _ : | k Surface (A12) | , | ☐ Iron-Manganese Masses (F12) (LRR O, P. | T) |
| | irie Redox (A16) (MLR | A 150A) | Umbric Surface (F13) (LRR P, T, U) | , 1) |
| | ick Mineral (S1) (LRR (| • | | |
| | eyed Matrix (S4) | J, J) | Delta Ochric (F17) (MLRA 151) | ³ Indicators of hydrophytic vegetation and |
| Sandy Re | | | Reduced Vertic (F18) (MLRA 150A, 150B) | wetland hydrology must be present, |
| | Matrix (S6) | | Piedmont Floodplain Soils (F19) (MLRA 14 | · |
| | ace (S7) (LRR P, S, T, | IIV | Anomalous Bright Loamy Soils (F20) (MLI | RA 149 A, 153C, 153U) |
| Dark Surie | ace (57) (BREF, 5, 1, | u) | | |
| | | | | |
| Restrictive La | ayer (if observed): | | | |
| Type: | | | ? | Shadala Gall Barranda - May C - May G |
| Depth (incl | hes): | | | Hydric Soil Present? Yes No 💿 |
| Remarks: | | | | |
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| 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, Ran | nge: 5 37 T 7s R 16W | |
| Landform (hillslope, terrace, etc.): Hillside | Local relief (concave, con | The contract of the contract o | o 6° |
| | , , | | |
| 10 M 1 T 1 M 1 M 1 | 30° 23' 44.917" N | 6 1 1 30 10 10 10 1 1 1 1 1 1 1 1 1 1 1 1 | |
| Soil Map Unit Name: EsB, Escambia loam, 2 to 5 percent slopes | <u> </u> | NWI classification: N/A | |
| Are climatic/hydrologic conditions on the site typical for this time of ye | ar? Yes 💿 No 🤇 | (| |
| Are Vegetation . , Soli . , or Hydrology . significant | tly disturbed? Are "N | lormal Circumstances" present? Yes 🍳 No 🔾 | |
| Are Vegetation . , Soil . , or Hydrology . naturally | problematic? (If ne | eded, explain any answers in Remarks.) | |
| SUMMARY OF FINDINGS - Attach site map showing sa | mpling point locatio | ons, transects, important features, etc. | |
| Hydrophytic Vegetation Present? Yes No O | 7-W-6I-4 | 1 | |
| Hydric Soil Present? Yes ○ No • | Is the Sampled A | area da Yes ○ No ⑨ | |
| Wetland Hydrology Present? Yes ○ No ● | within a Wetland | d? Tes > No S | |
| Remarks: | <u></u> | | |
| plot is near disturbed area previously impacted by (apparently) hear | vv equipment use. | | |
| , | ., | | |
| HYDROLOGY | | | |
| Wetland Hydrology Indicators: | | Secondary Indicators (minimum of 2 required) | |
| Primary Indicators (minimum of one required; check all that apply) | | Surface Soil Cracks (B6) | |
| Surface Water (A1) Aquatic Fauna (B1 | 13) | ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ High Water Table (A2) ☐ Marl Deposits (B1 | 5) (LRR U) | ☐ Drainage Patterns (B10) | |
| Saturation (A3) Hydrogen Sulfide | Odor (C1) | Moss Trim Lines (B16) | |
| Water Marks (B1) Oxidized Rhizosph | eres along Living Roots (C3) | Dry Season Water Table (C2) | |
| Sediment Deposits (82) | ced Iron (C4) | Crayfish Burrows (C8) | |
| Drift Deposits (B3) | ction in Tilled Soils (C6) | Saturation Visible on Aerial Imagery (C9) | |
| Algal Mat or Crust (B4) Thin Muck Surface | e (C7) | Geomorphic Position (D2) | |
| ☐ Iron Deposits (B5) ☐ Other (Explain In I | Remarks) | Shallow Aquitard (D3) | |
| Inundation Visible on Aerial Imagery (B7) | , | FAC-Neutral Test (D5) | |
| Water-Stained Leaves (B9) | | Sphagnum moss (D8) (LRR T, U) | |
| Field Observations: | | | |
| Surface Water Present? Yes O No O Depth (inches): | | | |
| Water Table Present? Yes O No O Depth (inches): | | | |
| Saturation Present? (includes capillary frince) Yes No Depth (inches): | | d Hydrology Present? Yes 🔾 No 🍑 | |
| Describe Recorded Data (stream gauge, monitoring well, aerial photo | | if availables | |
| bescribe Recorded Data (stream gauge, monitoring well, aerial photo | s, previous inspections), i | it available: | |
| | | | |
| | | | |
| Remarks: | | | |
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VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant
Species?

| | ee Stratum (Plot size: 30 m) | Absolute % Cover | | el.Strat. Cover | Indicator Status | Dominance Test worksheet: | | |
|----------|--|---------------------|-----------|--------------------|---|--|--|--|
| | ree Stratum (Plot size: 30 m) | 18 | V | | | Number of Dominant Species | | |
| 1. | A TO THE SECOND | . 15 | | 55.6% | FACW | That are OBL, FACW, or FAC:5(A) | | |
| 2. | Nyssa sylvatica | 5 | H | 18.5% | FAC | Total Number of Dominant | | |
| 3. | Magnolla virginiana | . 5 | 님 | 18.5% | FACW | Species Across All Strata: 5 (B) | | |
| 4. | Magnolia grandiflora | <u>2</u> | Η, | 7.4% | FAC | Pargent of deminant Charles | | |
| 5. | | | 님 | 0.0% | | Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B) | | |
| 6. | W-114 | | Щ, | 0.0% | | That it is a second of the sec | | |
| 7. | The second secon | 0_ | Щ | 0.0% | | Prevalence Index worksheet: | | |
| 8. | | 0 | Ш, | 0.0% | | Total % Cover of: Multiply by: | | |
| 5 | 0% of Total Cover: 13.5 20% of Total Cover: 5.4 | 27 = | = To | otal Cove | r | OBL species $1 \times 1 = 1$ | | |
| Sē | pling or Sapling/Shrub Stratum (Plot size: 30 m |) | | | | FACW species 59 x 2 = 118 | | |
| 1. | Pinus elliottii | 10 | V | 52.6% | FACW | FAC species 24 x 3 = 72 | | |
| 2. | Nyssa sylvatica | 5 | V | 26.3% | FAC | FACU species $0 \times 4 = 0$ | | |
| 3. | Magnolia virginiana | | | 15.8% | FACW | UPL species $0 \times 5 = 0$ | | |
| 4. | Liquidambar styraciflua | | | 5.3% | FAC | (0) | | |
| 5. | | 0 | \Box | 0.0% | | Column Totals: 84 (A) 191 (B) | | |
| 6. | | 0 | | 0.0% | | Prevalence Index = $B/A = 2.274$ | | |
| 7. | | | \Box | 0.0% | | Hydrophytic Vegetation Indicators: | | |
| 8. | | 0 | | 0.0% | | | | |
| | | | ш, | - | | 1 - Rapid Test for Hydrophytic Vegetation | | |
| 50 | 0% of Total Cover: 9.5 20% of Total Cover: 3.8 | 19 = | = То | tal Cove | r | ✓ 2 - Dominance Test Is > 50% | | |
| Sh | rub Stratum (Plot size: 30 m | | | | | ✓ 3 - Prevalence Index is ≤3.0 ¹ | | |
| 1. | Ilex coriacea | 15 | V | 42.9% | FACW | Problematic Hydrophytic Vegetation ¹ (Explain) | | |
| 2. | Ilex glabra | 10 | V | 28.6% | FACW | | | |
| 3. | Ilex vomitoria | | | 14.3% | FAC | ¹ Indicators of hydric soil and wetland hydrology must | | |
| 4. | Ilex opaca | 2 | | 5.7% | FAC | be present, unless disturbed or problematic. | | |
| 5. | Liquidambar styracifiua | 3 | Π. | 8.6% | FAC | Definition of Vegetation Strata: | | |
| 6. | | 0 | \exists | 0.0% | N. S. | Tree - Woody plants, excluding woody vines, | | |
| | 50% of Total Cover: 17.5 20% of Total Cover: 7 | | - To | tal Cove | i Is | approximately 20 ft (6 m) or more in height and 3 in. | | |
| | | 35_= | - 10 | COTE | | (7.6 cm) or larger in diameter at breast height (DBH). | | |
| He | erb Stratum (Plot size: 30 m) | | | | | Sapling - Woody plants, excluding woody vines, | | |
| 1 | Hypericum cistifolium | 1 | Ω, | 50.0% | FACW | approximately 20 ft (6 m) or more in height and less | | |
| 2 | Lycopodiella alopecuroides | 1 | | 50.0% | OBL | than 3 in. (7.6 cm) DBH. | | |
| 3 | | 0 | | 0.0% | | | | |
| 4 | V | 0 | | 0.0% | | Sapling/Shrub - Woody plants, excluding vines, less | | |
| 5 | | 0 | | 0.0% | | than 3 in. DBH and greater than 3.28 ft (1m) tall. | | |
| 6 | • | 0 | | 0.0% | | Shrub - Woody plants, excluding woody vines, | | |
| 7 | | 0 | | 0.0% | | approximately 3 to 20 ft (1 to 6 m) in height. | | |
| | | 0 | | 0.0% | | | | |
| 9 | | 0 | | 0.0% | | Herb - All herbaceous (non-woody) plants, including | | |
| _ | | - | | 0.0% | | herbaceous vines, regardless of size, and woody | | |
| 11. | | 0 | | 0.0% | | plants, except woody vines, less than approximately 3 ft (1 m) in height. | | |
| 12. | | 0 | Н | 0.0% | - | o it (1 til) it. Holgita | | |
| | | - | | | - | Woody vine - All woody vines, regardless of height. | | |
| | % of Total Cover: 1 20% of Total Cover: 0.4 | = | : To | tal Cover | · | Troody tillo , in troody tillog rogardioco or no.g.iii | | |
| Wo | oody Vine Stratum (Plot size: 30 m | | | | ļ | | | |
| 1. | Vitis rotundifolia | 1 | | 100.0% | FAC | | | |
| 2. | ······································ | 0 | | 0.0% | | | | |
| 3. | | 0 | | 0.0% | | | | |
| 4. | | 0 | | 0.0% | | | | |
| т. 5. | | 0 | | 0.0% | | Hydrophytic | | |
| | W of Total Course O.S. 2007 of Total Course O.3 | | T-4 | .,., | , | Vegetation Present? Yes No | | |
| 50 | % of Total Cover: 0.5 20% of Total Cover: 0.2 | | 10 | tal Cover | | | | |
| | arks: (If observed, list morphological adaptations below). Cator suffix = National status or professional decision assigned because Re | | _ 4 _ 4 | Sand by Si | ue. | | | |

| SOIL | | | Sampling Point: Up - 45 |
|------------------------------|--|--|--|
| Profile Desc | ription: (Describe to the dep | oth needed to document the indicator or confirm the | e absence of Indicators.) |
| Depth | Matrix | Redox Features | |
| (inches) | Color (moist) % | Color (moist) % Type 1 Loc2 | Texture Remarks |
| 0 - 5 | 10YR 4/2 100 | | Loamy Sand |
| 5-15 | 10YR 5/4 100 | | Loamy Sand |
| | | | |
| | | X 1 | |
| | ON 13 WOW AND A STREET, STREET | | Son. : Smearace |
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| | | | 7.1 |
| | assistant D. Daulatian DM D | Andread Matter, CC, Council of Control Control Control | antino. Di Dave lisian M Matrix |
| Type: C=Con Hydric Soil 1 | | deduced Matrix, CS=Covered or Coated Sand Grains 2Loc | |
| Histosol (| | Dolatelus Bolow Strface (S9) (LDD C. T. II) | Indicators for Problematic Hydric Solis ³ : |
| | pedon (A2) | ☐ Polyvalue Below Surface (S8) (LRR S, T, U) | 1 cm Muck (A9) (LRR O) |
| Black Hist | · · · | ☐ Thin Dark Surface (S9) (LRR S, T, U) | 2 cm Muck (A10) (LRR S) |
| _ | | Loamy Mucky Mineral (F1) (LRR O) | Reduced Vertic (F18) (outside MLRA 150A,B) |
| | Sulfide (A4) | Loamy Gleyed Matrix (F2) | Piedmont Floodplain Soils (F19) (LRR P, S, T) |
| | Layers (A5) | Depleted Matrix (F3) | Anomalous Bright Loamy Soils (F20) (MLRA 153B) |
| | lodies (A6) (LRR P, T, U) | Redox Dark Surface (F6) | Red Parent Material (TF2) |
| 5 cm Muc | ky Mineral (A7) (LRR P, T, U) | Depleted Dark Surface (F7) | ☐ Very Shallow Dark Surface (TF12) |
| Muck Pres | sence (A8) (LRR U) | Redox Depressions (F8) | Other (Explain in Remarks) |
| 1 cm Muc | k (A9) (LRR P, T) | Mari (F10) (LRR U) | |
| Depleted | Below Dark Surface (A11) | Depleted Ochric (F11) (MLRA 151) | |
| Thick Dari | k Surface (A12) | Iron-Manganese Masses (F12) (LRR O, P, T) | |
| _ | irie Redox (A16) (MLRA 150A) | Umbric Surface (F13) (LRR P, T, U) | |
| _ | ick Mineral (S1) (LRR O, S) | Delta Ochric (F17) (MLRA 151) | |
| | eyed Matrix (S4) | | ³ Indicators of hydrophytic vegetation and |
| | • • | Reduced Vertic (F18) (MLRA 150A, 150B) | wetland hydrology must be present, |
| Sandy Red | • • | Piedmont Floodplain Soils (F19) (MLRA 149A) | • |
| | Matrix (S6) | Anomalous Bright Loamy Soils (F20) (MLRA 14 | 49A, 153C, 153D) |
| Dark Surfi | ace (S7) (LRR P, S, T, U) | | |
| | | | 1 |
| | ayer (if observed): | | |
| Type: | - · · · · · · · · · · · · · · · · · · · | | Hydric Soil Present? Yes No |
| Depth (incl | nes): | н | Hydric Soil Present? Yes No 💿 |
| Remarks: | | | |
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| Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation | City/County: Waveland - Hanco | ock Sampling Date: 26-Oct-16 |
|--|-------------------------------------|--|
| Applicant/Owner: NASA | State: MS | Sampling Point: Up - 47 |
| Investigator(s): Lars Larson, Randy Ellis | Section, Township, Range: S | |
| Landform (hillslope, terrace, etc.): Hillside | Local relief (concave, convex, n | Control of the contro |
| | | *************************************** |
| tick to the second of the seco | | J.: 89° 37′ 44.011″ W Datum: NAD83 |
| Soil Map Unit Name: EuB, Escambia loamy fine sand, 2 to 5 percent s | | NWI classification: N/A |
| Are climatic/hydrologic conditions on the site typical for this time of ye | ar? Yes No O | (If no, explain in Remarks.) |
| Are Vegetation . , Soil . , or Hydrology . significant | tly disturbed? Are "Normal | Circumstances" present? Yes ● No ○ |
| Are Vegetation . , Soil . , or Hydrology . naturally | problematic? (If needed, o | explain any answers in Remarks.) |
| SUMMARY OF FINDINGS - Attach site map showing sa | mpling point locations, t | ransects, important features, etc. |
| Hydrophytic Vegetation Present? Yes No | | ****** |
| Hydric Soil Present? Yes O No • | Is the Sampled Area | Yes ○ No ⑨ |
| Wetland Hydrology Present? Yes ○ No ● | within a Wetland? | res o no o |
| Remarks: | | |
| Sideslope approximately 60–70 feet up from Wet - 47. | | |
| HYDROLOGY | · ····· | |
| Wetland Hydrology Indicators: | | Secondary Indicators (minimum of 2 required) |
| Primary Indicators (minimum of one required; check all that apply) | | Surface Soil Cracks (B6) |
| Surface Water (A1) Aquatic Fauna (B. | 13) | Sparsely Vegetated Concave Surface (B8) |
| High Water Table (A2) Marl Deposits (B1 | 5) (LRR U) | ☐ Drainage Patterns (B10) |
| Saturation (A3) Hydrogen Sulfide | Odor (C1) | Moss Trim Lines (B16) |
| | neres along Living Roots (C3) | Dry Season Water Table (C2) |
| Sediment Deposits (B2) | ' ' | Crayfish Burrows (C8) |
| | ction in Tilled Soils (C6) | Saturation Visible on Aerial Imagery (C9) |
| Algal Mat or Crust (B4) Thin Muck Surface | • • | Geomorphic Position (D2) |
| ☐ Iron Deposits (B5) ☐ Other (Explain in | Remarks) | Shallow Aquitard (D3) |
| ☐ Inundation Visible on Aerial Imagery (B7) ☐ Water-Stained Leaves (B9) | | FAC-Neutral Test (D5) |
| | | Sphagnum moss (D8) (LRR T, U) |
| Field Observations: Surface Water Present? Yes No Depth (inches): | | |
| | 0.00 | |
| Water Table Present? Yes No Depth (inches): | | rology Present? Yes O No 💿 |
| Saturation Present? Yes No Depth (inches): | Wedana nya | ology Fiesence Fes O No O |
| Describe Recorded Data (stream gauge, monitoring well, aerial phot | os, previous inspections), if avail | able: |
| | | |
| | | |
| Remarks: | <u> </u> | |
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VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant
Species?

| Tree Stratum (Plot size: 30 m) | Absolute | | el.Strat. Cover | Indicator Status | Dominance Test worksheet: | |
|---|----------|---------------------------------------|--------------------|---|--|--|
| | | V | | | Number of Dominant Species | |
| Pinus elliottii Nyssa sylvatica | 10 5 | V | 31.3% | FACW | That are OBL, FACW, or FAC: 8 (A) | |
| 2 Magnalia grandiflora | | | 6.3% | FAC | Total Number of Dominant | |
| A 1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1- | • | | 0.0% | FAC | Species Across All Strata: 8 (B) | |
| - | , | H | 0.0% | 1-60 A 1984 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | Percent of dominant Species | |
| <u> </u> | - | H | | | That Are OBL, FACW, or FAC: 100.0% (A/B) | |
| 5. | • | | 0.0% | Charles IV | | |
| (· · · · · · · · · · · · · · · · · · · | | | 0.0% | | Prevalence Index worksheet: | |
| 3. | _ 0 | Ш, | 0.0% | | Total % Cover of: Multiply by: | |
| 50% of Total Cover: 8 20% of Total Cover: 3.2 | | = Tc | otal Cove | r | OBL species 0 x 1 = 0 FACW species 28 x 2 = 56 | |
| Sapling or Sapling/Shrub Stratum (Plot size: 30 m | | | 7.404 | F1.00.11 | | |
| Pinus elliottii | <u> </u> | | 7.1% | FACW | FAC species | |
| Nyssa sylvatica | | | | FAC | FACU species $0 \times 4 = 0$ | |
| 3 Ilex opaca | | | 35.7% | FAC | UPL species 0 x 5 = 0 | |
| Magnolia grandiflora | | V | 35.7% | FAC | Column Totals: 104 (A) 284 (B) | |
| | 0 | Н, | 0.0% | | Prevalence Index = B/A = 2.731 | |
| · | 0 | | 0.0% | | <u> </u> | |
| | 0 | Щ | 0.0% | | Hydrophytic Vegetation Indicators: | |
| **** | - 0 | \square | 0.0% | | 1 - Rapid Test for Hydrophytic Vegetation | |
| 50% of Total Cover: 7 20% of Total Cover: 2.8 | 14: | = To | otal Cove | r | ✓ 2 - Dominance Test is > 50% | |
| Shrub Stratum (Plot size: 30 m) | | | | | ☑ 3 - Prevalence Index is ≤3.0 ¹ | |
| Ilex vomitoria | 50 | ✔, | 79.4% | FAC | Problematic Hydrophytic Vegetation ¹ (Explain) | |
| Ilex coriacea | 10 | | 15.9% | FACW | | |
| 3. Vaccinium elliottii | 2 | | 3.2% | FACW | Indicators of hydric soil and wetland hydrology must | |
| Quercus nigra | 1 | | 1.6% | FAC | be present, unless disturbed or problematic. | |
| 5. | 0 | | 0.0% | | Definition of Vegetation Strata: | |
| 5. | 0 | | 0.0% | | Tree - Woody plants, excluding woody vines, | |
| 50% of Total Cover: 31.5 20% of Total Cover: 12.6 | 63 : | = Total Cover | | | approximately 20 ft (6 m) or more in height and 3 in. | |
| Herb Stratum (Plot size: 30 m | | | | | (7.6 cm) or larger in diameter at breast height (DBH). | |
| | le i | V | 100 001 | E4.0014 | Sapling - Woody plants, excluding woody vines, | |
| 1, Ilex corlacea | | | 100.0% | FACW | approximately 20 ft (6 m) or more in height and less | |
| 2. | | \Box | 0.0% | | than 3 in. (7.6 cm) DBH. | |
| 3 | <u></u> | Η. | 0.0% | | Continui/Charle 18/22 de alondo acceledino vinco los | |
| 4 | | H | 0.0% | | Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. | |
| 5 | 0 | H | 0.0% | | 3 (, | |
| 6 | 0 | H | 0.0% | | Shrub - Woody plants, excluding woody vines, | |
| 7 | | H | 0.0% | | approximately 3 to 20 ft (1 to 6 m) in height. | |
| 8 | | | 0.0% | | Harb All harbanania (san umadis) elegate includio | |
| 9. | | | 0.0% | | Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody | |
| 0 | | Ц. | 0.0% | | plants, except woody vines, less than approximately | |
| 1 | 0 | Ш. | 0.0% | | 3 ft (1 m) in height. | |
| 2 | 0 | \Box | 0.0% | | | |
| 50% of Total Cover: 2.5 20% of Total Cover: 1 | 5 = | = To | tal Cover | | Woody vine - All woody vines, regardless of height. | |
| Woody Vine Stratum (Plot size: 30 m | | | | Ĺ | | |
| Lygodium japonicum | 5 | ✓. | 83.3% | FAC | | |
| Vitis rotundifolia | 1 | | 16.7% | FAC | | |
| | | | 0.0% | | | |
| | | | 0.0% | | | |
| | 0 | | 0.0% | | Hydrophytic | |
| 1 | | · · · · · · · · · · · · · · · · · · · | | | Vegetation Present? Yes No ○ | |
| 50% of Total Cover: 3 20% of Total Cover: 1.2 | D = | | | | | |

| OIL | | | | Sampling Point: Up - 47 | | | |
|-----------------|---------------------------------------|-------------|--|--|--|--|--|
| rofile Descr | iption: (Describe to t | the depth : | needed to document the indicator or confirm the | absence of indicators.) | | | |
| Depth Matrix | | | Redox Features | | | | |
| (inches) | Color (moist) | 9/9 | Color (moist) % Type 1 Loc2 | . Texture Remarks | | | |
| 0-5 | 10YR 4/2 | 100 | | | | | |
| 5-15 | 10YR 6/4 | 100 | | | | | |
| | | | <u>-</u> •∵- | | | | |
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| | | | • W. W. W | · M·. | | | |
| vpe: C=Cond | centration. D=Cepletion | . RM=Redu | ced Matrix, CS=Covered or Coated Sand Grains 2Loca | ation: PL=Pore Lining, M=Matrix | | | |
| ydric Soil I | | | | Indicators for Problematic Hydric Soils ³ : | | | |
| Histosol (/ | A1) | | Polyvalue Below Surface (S8) (LRR S, T, U) | 1 cm Muck (A9) (LRR O) | | | |
| Histic Epip | pedon (A2) | | ☐ Thin Dark Surface (S9) (LRR S, T, U) | 2 cm Muck (A10) (LRR S) | | | |
| Black Histi | | | Loamy Mucky Mineral (F1) (LRR O) | | | | |
| Hydrogen | Sulfide (A4) | | Loamy Gleyed Matrix (F2) | Reduced Vertic (F18) (outside MLRA 150A,B) | | | |
| | Layers (A5) | | Depleted Matrix (F3) | ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T) | | | |
| | odies (A6) (LRR P, T, U |) | Redox Dark Surface (F6) | ' Anomalous Bright Loamy Soils (F20) (MLRA 153B) Red Parent Material (TF2) | | | |
| 5 cm Mucl | ky Mineral (A7) (LRR P, | Τ, U) | Depleted Dark Surface (F7) | | | | |
| | ence (A8) (LRR U) | | Redox Depressions (F8) | | | | |
| | k (A9) (LRR P, T) | | ☐ Marl (F10) (LRR U) | Uther (Explain in Remarks) | | | |
| Depleted I | Below Dark Surface (A1 | 1) | Depleted Ochric (F11) (MLRA 151) | | | | |
| Thick Dark | Surface (A12) | • | ☐ Iron-Manganese Masses (F12) (LRR O, P, T) | | | | |
| Coast Prai | rie Redox (A16) (MLRA | 150A) | Umbric Surface (F13) (LRR P, T, U) | | | | |
| Sandy Mu | ck Mineral (S1) (LRR O, | S) | Delta Ochric (F17) (MLRA 151) | _ | | | |
| Sandy Gle | yed Matrix (S4) | | Reduced Vertic (F18) (MLRA 150A, 150B) | ³ Indicators of hydrophytic vegetation and | | | |
| Sandy Red | fox (S5) | | Piedmont Floodplain Soils (F19) (MLRA 149A) | wetland hydrology must be present, unless disturbed or problematic. | | | |
| Stripped M | latrix (S6) | | Anomalous Bright Loamy Soils (F20) (MLRA 14 | 19A, 153C, 153D) | | | |
| Dark Surfa | ice (S7) (LRR P, S, T, U |) | | | | | |
| | | | | | | | |
| ntuiotivo I n | yer (if observed): | | | | | | |
| Type: | iyei (ii observed): | | | | | | |
| Depth (inches): | | | W 6.4 | Hydric Soil Present? Yes O No 💿 | | | |
| | ics), | ··· | , 17 1 | | | | |
| marks: | | | | | | | |
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| Are Vegetation , Soil , or Hydrology naturally p | City/County: Waveland - Hancock Sampling Date: 26-Oct-16 State: MS Sampling Point: Up - 48 Section, Township, Range: S 20 T 7 s R 16 W Local relief (concave, convex, none): flat Slope: 0.0 % / 0.0 ° 30° 25' 1.579" N Long.: 89° 37' 6.912" W Datum: NAD83 NWI classification: N/A var? Yes No (If no, explain in Remarks.) tly disturbed? Are "Normal Circumstances" present? Yes No problematic? (If needed, explain any answers in Remarks.) tmpling point locations, transects, important features, etc. |
|---|---|
| Hydrophytic Vegetation Present? Yes No No Hydric Soil Present? Yes No No Wetland Hydrology Present? Yes No Remarks: | Is the Sampled Area within a Wetland? Yes O No |
| Sediment Deposits (B2) | Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Odor (C1) Moss Trim Lines (B16) Dry Season Water Table (C2) Code Iron (C4) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) E (C7) Geomorphic Position (D2) |
| Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photo | Wetland Hydrology Present? Yes ○ No ④ |

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

Species? Absolute Rel.Strat. Indicator Tree Stratum (Plot size: 30 m) % Cover Cover Status Number of Dominant Species 1 Pinus elliottii 15 **V** 75.0% FACW That are OBL, FACW, or FAC: 6 (A) ____5 Magnolia virginiana 25.0% Total Number of Dominant 3. 0 0.0% (B) Species Across All Strata: 6 0 0.0% Percent of dominant Species 5. _________ 0.0% 100.0% (A/B) That Are OBL, FACW, or FAC: 6. ______0 0.0% 7. Prevalence Index worksheet: 8. 0 0.0% Total % Cover of: Multiply by: 50% of Total Cover: 10 20% of Total Cover: 4 20 $0 \times 1 = 0$ = Total Cover OBL species FACW species _110 x 2 = Sapling or Sapling/Shrub Stratum (Plot size: 30 m Pinus elilottii 10 10 x 3 = FAC species 2. Magnolla virginiana 10 $0 \times 4 = 0$ 50.0% FACW FACU species 3. 0 0.0% 0. x 5 = 0 UPL species 0 Column Totals: 120 (A) 5. 0 0.0% Prevalence Index = B/A = 2-083 6. 0 0.0% Hydrophytic Vegetation Indicators: 0 0.0% 8. 0 ✓ 1 - Rapid Test for Hydrophytic Vegetation 50% of Total Cover: 10 20% of Total Cover: 4 20 = Total Cover ✓ 2 - Dominance Test is > 50% Shrub Stratum (Plot size: 30 m) 3 - Prevalence Index is ≤3.0 ¹ 1 Ilex corlacea 60 85.7% FACW Problematic Hydrophytic Vegetation ¹ (Explain) 2. Ilex vomitoria 10 14.3% ¹ Indicators of hydric soil and wetland hydrology must 3. _____ 0 0.0% be present, unless disturbed or problematic. 4. 0 0.0% 5. Definition of Vegetation Strata: 0.0% ___0 6. 0 Tree - Woody plants, excluding woody vines, 0.0% approximately 20 ft (6 m) or more in height and 3 in. 50% of Total Cover: 35 20% of Total Cover: 14 70 = Total Cover (7.6 cm) or larger in diameter at breast height (DBH). Herb Stratum (Plot size: 30 m) Sapling - Woody plants, excluding woody vines, 10 ✓ 100.0% FACW approximately 20 ft (6 m) or more in height and less 0 0.0% than 3 in. (7.6 cm) DBH. 0 0.0% Sapling/Shrub - Woody plants, excluding vines, less 0 0.0% than 3 in. DBH and greater than 3.28 ft (1m) tall. 0.0% 0.0% Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. 8.______0 0.0% Herb - All herbaceous (non-woody) plants, including 9. _______ 0.0% herbaceous vines, regardless of size, and woody 10. _____0 plants, except woody vines, less than approximately 3 ft (1 m) in height, 11.__ 0.0% 0 12. 0.0% 0 Woody vine - All woody vines, regardless of height. 50% of Total Cover: 2 10 = Total Cover Woody Vine Stratum (Plot size: 30 m 0 3. _______ 0.0% 4. __ Hydrophytic _____0 0.0% Vegetation Yes

No Present? 50% of Total Cover: 0 20% of Total Cover: 0 0 = **Total Cover** Remarks: (If observed, list morphological adaptations below). *Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Domlnant

Up - 48

Sampling Point:

| ~~ | |
|----|--|
| | |

| DIL | | | | | | | | | Sampling Point: Up - 48 | | |
|--|--------------------|--------------|------------|---|----------------|------------------------------------|-------------|-------------|---|--|--|
| rofile Desc | ription: (De: | scribe to | the depth | needed to doci | ıment ti | he Indic | ator or co | onfirm the | absence of indicators.) | | |
| Depth | | Matrix | | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | Redo | x Featu | | | | | |
| (inches) | Color (moist) % | | | Color (moi | st) | .% | Type 1 | Loc2 | Texture Remarks | | |
| 0-3 | 10YR | 3/2 | 100 | | | | | | Loamy Sand | | |
| 3-11 | 10YR | 4/2 | 99 | 10YR | 6/6 | 1 | С | М | Loamy Sand | | |
| 11-20 | 10YR | 5/3 | 99 | 10YR | 6/6 | 1 | С | М | Loamy Sand | | |
| | - A4000. TODA - 40 | | k (& | Maria . per | con. compar 3: | : 80004 1841'4 | x + 1.5 | | C S SAME STORY | | |
| | | | _ | | | | | | | | |
| | centration. D | =Depletio | n. RM=Redi | uced Matrix, CS=0 | Covered o | or Coate | d Sand Gr | ains ²Loca | ation: PL=Pore Lining. M=Matrix Indicators for Problematic Hydric Soils ³ : | | |
| Histosol (| | | | Polyvali | ie Below | Surface | (S8) (LRR | S. T. U) | | | |
| , | pedon (A2) | | | • | | | LRR S, T, I | | 1 cm Muck (A9) (LRR O) | | |
| Black His | | | | | | | 1) (LRR 0) | | 2 cm Muck (A10) (LRR S) | | |
| | Sulfide (A4) | | | | Gleyed M | | | | Reduced Vertic (F18) (outside MLRA 150A,B) Piedmont Floodplain Soils (F19) (LRR P, S, T) | | |
| | Layers (A5) | | | | d Matrix | - | • | | Anomalous Bright Loamy Soils (F20) (MLRA 153B) | | |
| | Rodies (A6) (L | RR P, T, L | J) | | Dark Surfi | | | | Red Parent Material (TF2) | | |
| 5 cm Muc | cky Mineral (A | 7) (LRR P | , T, U) | | d Dark S | • • | | | _ | | |
| | sence (A8) (L | | | | Depressio | | , | | Usery Shallow Dark Surface (TF12) | | |
| | k (A9) (LRR F | | | _ | (LRR | . , | | | Uther (Explain in Remarks) | | |
| | Below Dark S | | 11) | | | | ILRA 151) | | | | |
| • | k Surface (A1 | • | , | | | | (F12) (LRF | 7.00 | | | |
| | irie Redox (A: | • | 150A) | | _ | | | | | | |
| | ick Mineral (S | | | | | | R P, T, U) | | | | |
| | | | , 5, | | chric (F17 | | | 1500) | ³ Indicators of hydrophytic vegetation and | | |
| Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) | | | | | | wetland hydrology must be present, | | | | | |
| ✓ Sandy Redox (S5) | | | | | | unless disturbed or problematic. | | | | | |
| | | . D. C. T. I | 15 | Anomale | ous Brigh | it Loamy | Soils (F20 |) (MLRA 149 | 9A, 153C, 153D) | | |
| Dark Surt | ace (S7) (LRR | (P, S, 1, t | J) | | | | | | | | |
| strictive L Type: | ayer (if obse | erved): | | | | | | | | | |
| | hes): | | | | | | | | Hydric Soil Present? Yes No | | |
| marks: | nes): | | | | * | | | | | | |
| | redox preser | nt below | 10-inches | . Low chroma | soil (<2 | !), but b | egins to | brighten sl | lightly with depth. | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineatiion | 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 ° | | | | | |
| | 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 | | | | | | |
| | tly disturbed? Are "Normal Circumstances" present? Yes No O | | | | | |
| | | | | | | |
| 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 No No Hydric Soil Present? Yes No No Wetland Hydrology Present? Yes No Remarks: East to west Transect point approximately 500-600 feet south of account in the south in the | Is the Sampled Area within a Wetland? Yes No ccess path along northeast property fenceline. | | | | | |
| HYDROLOGY | | | | | | |
| Wetland Hydrology Indicators: | Secondary Indicators (minimum of 2 required) | | | | | |
| Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Trin Muck Surface Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) | Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Odor (C1) Moss Trim Lines (B16) Drees along Living Roots (C3) Dry Season Water Table (C2) Ced Iron (C4) Crayfish Burrows (C8) Ction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) e (C7) Geomorphic Position (D2) | | | | | |
| Field Observations: Surface Water Present? Water Table Present? Yes No Depth (inches): No Depth (inches): Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo | Wetland Hydrology Present? Yes No No | | | | | |
| Remarks: | | | | | | |

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

Dominant

| | Dominant Species? | | | | Sampling Point: Up - 49 | | |
|---|-------------------|---------------|------------------------|---------------------|--|--|--|
| ree Stratum (Plot size: 30 m) | Absolute | R | el.Strat. Cover | Indicator Status | Dominance Test worksheet: | | |
| BA Ile-Lan | 15 | V | 65.2% | FACW | Number of Dominant Species That are OBL, FACW, or FAC: 6 (A) | | |
| * * * * | 5 | V | 21.7% | FACW | That are OBL, FACW, or FAC: 6 (A) | | |
| Magnolia virginiana | 7 | | | | Total Number of Dominant | | |
| Acer rubrum | 2 | | 8.7% | FAC | Species Across All Strata: 6 (B) | | |
| Quercus nigra | , 1 | 끔 | 4.3% | FAC | Percent of dominant Species | | |
| | | | 0.0% | | That Are OBL, FACW, or FAC: 100.0% (A/B | | |
| " W + 1 M W | | | 0.0% | | | | |
| | 0 | | 0.0% | | Prevalence Index worksheet: | | |
| | 0 | Ш | 0.0% | | Total % Cover of Multiply by: | | |
| 0% of Total Cover: 11.5 20% of Total Cover: 4.6 | 23 | = Total Cover | | | OBL species 0 x 1 = 0 | | |
| apling or Sapling/Shrub Stratum (Plot size: 30 m |) | | | | FACW species 91 x 2 = 182 | | |
| Pinus elliottii | 5 | | 18.5% | FACW | FAC species 20 x 3 = 60 | | |
| Magnolia virginiana | 10 | V | 37.0% | FACW | FACU species $0 \times 4 = 0$ | | |
| Acer rubrum | | V | 25.9% | FAC | UPL species $0 \times 5 = 0$ | | |
| Quercus nigra | 5 | | 18.5% | FAC | 4.5 opened | | |
| | 0 | | 0.0% | ρ | Column Totals: 111 (A) 242 (B) | | |
| 4 | ^ | | 0.0% | | Prevalence Index = B/A = 2.180 | | |
| | | | 0.0% | c | Hydrophytic Vegetation Indicators: | | |
| | | | 0.0% | N | | | |
| | • | щ, | | | 1 - Rapid Test for Hydrophytic Vegetation | | |
| 0% of Total Cover: 13.5 20% of Total Cover: 5.4 | 27 | = To | otal Cover | | ✓ 2 - Dominance Test Is > 50% | | |
| hrub Stratum (Plot size: 30 m | | | | | ✓ 3 - Prevalence Index is ≤3.0 ¹ | | |
| Ilex coriacea | 50 | Y | 90.9% | FACW | Problematic Hydrophytic Vegetation ¹ (Explain) | | |
| Ilex vomitoria | _ 5 | | 9.1% | FAC | | | |
| | | | 0.0% | | ¹ Indicators of hydric soil and wetland hydrology mus | | |
| | | | 0.0% | | be present, unless disturbed or problematic. | | |
| | | \Box | 0.0% | | Definition of Vegetation Strata: | | |
| | 0 | \exists | 0.0% | | Tree - Woody plants, excluding woody vines, | | |
| 0% of Total Cover: 27.5 20% of Total Cover: 11 | | = To | tal Cove | . # | approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). | | |
| erb Stratum (Plot size: 30 m) | | | | | , | | |
| , Ilex coriacea | 5 | \checkmark | 100.0% | FACW | Sapling - Woody plants, excluding woody vines, | | |
| | | | 0.0% | | approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. | | |
| | | | 0.0% | | and o mil (rio only obtain | | |
| | 0 | \Box | 0.0% | | Sapiing/Shrub - Woody plants, excluding vines, less | | |
| · · · · · · · · · · · · · · · · · · · | 0 | Ξ | 0.0% | | than 3 in. DBH and greater than 3.28 ft (1m) tall. | | |
| | | = | | | | | |
| T , | - 0 | H. | 0.0% | | Shrub - Woody plants, excluding woody vines, | | |
| No. 19 a | | Η. | 0.0% | | approximately 3 to 20 ft (1 to 6 m) in height. | | |
| To make state 1 is 24 | | H- | 0.0% | | Herb - All herbaceous (non-woody) plants, including | | |
| - | | | 0.0% | | herbaceous vines, regardless of size, and woody | | |
| v | | 닏. | 0.0% | | plants, except woody vines, less than approximately | | |
| | 0 | Ш, | 0.0% | | 3 ft (1 m) in height. | | |
| | | | 0.0% | | | | |
| ************************************** | 0 | | | | Woody vine - All woody vines, regardless of height. | | |
| | - | = To | tal Cover | | ,, ,,, | | |
| O% of Total Cover: 2.5 20% of Total Cover: 1 coody Vine Stratum (Piot size: 30 m) | - | = To | | | | | |
| 0% of Total Cover: 2.5 20% of Total Cover: 1 coody Vine Stratum (Piot size: 30 m) | - | = To | 100.0% | | | | |
| 0% of Total Cover: 2.5 20% of Total Cover: 1 cody Vine Stratum (Piot size: 30 m) Smilax laurifolia | 5 : | = To | | | | | |
| 0% of Total Cover: 2.5 20% of Total Cover: 1 cody Vine Stratum (Piot size: 30 m) Smilax laurifolia | 5 : | = To | 100.0% | | | | |
| 0% of Total Cover: 2.5 20% of Total Cover: 1 cody Vine Stratum (Piot size: 30 m) Smilax laurifolia | 5 : 1 0 | = To | 100.0% 0.0% | | | | |
| 0% of Total Cover: 2.5 20% of Total Cover: 1 Coody Vine Stratum (Piot size: 30 m) Smilax laurifolia | 5 : 1 0 0 | = To | 100.0% 0.0% 0.0% | | Hydrophytic Vegetation Present? Yes ● No ○ | | |

Sampling Point: Up - 49 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth (inches) Color (moist) Loc2 Color (moist) 9/0 **Texture** Remarks 0-3 10YR 3/2 100 Loamy Sand 3-12 10YR 4/2 99 10YR D М Loamy Sand 6/2 12-20 10YR 5/3 99 10YR 6/2 1 D М 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:** Indicators for Problematic Hydric Soils³: Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) ☐ Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A,B) Hydrogen Sulfide (A4) Loamy Gleved Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) ☐ Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) ☐ 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) ☐ Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) ³Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) wetland hydrology must be present, ✓ Sandy Redox (S5) Pledmont Floodplain Soils (F19) (MLRA 149A) unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: Hydric Soil Present? Yes ● No ○ Depth (inches): Remarks: Very sandy - loamy soil, dry, crumbly texture - seems to have good draining capacity. Some slight evidence of redox, but not much.

| 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 ye | ar? Yes No (If no, explain in Remarks.) | | | | | |
| | tly disturbed? Are "Normal Circumstances" present? Yes No | | | | | |
| | 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 No No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks: | Is the Sampled Area within a Wetland? Yes No chanell/drainage cut that was made apparently to drain/convey surface water | | | | | |
| away (to the south) from the upland flat for logging puporses. HYDROLOGY | and the state of t | | | | | |
| | | | | | | |
| Sediment Deposits (B2) | Drainage Patterns (B10) Odor (C1) Moss Trim Lines (B16) Dry Season Water Table (C2) ced Iron (C4) Crayfish Burrows (C8) ction in Tilled Soils (C6) E (C7) Remarks) Dry Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Sphagnurn moss (D8) (LRR T, U) Wetland Hydrology Present? Yes No | | | | | |
| Remarks: | | | | | | |