Baton Rouge Area Chamber®

Exhibit EE. Colyell Business Park Wetlands Delineation Report and Wetland Mitigation Letter

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406 Cole Road
Hattiesburg, MS 39402

Colyell Business Park Wetlands Delineation Report & Wetland Mitigation Letter

CSRS, Inc.
6767 Perkins Road, Suite 200
Baton Rouge, LA 70808

Attn: Taylor Gravois

Subject: ~420 Acre Weyerhaeuser Property - Livingston Parish, LA (see attached plat Exhibit "A")

Dear Mr. Gravois

Weyerhaeuser intends to mitigate and/or assist in attaining the wetland mitigation credits required for impacts related to access on Weyerhaeuser owned property currently being evaluated by CSRS, Inc. for the State of Louisiana Site Certification program.

Please let me know if you need additional information.

Thank you

Doug Hughes
Sr. Manager Mitigation/Development
Weyerhaeuser Company
601 341 6054

WETLAND DETERMINATION DATA REPORT
BATON ROUGE AREA CHAMBER – REGIONAL SITE DEVELOPMENT PROGRAM
COLYELL BUSINESS PARK, 420-ACRE SITE
LIVINGSTON PARISH, LOUISIANA

Project No.: 212161

March 2019

Prepared for:

Mr. Russell Richardson, Senior Vice President of Business Development
Baton Rouge Area Chamber
451 Florida Street, Suite 1050
Baton Rouge, Louisiana 70801

Baton Rouge Area Chamber
Leading Economic Development in the Baton Rouge Area

Prepared by:

CSRS
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Baton Rouge, LA 70808

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Acronyms and Abbreviations

AOI	Area of Interest
BRAC	Baton Rouge Area Chamber
CFR	Code of Federal Regulations
GIS	Geographic Information Systems
GPS	Global Positioning System
HUC	Hydrologic Unit Code
LDWF	Louisiana Department of Wildlife and Fisheries
msl	Mean Sea Level
NWI	National Wetlands Inventory
NRCS	Natural Resource Conservation Service
PJD	Preliminary Jurisdictional Determination
RGL	Regulatory Guidance Letter
T&E	Threatened and Endangered
U.S.	United States
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WOTUS	Other Waters of the U.S.

1.0 Introduction

The Baton Rouge Area Chamber (BRAC) is proposing to obtain regulatory clearance for undeveloped wooded land along LA HWY 63 (South Frost Road) approximately 0.54 mile south of Interstate 12, near Livingston, Livingston Parish, Louisiana (**Figures 1 and 2**). The proposed project Area of Interest (AOI) is approximately 420 acres.

CSRS, Inc. (CSRS) scientists conducted a routine wetland delineation of the AOI, using methods which follow the procedures outlined in the *U.S. Army Corps of Engineers Wetlands Delineation Manual*, (USACE 1987), *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)* (USACE 2010) and subsequent Regulatory Guidance Letters (RGLs).

The purpose of this report is to present data on the characteristics and extent of potential jurisdictional waters of the U.S. including wetlands, and Other Waters of the U.S. (WOTUS) as defined in the Code of Federal Regulations (CFR) 33, Section 328.3. However, only the U.S. Army Corps of Engineers (USACE), New Orleans District has the authority to make an official determination of jurisdictional wetlands or Other Waters of the U.S. within the AOI. BRAC intends to request a Preliminary Jurisdictional Determination (PJD) on wetlands and Other Waters of the U.S. that occur within the AOI.

2.0 Site Location and Description

2.1 Location

The proposed AOI for the project is located in Livingston, Louisiana, on the western side of LA HWY 63 (South Frost Road) approximately 0.54 mile south of Interstate-12 (**Figure 1**) in Sections 1 and 12, Township 7 South, Range 4 East. The AOI is bordered to the north, south, and west by undeveloped pine plantation, bottomland hardwoods, and fresh marsh habitat; and to the east by undeveloped land, LA HWY 63, and residential and commercial properties. The approximate center location for the proposed project site is represented by the coordinates in decimal degrees at Latitude 30.459453º, Longitude -90.758347º. The AOI, which is depicted in **Figures 1 and 2**, occupies approximately 420 acres.

2.2 Description

2.2.1 Hydrology

The U.S. Geologic Survey (USGS) elevation for the project area is nearly level with an approximate elevation ranging from 27 to 32 feet above mean sea level (msl) (USGS 2015). The AOI is drained by Little Colyell Creek, and a series of small artificial drains and roadside ditches (**Figure 2**) which convey water south toward Colyell Creek which ultimately drains into Lake Maurepas via the Amite River approximately 19 miles to the southeast of the AOI. The AOI is located entirely within Hydrologic Unit Code (HUC) 8-08070202 (USGS 2018).

2.2.2 Vegetation and Land Cover

The AOI occurs within the Mississippi Valley Loess Plains – Baton Rouge Terrace eco-region of Louisiana (Daigle et al. 2006). Currently, the AOI consists of existing maintained right-of-ways and roadside ditches, mature broad-leaf deciduous forest, hydric pine flatwoods, scrub shrub habitat, pine plantation, mixed pine and deciduous forests, fresh marsh, a lake, primitive roads, and natural and artificial drainages. The National Wetlands Inventory (NWI) database lists three distinct deep-water and/or wetland habitat types within the AOI; three excavated lakes classified by NWI as a Palustrine Unconsolidated Bottom Permanently Flooded Excavated water bodies (PUBHx); two near the center of the AOI and one at the northern-central boundary, a natural riverine feature (Little Colyell Creek) classified as Riverine Intermittent Streambed Seasonally Flooded (R4SBC) in the northwestern portion of the AOI, and a Palustrine Forested Broad-Leaved Deciduous Temporarily Flooded (PFO1A) habitat in the southeastern portion of the AOI (USFWS 2019) (**Figure 4**).

2.2.3 Soil

According to the Natural Resources Conservation Service (NRCS) and U.S. Department of Agriculture (USDA 2018) web soil survey, six soil units are located within the AOI and include:

(1) Colyell silt loam, 1 to 3 percent slopes, rarely flooded (Co), (2) Deerford-Verdun complex, 0 to 1 percent slopes (Dv), (3) Gilbert-Brimstone silt loams, occasionally flooded (Ge), (4) Natalbany silt clay loam, frequently flooded (Na), (5) Satsuma silt loam, 1 to 3 percent slopes (Sa), and (6) Springfield silt loam (Sp). Soil map units may represent a single soil or a combination of soils. Due to limitations imposed by the scale of the soil survey maps, it is not uncommon for hydric soils to exist within areas not mapped as hydric, and conversely, soils mapped as non-hydric may be hydric. Based on the NRCS Hydric Soils list (2015) for Livingston Parish, Louisiana, all of the soils mapped within the AOI are classified as hydric soils. Their distribution across the AOI can be seen in **Figure 3** and are briefly described below.

2.2.3.1 Colyell silt loam, 1 to 3 percent slopes (Co)

Colyell silt loam, 1 to 3 percent slopes soil is a gently sloping, and somewhat poorly drained soil typically found on broad, slightly convex ridges, and on side-slopes along drainage-ways on stream or marine terraces. The Colyell silt loam is subject to rare flooding, which occurs mainly in winter and spring, but is classified as a hydric soil by the NRCS. Typically, the surface layer is approximately three inches thick and characterized by a dark grayish-brown silt above a yellowish-brown, mottled silt to a depth of approximately 11 inches, followed by a four-inch thick yellowish-brown, mottled silt loam above a light brownish-gray, yellowish-brown, and yellowish-red silty clay and clay loam to a depth of approximately 30 inches. The water table is generally situated between 11 and 12 inches below the surface. The Colyell silt loam, 1 to 3 percent slopes soil comprises approximately 24 percent of the AOI (**Figure 3**).

2.2.3.2 Deerford-Verdun complex, 0 to 1 percent slopes (Dv)

The Deerford-Verdun complex, 0 to 1 percent slopes soil map unit is level, somewhat poorly drained, and has high levels of sodium in the subsoil. This soil is typically found on broad flats or marine terraces and may be subjected to rare flooding, especially after high-intensity rain events over unusually prolonged periods. The surface layer of the Deerford soils is characterized by a four-inch thick layer of grayish-brown silt loam above a six-inch layer of brown silt loam. The upper part of the subsoil is a brown to yellowish-brown, mottled silty clay loam. The water table generally occurs between six and eight inches below the surface. This soil type is listed by the NRCS as a hydric soil and comprises approximately 15 percent of the soil types occurring within the boundary of the AOI (**Figure 3**).

2.2.3.3 Gilbert-Brimstone silt loams, occasionally flooded (Ge)

Gilbert-Brimstone silt loam soils are level, poorly drained, and have high levels of sodium in the subsoil. They are typically found in broad depressional areas and along drainageways on stream or marine terraces. They are periodically flooded for brief to prolonged periods, mainly in winter and spring. The Gilbert-Brimstone soil is characterized by a grayish-brown silt loam surface layer approximately four inches thick above a light brownish-gray silt loam to a depth of

12 inches. The subsoil is a grayish-brown and light brownish-gray, mottled silty clay loam. The water table is typically located between the surface and 18 inches below the surface. This soil type is listed by the NRCS as a hydric soil and comprises approximately 11 percent of the soil types occurring within the boundary of the AOI (**Figure 3**).

2.2.3.4 Natalbany silty clay loam, frequently flooded (Na)

Natalbany silty clay loam soils are level and very poorly drained, and typically found on flood plains along streams near swamps. This soil is frequently flooded for long periods which can occur during any part of the year, but is most frequent during winter and spring. Typically, the surface layer is a dark grayish-brown silty clay loam to a depth of approximately five inches. The subsoil extends to a depth of 60 inches and is characterized by a dark gray, mottled silty clay in the upper part, a dark gray and grayish-brown, mottled clay in the middle part, and a grayish-brown, mottled silty clay in the deepest portions of the subsoil. Natalbany silty clay loam frequently flooded soil is classified as hydric by the NRCS, and the water table is situated between the soil surface and a depth of 12 inches. This soil type occupies approximately 21 percent of the AOI (**Figure 3**).

2.2.3.5 Satsuma silt loam, 1 to 3 percent slopes (Sa)

Satsuma silt loam soil is gently sloping, somewhat poorly drained, and situated on broad, slightly convex ridges and on side-slopes along drainageways on stream or marine terraces. It is rarely subjected to flooding, which can occur during any part of the year, but is most likely during the winter and spring. The surface layer is characterized by a four-inch thick layer of a dark grayish-brown silt loam above an eight-inch thick, light yellowish-brown, mottled silt loam. Between 12 and 18 inches, the soil is a yellowish-brown, mottled silty clay loam and a light-gray silt loam. The water table occurs at a depth of approximately 18 to 36 inches below the soil surface. The Satsuma silt loam, 1 to 3 percent slopes is classified as a hydric soil by the NRCS, and occupies approximately 21 percent of the AOI (**Figure 3**).

2.2.3.6 Springfield silt loam (Sp)

The Springfield silt loam soil is level and poorly drained, and is situated on broad ridges on stream or marine terraces. Typically, the surface layer is a grayish-brown, mottled silt loam to a depth of three inches above a mottled silt loam ranging from a light brownish-gray matrix that fades to a light gray silt loam to a depth of 13 inches. The subsoil is a yellowish-brown, mottled silty clay loam to a depth of 60 inches. The water table is typically situated between the surface and a depth of 24 inches. The NRCS classifies the Springfield silt loam as a hydric soil. This soil type occupies approximately three percent of the AOI (**Figure 3**).

The soil types listed above comprise approximately 96 percent of the AOI while the remaining four percent is occupied by water according to the NRCS.

3.0 Procedures

A routine wetland delineation was conducted using methods that follow the procedures outlined in the *U.S. Army Corps of Engineers Wetlands Delineation Manual*, (USACE 1987), *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)* (USACE 2010) and subsequent RGLs. Field sample points (wetlands, uplands, and water features) were recorded according to landscape, plant community, and land use. Information pertaining to soil, vegetation, and hydrology was recorded at each sample point. Information pertaining to flow regime (i.e. ephemeral, intermittent, and perennial), bank characteristics, hydrology, substrate, and vegetation was recorded at each water feature. In addition to the wetland delineation, the field team concurrently surveyed the project site for the presence of protected species, including threatened and endangered (T&E) species and/or their associated habitat and signs of their presence, and documented those observations (if any) in field notes.

Sample points and wetland boundaries were mapped using a Trimble Geo7X™ global positioning system (GPS) capable of sub-meter accuracy, and each sample point was assigned a unique identifier. Wetland habitats where sample points were collected were classified according to Cowardin's *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979).

Wetland acreages and linear feet of Other Waters of the U.S. observed within the AOI were estimated using geographical information system (GIS) software by superimposing potential jurisdictional wetlands and Other Waters of the U.S. polygons over the proposed AOI. The wetland determination datasheets, and a photographic log are provided in **Appendix A and B**, respectively. The wetlands and Other Waters of the U.S. determination results and conclusions are discussed in Sections 4 and 5. A summary of the T & E species survey results are provided in Section 4.4 and a complete list of all threatened and endangered species listed for Livingston Parish is presented in **Table 2** of this report.

4.0 Field Survey Results

4.1 General

A field survey of the proposed project AOI was conducted by CSRS scientists on February 4, 5, 6, 11, 13, and 18, 2019. In total, 15 sample points (eight upland points, and seven wetland points), as well as two (2) excavated lakes, a natural water-course, and numerous roadside ditches and associated drains were identified, mapped, and recorded. The completed field data forms, photographs of soil profiles and general habitat overviews at each sample point, and photographs of the water features are provided in **Appendices A and B**, respectively. Locations and corresponding habitats where these sample points occur within the AOI are shown in **Figure 4** and listed in **Table 1**.

4.2 Wetlands

The total area of potential jurisdictional wetlands within the AOI is approximately 167.46 acres. The potential jurisdictional wetlands are comprised of six Cowardin types; (1) Palustrine Forested Broad-Leaved Deciduous (PFO1), (2) Palustrine Forested Broad-Leaved Deciduous/Needle-Leaved Evergreen (PFO1/4), (3) Palustrine Scrub/Shrub Broad-Leaved deciduous (PSS1), (4) Palustrine Unconsolidated Bottom Mud Permanently Flooded Excavated (PUB3Hx), (5) Palustrine Unconsolidated Bottom Mud Semi-Permanently Flooded Excavated (PUB3Fx), and (6) Riverine Intermittent Streambed Seasonally Flooded (R4SBC). In total, 35 vegetated wetland polygons were identified as PFO1, PFO1/4, or PSS1 totaling 167.46 acres. A natural water-course (Little Colyell Creek) (R4SBC), and numerous roadside ditches and associated drains (PUB3Fx) totaled approximately 31,874 linear feet. Additionally, two excavated lakes (PUB3Hx) totaling approximately 17.72 acres were observed within the AOI. These wetland polygons and Other Waters of the U.S. (WOTUS) features are depicted in **Figure 4**. A list of each wetland and upland sample point location and corresponding observed habitat type at each point is provided in **Table 1**.

4.2.1 PFO1 Wetlands

4.2.1.1 Hydrology

The PFO1 (Palustrine Forested Broad-Leaved Deciduous) wetlands are characterized by low-lying areas dominated by hydrophytic canopy, shrub, and herbaceous vegetation. The PFO1 wetlands had surface hydrology connections to other wetlands and drainages extending beyond the AOI. Primary indicators of wetland hydrology observed at sample points collected within PFO1 habitats included surface water (A1), high water table (A2), saturation (A3), water marks (B1), sediment deposits (B2), water-stained leaves (B9), and/or oxidized rhizospheres along living roots (C3). Secondary indicators of wetland hydrology observed within PFO1 habitats

included crayfish burrows (C8), geomorphic position (D2), FAC-Neutral test (D5), and/or sphagnum moss (D8) (**Appendix A**).

4.2.1.2 Vegetation

The dominant vegetation observed in the canopy stratum of PFO1 wetland habitats consisted of water oak (*Quercus nigra*) and sweetbay (*Magnolia virginiana*), with minor constituents represented by black gum (*Nyssa sylvatica*) and red maple (*Acer rubrum*). The shrub stratum was dominated by dwarf palmetto (*Sabal minor*) and/or American holly (*Ilex opaca*). Non-dominant species in the shrub stratum included black gum, American holly, red maple, yaupon (*Ilex vomitoria*), and/or water oak. The herbaceous stratum was dominated by slender wood-oats (*Chasmanthium laxum*) and/or dwarf palmetto. Laurel greenbrier dominated the woody vine stratum. The vegetation within the PFO1 wetlands satisfied the wetland criterion for dominance of hydrophytic vegetation (**Appendix A**).

4.2.1.3 Soil

The PFO1 soil profiles were generally similar to that described by NRCS for the respective soil in which they were mapped (**Figure 4**). The soil matrix colors typically ranged from light brown to brownish-gray silt, with mottled features ranging from reddish-orange and brownish red. The observed soil profile exhibited depletion and redox features meeting the hydric soil criterion for depleted matrix (F3) (**Appendix A**).

4.2.2 PFO1/4 Wetlands

4.2.2.1 Hydrology

The PFO1/4 (Palustrine Forested Broad-Leaved Deciduous/Needle-Leaved Evergreen) wetlands were observed scattered throughout the AOI and generally situated in the transitional areas between pine-dominated and hardwood-dominated habitats. The PFO1/4 wetlands had surface hydrology connections to other wetlands and drainages extending beyond the AOI. Primary indicators of wetland hydrology observed at sample points collected within PFO1/4 habitats included surface water (A1), high water table (A2), saturation (A3), water marks (B1), sediment deposits (B2), water-stained leaves (B9), hydrogen sulfide odor (C1), and/or oxidized rhizospheres along living roots (C3). Secondary indicators of wetland hydrology observed within PFO1/4 habitats included crayfish burrows (C8), geomorphic position (D2), and/or FAC-Neutral test (D5) (**Appendix A**).

4.2.2.2 Vegetation

The dominant vegetation observed in the canopy stratum of PFO1/4 wetland habitats consisted of loblolly pine (*Pinus taeda*), sweetbay, Chinese tallowtree (*Triadica sebifera*), and/or sweetgum (*Liquidambar styraciflua*). Minor canopy representatives included water oak, and/or sweetgum. The shrub stratum was dominated by dwarf palmetto, yaupon, and/or wax myrtle

(*Morella cerifera*). Non-dominant species in the shrub stratum included loblolly pine, dwarf palmetto, Chinese privet (*Ligustrum sinense*), American holly, water oak, Chinese tallowtree, wax myrtle, and/or nuttall oak (*Quercus texana*). The herbaceous stratum was dominated by slender woodoats, wax myrtle, evening trumpetflower (*Gelsemium sempervirens*), common rush (*Juncus effusus*), woolgrass (*Scirpus cyperinus*), blunt spikerush (*Eleocharis obtusa*), alligatorweed (*Alternanthera philoxeroides*), and/or whitegrass (*Leersia virginica*). Non-dominant species in the herbaceous stratum included sugarcane plumegrass (*Saccharum giganteum*), bushy bluestem (*Andropogon glomeratus*), slender woodoats, broad-leaf cattail (*Typha latifolia*), broad-leaf arrowhead (*Sagittaria latifolia*), Mexican primrose-willow (*Ludwigia octovalvis*), bog yellow-eyed grass (*Xyris difformis*), tapered rosette-grass (*Dichanthelium accuminatum*), grassleaf rush (*Juncus marginatus*), hopsedge (*Carex lupulina*), camphorweed (*Pluchea foetida*), dwarf palmetto, and yaupon. In one sample plot, SP1, the woody vine stratum was dominated by Japanese climbing fern (*Lygodium japonicum*), sawtooth blackberry (*Rubus argutus*), laurel greenbrier, roundleaf greenbrier (*Smilax rotundifolia*). Other sample points collected in PFO1/4 wetland habitats did not exhibit a woody vine stratum. The vegetation within the PFO1/4 wetland habitats satisfied the wetland criterion for dominance of hydrophytic vegetation (**Appendix A**).

4.2.2.3 Soil

The PFO1/4 soil profiles were generally similar to that described by NRCS for which they are mapped. The soils were a very light-grayish brown to a very light-gray silt which exhibited depletion and redox features throughout the soil profile meeting the hydric soil criterion for depleted matrix (**Appendix A**).

4.2.3 PSS1 Wetlands

4.2.3.1 Hydrology

The PSS1 wetland has a direct surface hydrology connection to the small creek bisecting portions of the southwest corner of the AOI. Two primary indicators of wetland hydrology observed included saturation (A3) and oxidized rhizospheres along living roots (C3). One secondary wetland hydrology indicator, the FAC-Neutral test (D5), was observed at the sample point in the PSS1 wetland (**Appendix A**).

4.2.3.2 Vegetation

The PSS1 (Palustrine Scrub/Shrub Broad-Leaved Deciduous) wetland was located in the southwestern portion of the AOI in an area which had been subjected to logging/timber harvest activities sometime after October 2016. The tree stratum was absent from the PSS1 wetland habitat during the time of sampling. The shrub stratum was dominated by yaupon and sweetgum, while dwarf palmetto, Chinese tallowtree, and St. Andrew's Cross (*Hypericum hypericoides*) were non-dominant constituents. The herbaceous stratum was dominated by

grassleaf rush and velvet panicum (*Dichanthelium scoparium*). Non-dominant species were represented by slender woodoats, common rush, slender goldentop (*Euthamia caroliniana*), broomsedge bluestem (*Andropogon virginicus*), dog fennel (*Eupatorium capillifolium*), woolgrass, broadleaf cattail, and bog yellow-eyed grass. The woody vine stratum was dominated by sawtooth blackberry and muscadine grape (*Vitis rotundifolia*). The vegetation within the PSS1 wetland habitat satisfied the wetland criterion for dominance of hydrophytic vegetation (**Appendix A**).

4.2.3.3 Soil

The PSS1 soil profile was generally similar to that described by NRCS for the Natalbany silty clay loam, frequently flooded and Deerford-Verdun complex, 0 to 1 percent slopes soils, which are the predominant mapped soil units within this wetland. The soils were very dark grayish brown to gray silty loam which contained depletion and redox features throughout the soil profile meeting the hydric soil criterion for depleted matrix (**Appendix A**).

4.2.4 Uplands

4.2.4.1 Hydrology

Wetland hydrology indicators were observed at five of the eight upland sample points (**Appendix A**). Sample points SP2, SP7, SP9, and SP11 exhibited a positive result for the FAC-Neutral test, a secondary indicator for wetland hydrology. One secondary indicator is not sufficient to satisfy the wetland hydrology criterion. However, sample point SP8 exhibited oxidized rhizospheres around living roots, a primary hydrology indicator yielding a positive result for wetland hydrology. Several small artificial ephemeral drainages conducted water from and/or through non-wetland areas to downslope drainages on site which ultimately convey water to wetlands, Little Colyell Creek to the west, or off-site (**Appendix A**).

4.2.4.2 Vegetation

The upland areas included pine and mixed pine/hardwood forested areas, and shrub-dominated habitats. In forested uplands, the dominant species in the tree stratum were comprised of loblolly pine, tuliptree (*Liriodendron tulipfera*), hophornbeam (*Ostrya virginiana*), and live oak (*Quercus virginiana*). The shrub stratum in upland habitats was dominated by dwarf palmetto, yaupon, common sweetleaf (*Symplocos tinctoria*), hophornbeam, Chinese tallowtree, sugarcane plumegrass, common St. John's wort (*Hypericum perforatum*), water oak, and wax myrtle. The herbaceous stratum was dominated by slender wood oats, loblolly pine, yaupon, dwarf palmetto, inland rush (*Juncus interior*), yellow nutsedge (*Cyperus esculentus*), needleleaf rosette grass (*Dichanthelium aciculare*), dog fennel, and sharpscale sedge (*Carex oxylepis*). The woody vine stratum was dominated by roundleaf greenbrier, Japanese climbingfern, sawtooth blackberry, southern dewberry (*Rubus trivialis*), muscadine grape, laurel greenbrier, and evening

trumpetflower. The vegetation at all sample points established in uplands, with the exception of sample point SP8, satisfied the criterion for hydrophytic vegetation (**Appendix A**).

4.2.4.3 Soil

Soil profiles observed at sample points established in upland habitats resulted in four sample points (SP8, SP9, SP11, and SP12) exhibiting a depleted matrix (F3), a positive result for a hydric soil, and four sample points (SP2, SP5, SP7, and SP15) lacking hydric soil indicators. The upland soil profiles were generally similar to the respective soil types described and mapped by the NRCS. Sample points meeting hydric soil criteria (SP8, SP9, SP11, and SP12) exhibited redox features and a depleted matrix, while non-hydric soils at sample points SP2, SP5, SP7, and SP15 generally lacked redox and depletion features.

4.3 Other Waters of the U.S.

In total, the three Other Waters of the U.S. (WOTUS) features were observed occupying approximately 31,847 linear feet (linear water features) and 17.72 acres (ponds/lakes) within the AOI. The identified WOTUS features are comprised of: one Riverine Intermittent Streambed Seasonally Flooded Excavated (R4SBC) Other Waters of the U.S. (Little Colyell Creek); two Palustrine Unconsolidated Bottom Mud Permanently Flooded Excavated (PUB3Hx) Other waters of the U.S. (pond/lake), and numerous artificial roadside ditches and associated drains classified as Palustrine Unconsolidated Bottom Mud Semi-permanently Flooded Excavated (PUB3Fx) Other Waters of the U.S. scattered throughout the AOI. The excavated/artificial ditches/drains (PUB3Hx and PUB3Fx) are watercourses exhibiting intermittent to ephemeral flow which have direct connection to offsite wetlands and named watercourses. The above water features are depicted in **Figure 4**.

4.3.1 R4SBC

The R4SBC water body (Little Colyell Creek) is a semi-natural, partially excavated water course in the northwestern portion of the AOI which serves to convey water from wetlands and non-wetlands north of and within the AOI offsite to Colyell Creek. At this time, it is unknown when excavation activities were performed on Little Colyell Creek, but the general orientation and drainage capabilities of the creek appear to be relatively unchanged from historic conditions. Surface water from properties to the north enters the AOI via Little Colyell Creek near the northwest corner of the AOI, and generally flows from northeast to south-southwest meeting Colyell Creek approximately 4.2 miles south of the AOI until the creek's confluence with the Amite River via Colyell Bay approximately 10 miles to the south-southwest.

4.3.2 PUB3Hx

The PUB3Hx (Palustrine Unconsolidated Bottom Mud Permanently Flooded) water features within the AOI consist of one excavated linear canal along the entire length of the eastern

boundary, a natural, unnamed water course which enters the AOI near the western-central boundary and exits the AOI near the southwest corner of the property, and two excavated lakes; one near the center of the AOI, and another near the northern-central boundary. These PUB3Hx features drain and store surface water from onsite and offsite uplands and wetlands and covey water to the Amite River approximately 10 miles to the south-southwest.

4.3.3 PUB3Fx

The PUB3Fx features observed within the AOI are located adjacent to access roads and scattered throughout pine-dominated habitats. Water within these features ultimately drain to the Amite River via direct connections to named and unnamed natural water-courses.

4.4 Threatened and Endangered Species

In addition to the wetland delineation, a T&E species survey was conducted concurrently within the AOI in accordance with the requirements of Section 7 of the Endangered Species Act, 16 U.S.C. § 1531. The survey was limited to the AOI and presence of preferred habitat and evidence of nests were investigated. According to the U.S. Fish and Wildlife Service (USFWS) and the Louisiana Department of Wildlife and Fisheries (LDWF), five species are listed as Endangered, Threatened, or a Candidate Species for Livingston Parish, Louisiana within the AOI (**Table 2**). These five species include the bald eagle (*Haliaeetus leucocephalus*), red-cockaded woodpecker (*Picoides borealis*), Atlantic (Gulf) sturgeon (*Acipenser oxyrinchus desotoi*), Alabama shad (*Alosa alabamae*), and the inflated heel-splitter (*Potamilus inflatus*). During the field survey no evidence of T&E species, other protected species, or their associated critical habitat were observed.

Based on the field survey results of the AOI, CSRS scientists have determined that this project is likely to have "no effect" on any federal or state listed species or designated critical habitat. CSRS, on behalf of the Baton Rouge Area Chamber, will request letters of concurrence of "no effect" from the USFWS and LDWF.

5.0 Conclusions

A total of approximately 167.46 acres of potential jurisdictional wetlands, 31,874 linear-feet of Other Waters of the U.S. (roadside ditches and associated drains), and 17.72 acres of Other Waters of the U.S. (central and northern lakes) were identified which may be subject to jurisdiction under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act by the USACE New Orleans District. It is recognized that past determinations by the USACE New Orleans District, the permitting history of the AOI, if any, and other factors may be taken into consideration by the USACE while making a jurisdictional determination on features presented in this report. However, based on the information readily available to CSRS, a brief explanation and an opinion regarding the potential jurisdictional determination for identified features within the AOI is provided below.

The majority of wetland and water features within the AOI may be deemed jurisdictional by the USACE New Orleans District due to hydrologic surface connections to Little Colyell Creek and off-site connections to Colyell Creek, Colyell Bay, the Amite River, and Lake Maurepas.

The wetland habitats identified within the AOI include Palustrine Forested Broad-Leaf Deciduous (PFO1), Palustrine Forested Broad-Leaf Deciduous/Needle-Leaf Evergreen (PFO1/4), and Palustrine Scrub/Shrub Broad-Leaf Deciduous (PSS1). These wetland habitats met the criteria for wetland hydrology, hydric soils and a predominance of hydrophytic vegetation. The wetland habitats listed above comprise approximately 167.46 acres and may fall under USACE jurisdiction as outlined by Section 404 of the Clean Water Act.

The Waters of the U.S. observed within the AOI, including Palustrine Unconsolidated Bottom Mud Permanently Flooded Excavated (PUB3Hx), Palustrine Unconsolidated Bottom Mud Semi-Permanently Flooded Excavated (PUB3Fx), and Riverine Intermittent Streambed Seasonally Flooded (R4SBC) fall under potential USACE jurisdiction as outlined by Section 10 of the Rivers and Harbors Act and/or the Clean Water Rule: Definition of "Waters of the United States", 33CFR328 (DoD and USEPA 2015) due to downstream connections with major water courses and navigable waters including the Amite River and Lake Maurepas. Approximately 31,874 linear feet of Waters of the U.S. (unnamed drains and roadside ditches) and approximately 17.72 acres of Other Waters of the U.S. (northern and central lakes) were identified within the AOI.

Only the USACE, under the authority of Section 404 of Clean Water Act and Section 10 of the Rivers and Harbors Act, has the authority to make the final determination of the location and extent of jurisdictional wetlands and navigable waters within the project area. This report

represents the opinion of CSRS and should be considered preliminary until a PJD is issued by the USACE New Orleans District.

6.0 References

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TABLES

Table 1. List of Sample Points, Coordinates, and Habitat Types Observed within the AOI.

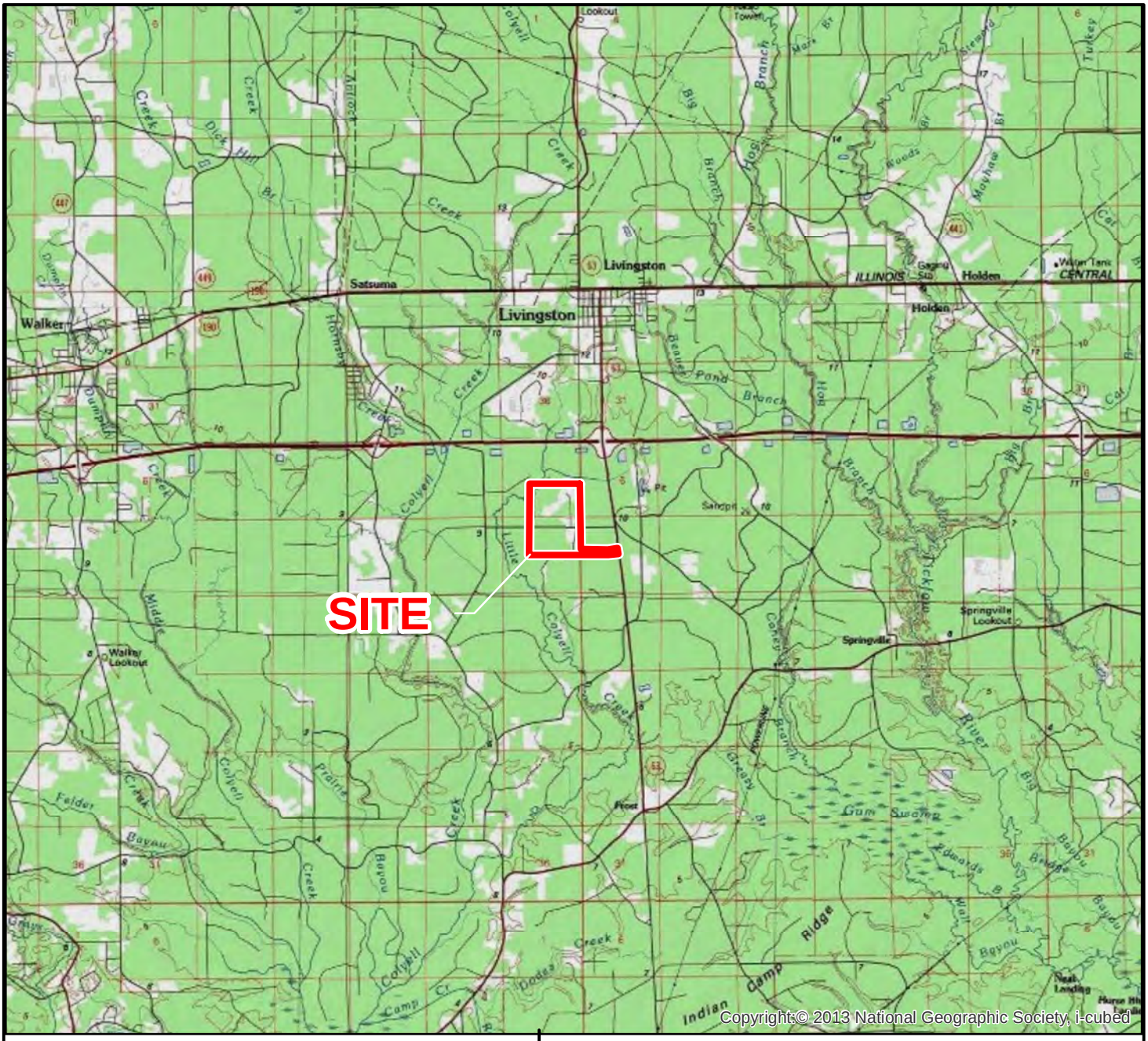
Sample Point	Coordinates	Habitat
1	30.456190°, -90.754981°	PFO1/4
2	30.454144°, -90.756664°	Upland
3	30.454408°, -90.758051°	PF01
4	30.454378°, -90.760551°	PSS1
5	30.453887°, -90.763182°	Upland
6	30.453358°, -90.763361°	PFO1/4
7	30.455485°, -90.763798°	Upland
8	30.456175°, -90.760420°	PSS1
9	30.453555°, -90.746284°	Upland
10	30.454042°, -90.753651°	PFO1/4
11	30.454206°, -90.753963°	Upland
12	30.465943°, -90.755610°	Upland
13	30.465873°, -90.756211°	PFO1
14	30.463850°, -90.757351°	PFO1/4
15	30.464017°, -90.756988°	Upland

PFO1 – Palustrine Forested Broad-Leaved Deciduous
PFO1/4 – Palustrine Forested Broad-Laved Deciduous/Needle Leaved Evergreen
PSS1 – Palustrine Scrub Shrub

Table 2. Federal and State List of Threatened, Endangered, and Rare Species in Livingston Parish, Louisiana.

Common Name	Scientific Name	Federal Status	State Status	Impacts from Project
Bald Eagle	*Haliaeetus lecocephalus*	Delisted	Endangered	Unlikely, no suitable nesting trees.
Atlantic (Gulf) Sturgeon	*Acipenser oxyrinchus desotoi*	Threatened	Threatened	Unlikely, no suitable habitat.
Red-Cockaded Woodpecker	*Picoides borealis*	Endangered	Endangered	Unlikely, no suitable cavity trees, canopy and sapling density is well above preferred levels.
Inflated Heelsplitter	*Potamilus inflatus*	Threatened	Threatened	Unlikely, no suitable habitat.
Alabama Shad	*Alosa alabamae*	N/A	Candidate	Unlikely, no suitable habitat.

FIGURES



Legend

Site Boundary (420 Ac. ±)

N

3 1.5 0 3

Miles

Wetlands Delineation Report

FIGURE NUMBER 1

Vicinity Map

Baton Rouge Area Chamber®

CSRS

CSRS, Inc.
6767 Perkins Road
Baton Rouge, LA 70809

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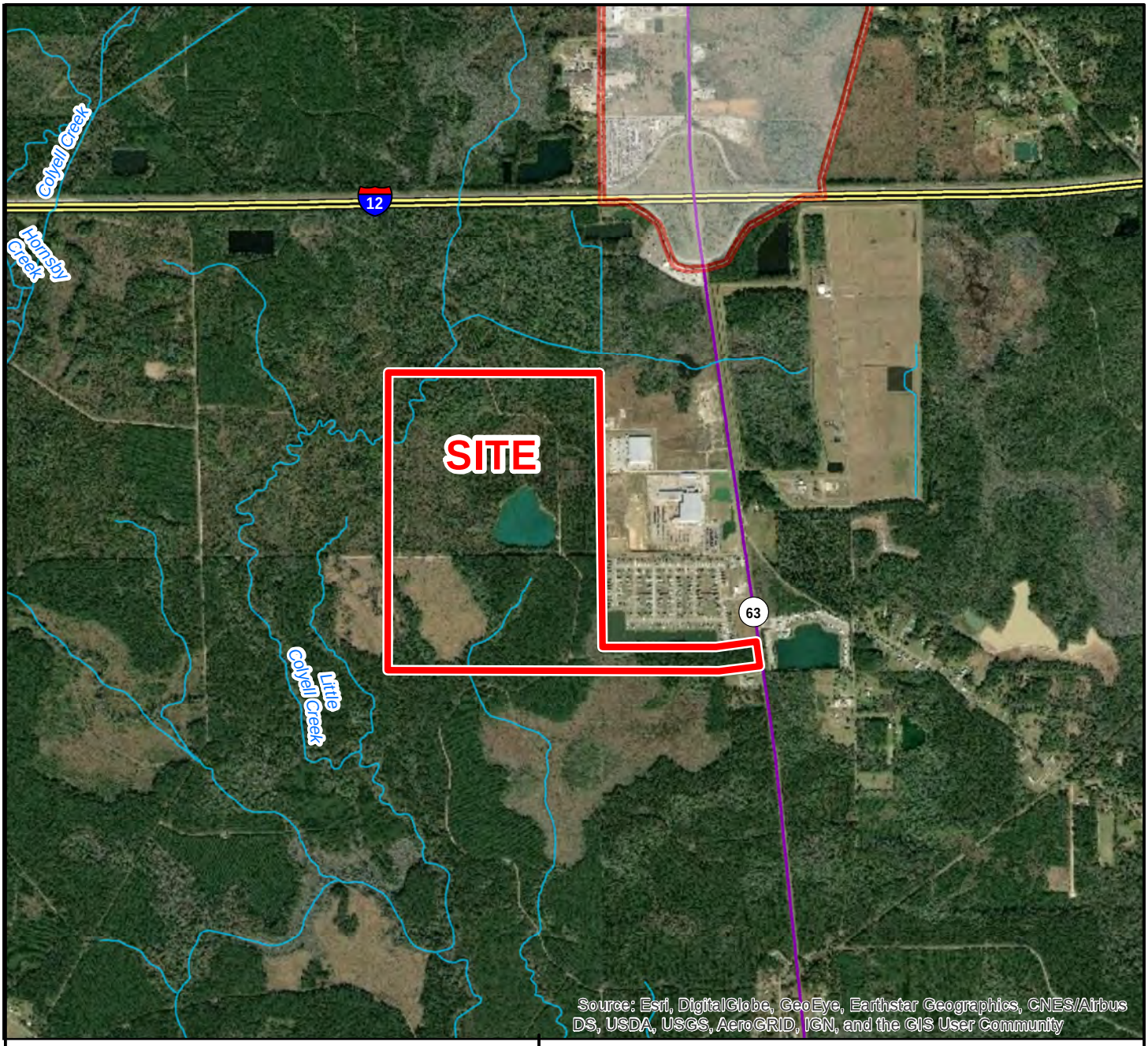


Legend

- Site Boundary (420 Ac. ±)
- Stream
- Parish Boundary

Major Roads

- Interstate
- Urban State Highway

N

0.75 0.375 0 0.75

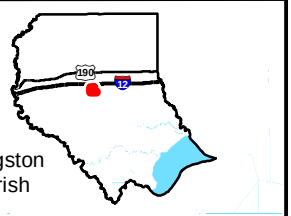
Miles

Wetlands Delineation Report

FIGURE NUMBER 2

Site Map

Baton Rouge Area Chamber



CSRS

CSRS, Inc.
6767 Perkins Road
Baton Rouge, LA 70809

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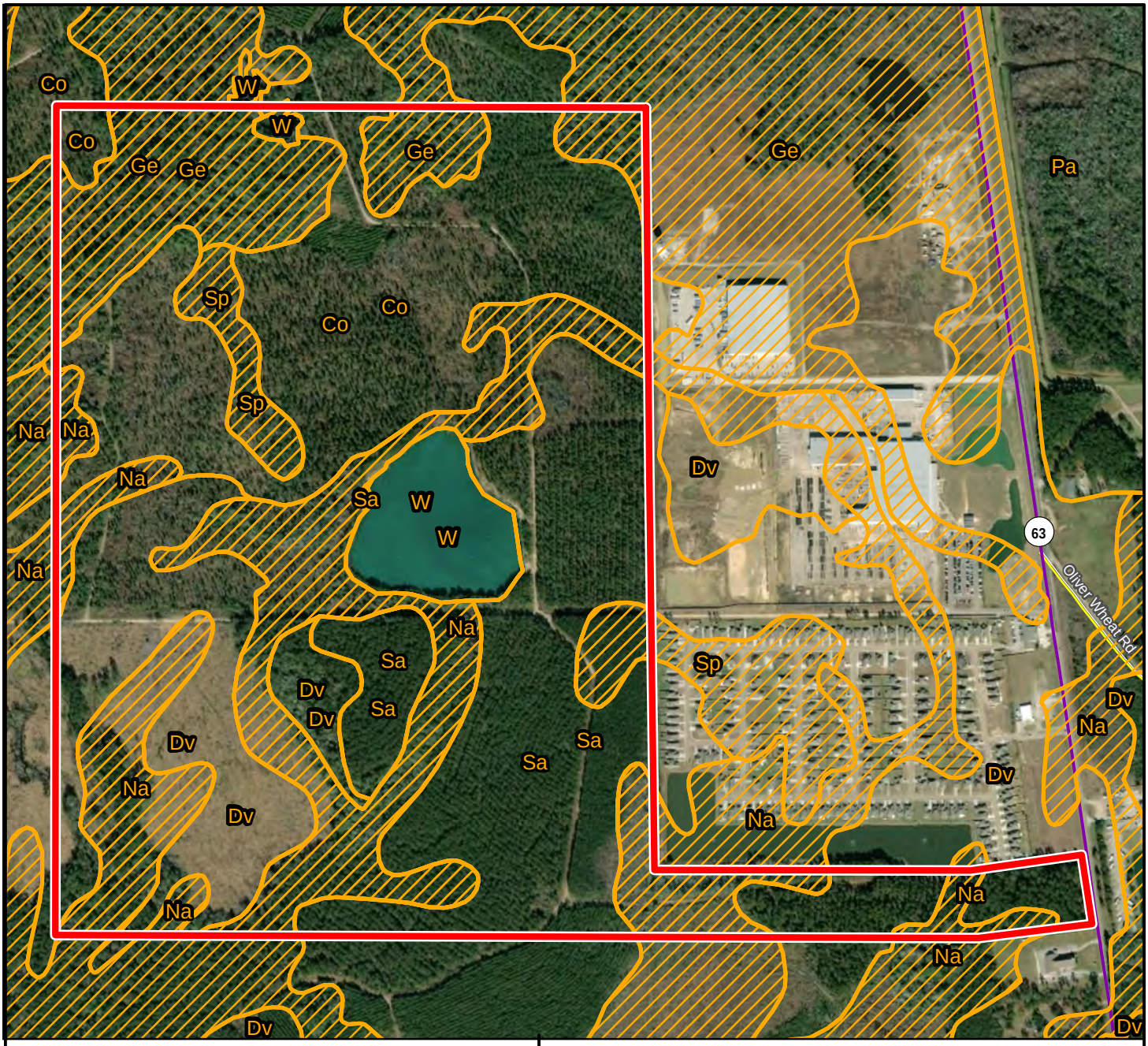

Legend

Site Boundary (420 Ac. ±)

Soil Type

- Co - Colyell silt loam, 1 to 3 percent slopes, rarely flooded (4% hydric)
- Dv - Deerford-Verdun complex, 0 to 1 percent slopes (10% hydric)
- Ge - Gilbert-Brimstone silt loams, occasionally flooded (85% hydric)
- Na - Natalbany silty clay loam, frequently flooded (85% hydric)
- Sa - Satsuma silt loam, 1 to 3 percent slopes (5% hydric)
- Sp - Springfield silt loam (90% hydric)
- W - Water

Major Roads

- Urban State Highway
- Local Roads

N

0.25 0.125 0 0.25

Miles

Wetlands Delineation Report

FIGURE NUMBER 3

Soils Map

Baton Rouge Area Chamber

Livingston Parish

CSRS

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Baton Rouge, LA 70809

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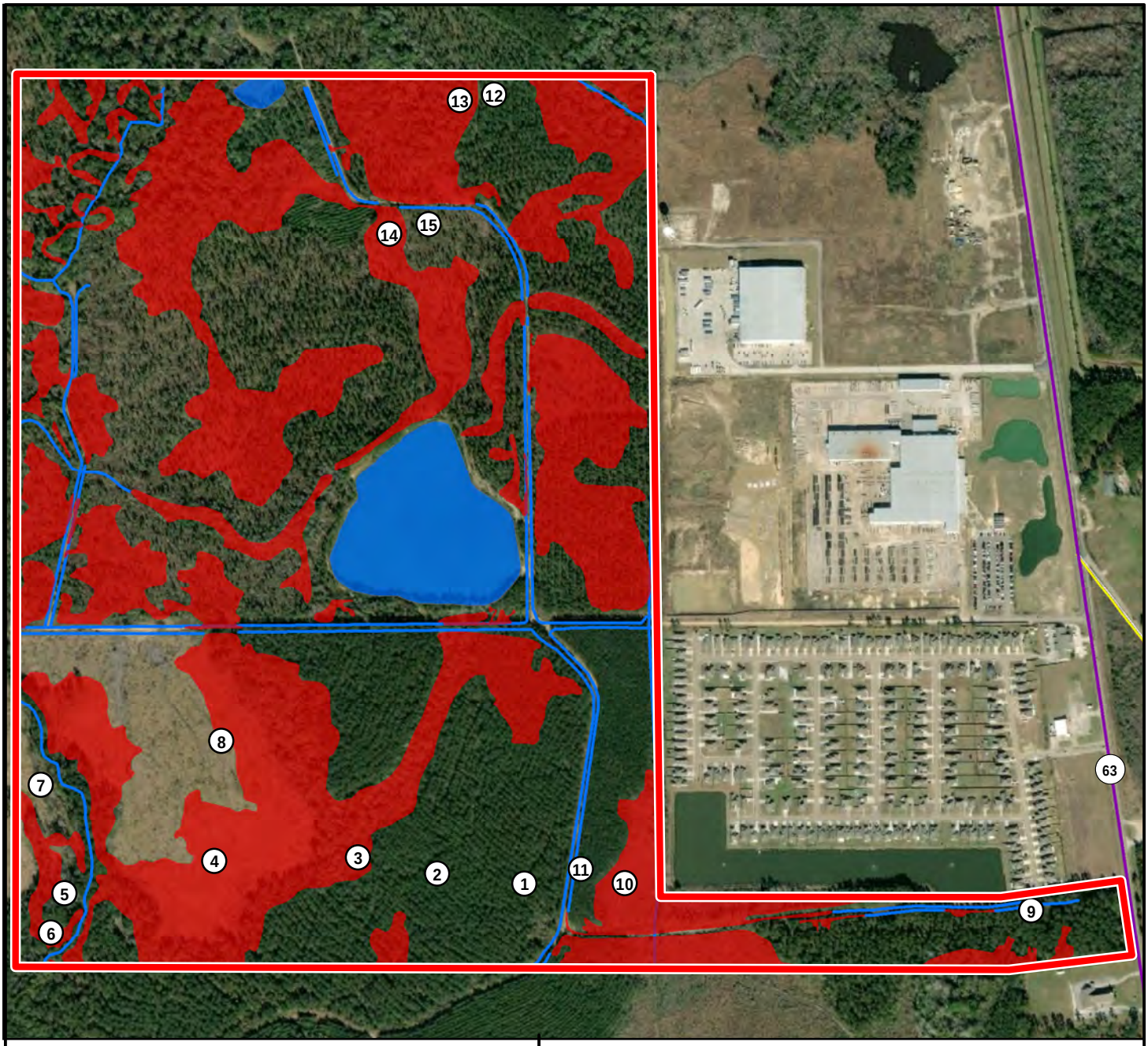


Legend

- Site Boundary (420 Ac. ±)
- Sample Points
- Wetlands (167.46 Ac. ±)
- Waters of the U.S. (31,874.27Linear Feet ±)
- Pond (17.72 Ac. ±)

Major Roads

- Urban State Highway
- Local Roads

N

0.25 0.125 0 0.25

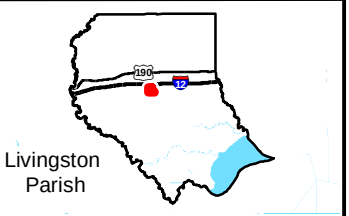
Miles

Wetlands Delineation Report

FIGURE NUMBER 4

Wetlands Map

Baton Rouge Area Chamber®



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APPENDIX A
WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Colyell 420-Acre Site | City/County: Colyell/Livingston | Sampling Date: 2/4/2019

Applicant/Owner: Weyerhaeuser NR Company | State: Louisiana | Sampling Point: SP1

Investigator(s): Curt Schaeffer, Cal Fontenot | Section, Township, Range: S12, T7S, R4E

Landform (hillslope, terrace, etc.): Lowland | Local relief (concave, convex, none): Convex | Slope (%): >1

Subregion (LRR or MLRA): LRR-P | Lat: 30.456190° | Long: (-) 90.754981° | Datum: NAD83

Soil Map Unit Name: Satsuma silt loam, 1 to 3 percent slopes (Sa) | NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? **Yes** (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? **Yes**

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 Hydric soil present? Yes Indicators of wetland hydrology present? Yes	**Is the Sampled Area within a Wetland?** **Yes**

Remarks:

Hydric pine flatwoods, pine plantation

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that ap

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Moss Trim Lines (B16)
- X Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface water present?	Yes	___	No	X	Depth (inches): ___
Water table present?	Yes	___	No	X	Depth (inches): ___
Saturation present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 2

Wetland Hydrology Present? **Yes**

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

FAC-Neutral test - 3:0

VEGETATION -- Use scientific names of plants. Sampling Point: SP1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Staus
1 *Pinus taeda*	60	Y	FAC
2 *Liquidambar styraciflua*	10	N	FAC
3			
4			
5			
6			
7			
8			
	70	= Total Cover	
50% of total cover: 35	20% of total cover: 14		

Sapling/Shrub Stratun (Plot size: 30)			
1 *Sabal minor*	30	Y	FACW
2 *Ilex vomitoria*	20	Y	FAC
3 *Triadica sebifera*	10	N	FAC
4 *Morella cerifera*	8	N	FAC
5 *Ligustrum sinense*	5	N	FAC
6 *Ilex opaca*	2	N	FAC
7 *Quercus nigra*	2	N	FAC
8 *Quercus texana*	2	N	FACW
	79	= Total Cover	
50% of total cover: 39.5	20% of total cover: 15.8		

Herb stratum (Plot size: 30)			
1 *Chasmanthium laxum*	10	Y	FACW
2 *Morella cerifera*	5	Y	FAC
3 *Ilex vomitoria*	4	N	FAC
4 *Sabal minor*	3	N	FACW
5			
6			
7			
8			
9			
10			
11			
12			
	22	= Total Cover	
50% of total cover: 11	20% of total cover: 4.4		

Woody vine stratum (Plot size: 30)			
1 *Lygodium japonicum*	5	Y	FAC
2 *Rubus argutus*	4	Y	FAC
3 *Smilax laurifolia*	4	Y	FACW
4 *Smilax rotundifolia*	4	Y	FAC
5			
	17	= Total Cover	
50% of total cover: 8.5	20% of total cover: 3.4		

Dominance Test Worksheet

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

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

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	45	x 2 =	90
FAC species	131	x 3 =	393
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	176 (A)		483 (B)

Prevalence Index = B/A = 2.74

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ___ Problematic hydrophytic vegetation* (explain)

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

Definitions of Five Vegetation Strata

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) 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 3.26 ft (1m) tall

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**

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

SOIL Sampling Point: SP1

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*	Loc**		
0-4	10YR 6/1	88	10YR 7/1	5	D	M	silty loam	
			10YR 4/6	2	C	PL	silty loam	
			10YR 5/8	5	C	M	silty loam	
4-16	10YR 7/1	70	10YR 5/1	10	D	M	silty loam	
			5YR 4/6	10	C	PL	silty loam	
			7.5YR 5/8	10	C	PL	silty loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (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 Mucky 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)
- ___ Loamy Gleyed Matrix (F2)
- X 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils:

- ___ 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes**

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Colyell 420-Acre Site | City/County: Colyell/Livingston | Sampling Date: 2/4/2019

Applicant/Owner: Weyerhaeuser NR Company | State: Louisiana | Sampling Point: SP2

Investigator(s): Curt Schaeffer, Cal Fontenot | Section, Township, Range: S12, T7S, R4E

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): >1

Subregion (LRR or MLRA): LRR-P | Lat: 30.454144° | Long: (-) 90.756664° | Datum: NAD83

Soil Map Unit Name: Satsuma silt loam, 1 to 3 percent slopes (Sa) | NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? **Yes** (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? **Yes**

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 Hydric soil present? No Indicators of wetland hydrology present? No	**Is the Sampled Area within a Wetland?** **No**

Remarks:

Mixed pine/hardwoods

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that ap

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Moss Trim Lines (B16)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface water present?	Yes	___	No	X	Depth (inches): ___
Water table present?	Yes	___	No	X	Depth (inches): ___
Saturation present? (includes capillary fringe)	Yes	___	No	X	Depth (inches): ___

Wetland Hydrology Present? **No**

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

FAC-Neutral test - 2:0

VEGETATION -- Use scientific names of plants. Sampling Point: SP2

Tree Stratum (Plot size: 30)		Absolute % Cover	Dominant Species	Indicator Staus
1	*Pinus taeda*	60	Y	FAC
2	*Prunus serotina*	8	N	FACU
3	*Quercus falcata*	5	N	FACU
4	*Quercus nigra*	2	N	FAC
5	*Quercus virginiana*	2	N	FACU
6	*Liquidambar styraciflua*	2	N	FAC
7				
8				
		79	= Total Cover	
	50% of total cover: 39.5	20% of total cover:	15.8	

Sapling/Shrub Stratun (Plot size: 30)				
1	*Sabal minor*	15	Y	FACW
2	*Ilex vomitoria*	10	Y	FAC
3	*Symplocos tinctoria*	5	N	FAC
4				
5				
6				
7				
8				
		30	= Total Cover	
	50% of total cover: 15	20% of total cover:	6	

Herb stratum (Plot size: 30)				
1	*Sabal minor*	8	Y	FACW
2	*Ilex vomitoria*	3	Y	FAC
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
		11	= Total Cover	
	50% of total cover: 5.5	20% of total cover:	2.2	

Woody vine stratum (Plot size: 30)				
1				
2				
3				
4				
5				
		0	= Total Cover	
	50% of total cover: 0	20% of total cover:	0	

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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0	
FACW species	23	x 2 =	46	
FAC species	82	x 3 =	246	
FACU species	15	x 4 =	60	
UPL species	0	x 5 =	0	
Column totals	120	(A)	352	(B)

Prevalence Index = B/A = 2.93

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ___ Problematic hydrophytic vegetation* (explain)

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

Definitions of Five Vegetation Strata

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) 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 3.26 ft (1m) tall

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**

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

SOIL Sampling Point: SP2

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*	Loc**		
0-5	10YR 4/2	50					silty loam	
	10YR 5/2	50					silty loam	
5-10	10YR 5/2	60	10YR 5/6	2	C	M	silty loam	
	10YR 4/2	38					silty loam	
10-16	10YR 6/2	85	10YR 5/6	10	C	M	silty loam	
			10YR 5/8	5	C	M	silty loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

___ Histisol (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 Mucky 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)
___ 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)**
___ Anomolous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils:

___ 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)**
___ Anomolous Bright Loamy Soils (F20) **(MLRA 153B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **No**

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Colyell 420-Acre Site | City/County: Colyell/Livingston | Sampling Date: 2/4/2019

Applicant/Owner: Weyerhaeuser NR Company | State: Louisiana | Sampling Point: SP3

Investigator(s): Curt Schaeffer, Cal Fontenot | Section, Township, Range: S12, T7S, R4E

Landform (hillslope, terrace, etc.): Bottomland | Local relief (concave, convex, none): Convex | Slope (%): 1

Subregion (LRR or MLRA): LRR-P | Lat: 30.454408° | Long: (-) 90.758051° | Datum: NAD83

Soil Map Unit Name: Natalbany silty clay loam, frequently flooded (Na) | NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? **Yes** (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? **Yes**

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 Hydric soil present? Yes Indicators of wetland hydrology present? Yes	**Is the Sampled Area within a Wetland?** **Yes**

Remarks:

Bottomland wardwoods

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that ap

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- X Water Marks (B1)
- X Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Moss Trim Lines (B16)
- X Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface water present?	Yes	___	No	X	Depth (inches): ___
Water table present?	Yes	___	No	X	Depth (inches): ___
Saturation present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 0

Wetland Hydrology Present? **Yes**

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

FAC-Neutral test - 3:0

VEGETATION -- Use scientific names of plants. Sampling Point: SP3

Tree Stratum (Plot size: 30)		Absolute % Cover	Dominant Species	Indicator Staus
1	*Quercus nigra*	20	Y	FAC
2	*Magnolia virginiana*	12	Y	FACW
3	*Nyssa sylvatica*	8	N	FAC
4	*Acer rubrum*	5	N	FAC
5				
6				
7				
8				
		45	= Total Cover	
	50% of total cover: 22.5	20% of total cover: 9		

Sapling/Shrub Stratun (Plot size: 30)				
1	*Sabal minor*	70	Y	FACW
2	*Ilex opaca*	10	N	FAC
3	*Nyssa sylvatica*	10	N	FAC
4	*Acer rubrum*	8	N	FAC
5	*Ilex vomitoria*	5	N	FAC
6	*Quercus nigra*	5	N	FAC
7				
8				
		108	= Total Cover	
	50% of total cover: 54	20% of total cover: 21.6		

Herb stratum (Plot size: 30)				
1	*Chasmanthium laxum*	3	Y	FACW
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
		3	= Total Cover	
	50% of total cover: 1.5	20% of total cover: 0.6		

Woody vine stratum (Plot size: 30)				
1				
2				
3				
4				
5				
		0	= Total Cover	
	50% of total cover: 0	20% of total cover: 0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across all Strata: 4 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	85	x 2 =	170
FAC species	71	x 3 =	213
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	156 (A)		383 (B)

Prevalence Index = B/A = 2.46

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ___ Problematic hydrophytic vegetation* (explain)

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

Definitions of Five Vegetation Strata

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) 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 3.26 ft (1m) tall

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**

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

SOIL Sampling Point: SP3

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*	Loc**		
0-6	10YR 5/2	98	10YR 4/6	2	C	PL	silty loam	
6-16	10YR 6/1	85	10YR 6/6	10	C	M	silty loam	
			7.5YR 4/6	5	C	PL	silty loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (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 Mucky 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)
- ___ Loamy Gleyed Matrix (F2)
- X 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils:

- ___ 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes**

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Colyell 420-Acre Site | City/County: Colyell/Livingston | Sampling Date: 2/4/2019

Applicant/Owner: Weyerhaeuser NR Company | State: Louisiana | Sampling Point: SP4

Investigator(s): Curt Schaeffer, Cal Fontenot | Section, Township, Range: S12, T7S, R4E

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Convex | Slope (%): >1

Subregion (LRR or MLRA): LRR-P | Lat: 30.454378° | Long: (-) 90.760551° | Datum: NAD83

Soil Map Unit Name: Deerford-Verdun complex, 0 to 1 percent slopes (Dv) | NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? **Yes** (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? **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 Hydric soil present? Yes Indicators of wetland hydrology present? Yes	**Is the Sampled Area within a Wetland?** **Yes**

Remarks:

Cut-over area, harvested of timber, soils disturbed, shrub and herbaceous plant community established, canopy stratum removed

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that ap

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Moss Trim Lines (B16)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface water present?	Yes ___	No X	Depth (inches): ___	**Wetland Hydrology Present?**	**Yes**
Water table present?	Yes ___	No X	Depth (inches): ___		
Saturation present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0		

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

FAC-Neutral test - 2:0

VEGETATION -- Use scientific names of plants. Sampling Point: SP4

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Staus
1			
2			
3			
4			
5			
6			
7			
8			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Sapling/Shrub Stratun (Plot size: 30)			
1 *Ilex vomitoria*	6	Y	FAC
2 *Liquidambar styraciflua*	5	Y	FAC
3 *Sabal minor*	3	N	FACW
4 *Triadica sebifera*	3	N	FAC
5 *Hypericum hypericoides*	2	N	FAC
6			
7			
8			
	19	= Total Cover	
50% of total cover: 9.5	20% of total cover: 3.8		

Herb stratum (Plot size: 30)			
1 *Juncus marginatus*	70	Y	FACW
2 *Dichanthelium scoparium*	40	Y	FACW
3 *Chasmanthium laxum*	8	N	FACW
4 *Juncus effusus*	8	N	OBL
5 *Euthamia caroliniana*	3	N	FAC
6 *Andropogon virginicus*	2	N	FAC
7 *Eupatorium capillifolium*	2	N	FACU
8 *Scirpus cyperinus*	2	N	OBL
9 *Typha latifolia*	2	N	OBL
10 *Xyris difformis*	2	N	OBL
11			
12			
	139	= Total Cover	
50% of total cover: 69.5	20% of total cover: 27.8		

Woody vine stratum (Plot size: 30)			
1 *Rubus argutus*	10	Y	FAC
2 *Vitis rotundifolia*	3	Y	FAC
3			
4			
5			
	13	= Total Cover	
50% of total cover: 6.5	20% of total cover: 2.6		

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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	14	x 1 =	14
FACW species	121	x 2 =	242
FAC species	31	x 3 =	93
FACU species	2	x 4 =	8
UPL species	0	x 5 =	0
Column totals	168 (A)		357 (B)

Prevalence Index = B/A = 2.13

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ___ Problematic hydrophytic vegetation* (explain)

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

Definitions of Five Vegetation Strata

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) 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 3.26 ft (1m) tall

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**

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

SOIL Sampling Point: SP3

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*	Loc**		
0-4	10YR 4/2	97	10YR 4/6	3	C	PL	silty loam	
4-16	10YR 6/2	80	5YR 4/6	2	C	M	silty loam	
			10YR 6/6	15	C	M	silty loam	
			10YR 5/8	3	C	M	silty loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (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 Mucky 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)
- ___ Loamy Gleyed Matrix (F2)
- X 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils:

- ___ 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes**

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Colyell 420-Acre Site | City/County: Colyell/Livingston | Sampling Date: 2/4/2019

Applicant/Owner: Weyerhaeuser NR Company | State: Louisiana | Sampling Point: SP5

Investigator(s): Curt Schaeffer, Cal Fontenot | Section, Township, Range: S12, T7S, R4E

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): >1

Subregion (LRR or MLRA): LRR-P | Lat: 30.453887° | Long: (-) 90.763182° | Datum: NAD83

Soil Map Unit Name: Deerford-Verdun complex, 0 to 1 percent slopes (Dv) | NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? **Yes** (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? **Yes**

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 Hydric soil present? No Indicators of wetland hydrology present? No	**Is the Sampled Area within a Wetland?** **No**

Remarks:

Mixed pine/hardwoods

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that ap

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Moss Trim Lines (B16)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface water present?	Yes	____	No	X	Depth (inches): ____
Water table present?	Yes	____	No	X	Depth (inches): ____
Saturation present? (includes capillary fringe)	Yes	____	No	X	Depth (inches): ____

Wetland Hydrology Present? **No**

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION -- Use scientific names of plants. Sampling Point: SP5

Tree Stratum (Plot size: 30)		Absolute % Cover	Dominant Species	Indicator Staus
1	*Liriodendron tulipifera*	20	Y	FACU
2	*Ostrya virginiana*	10	Y	FACU
3	*Fagus grandifolia*	8	N	FACU
4	*Magnolia grandiflora*	5	N	FAC
5	*Pinus taeda*	5	N	FAC
6	*Pinus glabra*	2	N	FACW
7				
8				
		50	= Total Cover	
	50% of total cover: 25		20% of total cover: 10	

Sapling/Shrub Stratun (Plot size: 30)				
1	*Symplocos tinctoria*	10	Y	FAC
2	*Ostrya virginiana*	5	Y	FACU
3	*Ilex vomitoria*	4	N	FAC
4	*Ilex opaca*	3	N	FAC
5				
6				
7				
8				
		22	= Total Cover	
	50% of total cover: 11		20% of total cover: 4.4	

Herb stratum (Plot size: 30)				
1	*Carex oxylepis*	3	Y	FACW
2	*Sabal minor*	3	Y	FACW
3	*Ilex vomitoria*	2	N	FAC
4	*Symplocos tinctoria*	2	N	FAC
5	*Viola palmata*	2	N	FACU
6				
7				
8				
9				
10				
11				
12				
		12	= Total Cover	
	50% of total cover: 6		20% of total cover: 2.4	

Woody vine stratum (Plot size: 30)				
1	*Smilax rotundifolia*	3	Y	FAC
2	*Lygodium japonicum*	2	Y	FAC
3				
4				
5				
		5	= Total Cover	
	50% of total cover: 2.5		20% of total cover: 1	

Dominance Test Worksheet

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

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

Percent of Dominant Species that are OBL, FACW, or FAC: 62.50% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	8	x 2 =	16
FAC species	34	x 3 =	102
FACU species	45	x 4 =	180
UPL species	0	x 5 =	0
Column totals	87 (A)		298 (B)

Prevalence Index = B/A = 3.43

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- ___ Prevalence index is ≤3.0*
- ___ Problematic hydrophytic vegetation* (explain)

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

Definitions of Five Vegetation Strata

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) 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 3.26 ft (1m) tall

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**

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

SOIL Sampling Point: SP5

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*	Loc**		
0-7	10YR 3/2	80					silty loam	
	10YR 4/3	20					silty loam	
7-16	10YR 5/4	95	10YR 3/2	5	D	M	silt/clay/loar	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (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 Mucky 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)
- ___ 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils:

- ___ 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **No**

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Colyell 420-Acre Site | City/County: Colyell/Livingston | Sampling Date: 2/4/2019

Applicant/Owner: Weyerhaeuser NR Company | State: Louisiana | Sampling Point: SP6

Investigator(s): Curt Schaeffer, Cal Fontenot | Section, Township, Range: S12, T7S, R4E

Landform (hillslope, terrace, etc.): Depression | Local relief (concave, convex, none): Concave | Slope (%): 1

Subregion (LRR or MLRA): LRR-P | Lat: 30.453358° | Long: (-) 90.763361° | Datum: NAD83

Soil Map Unit Name: Natalbany silty clay loam, frequently flooded (Na) | NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? **Yes** (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? **Yes**

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 Hydric soil present? Yes Indicators of wetland hydrology present? Yes	**Is the Sampled Area within a Wetland?** **Yes**

Remarks:

Bottomland hardwoods

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that ap

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- X Water Marks (B1)
- X Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Moss Trim Lines (B16)
- X Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface water present?	Yes		No	X	Depth (inches):	
Water table present?	Yes	X	No		Depth (inches):	4
Saturation present? (includes capillary fringe)	Yes	X	No		Depth (inches):	0

Wetland Hydrology Present? **Yes**

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

FAC-Neutral test - 3:0

VEGETATION -- Use scientific names of plants. Sampling Point: SP6

Tree Stratum (Plot size: 30)		Absolute % Cover	Dominant Species	Indicator Staus
1	*Quercus nigra*	30	Y	FAC
2	*Magnolia virginiana*	15	Y	FACW
3	*Pinus taeda*	10	N	FAC
4				
5				
6				
7				
8				
		55	= Total Cover	
	50% of total cover: 27.5	20% of total cover: 11		

Sapling/Shrub Stratun (Plot size: 30)				
1	*Sabal minor*	65	Y	FACW
2	*Ilex opaca*	8	N	FAC
3	*Quercus nigra*	5	N	FAC
4	*Pinus taeda*	3	N	FAC
5				
6				
7				
8				
		81	= Total Cover	
	50% of total cover: 40.5	20% of total cover: 16.2		

Herb stratum (Plot size: 30)				
1	*Chasmanthium laxum*	5	Y	FACW
2	*Gelsemium sempervirens*	5	Y	FAC
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
		10	= Total Cover	
	50% of total cover: 5	20% of total cover: 2		

Woody vine stratum (Plot size: 30)				
1				
2				
3				
4				
5				
		0	= Total Cover	
	50% of total cover: 0	20% of total cover: 0		

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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	85	x 2 =	170
FAC species	61	x 3 =	183
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	146 (A)		353 (B)

Prevalence Index = B/A = 2.42

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ___ Problematic hydrophytic vegetation* (explain)

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

Definitions of Five Vegetation Strata

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) 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 3.26 ft (1m) tall

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**

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

SOIL Sampling Point: SP6

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*	Loc**		
0-16	10YR 6/2	95	10YR 6/6	5	C	M	silt caly loar	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (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 Mucky 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)
- ___ Loamy Gleyed Matrix (F2)
- X 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils:

- ___ 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes**

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Colyell 420-Acre Site | City/County: Colyell/Livingston | Sampling Date: 2/4/2019

Applicant/Owner: Weyerhaeuser NR Company | State: Louisiana | Sampling Point: SP7

Investigator(s): Curt Schaeffer, Cal Fontenot | Section, Township, Range: S12. T7S, R4E

Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): Concave | Slope (%): 4

Subregion (LRR or MLRA): LRR-P | Lat: 30.455485° | Long: (-) 90.763798° | Datum: NAD83

Soil Map Unit Name: Deerford-Verdun complex, 0 to 1 percent slopes (Dv) | NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? **Yes** (If no, explain in remarks)

Are vegetation X, soil X, or hydrology X significantly disturbed? Are "normal circumstances" present? **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 Hydric soil present? No Indicators of wetland hydrology present? Yes	**Is the Sampled Area within a Wetland?** **No**

Remarks:

Cut-over/Harvested area, disturbed vegetation and soils, possible altered hydrology.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that ap

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Moss Trim Lines (B16)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface water present?	Yes	____	No	X	Depth (inches): ____
Water table present?	Yes	____	No	X	Depth (inches): ____
Saturation present? (includes capillary fringe)	Yes	____	No	X	Depth (inches): ____

Wetland Hydrology Present? **Yes**

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

FAC-Neutral test - 2:1

VEGETATION -- Use scientific names of plants. Sampling Point: SP7

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Staus
1			
2			
3			
4			
5			
6			
7			
8			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Sapling/Shrub Stratun (Plot size: 30)			
1 *Ilex vomitoria*	8	Y	FAC
2 *Triadica sebifera*	8	Y	FAC
3 *Saccharum giganteum*	5	Y	FACW
4 *Sabal minor*	2	N	FACW
5 *Morella cerifera*	1	N	FAC
6			
7			
8			
	24 = Total Cover		
50% of total cover: 12	20% of total cover: 4.8		

Herb stratum (Plot size: 30)			
1 *Dichanthelium commutatum*	50	Y	FAC
2 *Chasmanthium laxum*	30	Y	FACW
3 *Eupatorium capillifolium*	30	Y	FACU
4 *Juncus marginatus*	10	N	FACW
5 *Silene nivea*	3	N	FAC
6 *Andropogon virginicus*			FAC
7			
8			
9			
10			
11			
12			
	123 = Total Cover		
50% of total cover: 61.5	20% of total cover: 24.6		

Woody vine stratum (Plot size: 30)			
1 *Lygodium japonicum*	10	Y	FAC
2 *Rubus argutus*	10	Y	FAC
3			
4			
5			
	20 = Total Cover		
50% of total cover: 10	20% of total cover: 4		

Dominance Test Worksheet

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

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

Percent of Dominant Species that are OBL, FACW, or FAC: 87.50% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	47	x 2 =	94
FAC species	80	x 3 =	240
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column totals	157 (A)		454 (B)

Prevalence Index = B/A = 2.89

Hydrophytic Vegetation Indicators:

- [ ] Rapid test for hydrophytic vegetation
- [X] Dominance test is >50%
- [X] Prevalence index is ≤3.0*
- [ ] Problematic hydrophytic vegetation* (explain)

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

Definitions of Five Vegetation Strata

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) 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 3.26 ft (1m) tall

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**

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

SOIL Sampling Point: SP7

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*	Loc**		
0-4	10YR 4/2	98	10YR 5/2	2	D	M	silty loam	
4-16	10YR 5/6	95	10YR 6/2	2	D	M	silty loam	
			5YR 4/6	3	C	PL	silty loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (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 Mucky 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)
- ___ 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils:

- ___ 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **No**

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Colyell 420-Acre Site | City/County: Colyell/Livingston | Sampling Date: 2/5/2019

Applicant/Owner: Weyerhaeuser NR Company | State: Louisiana | Sampling Point: SP8

Investigator(s): Curt Schaeffer, Cal Fontenot | Section, Township, Range: S12, T7S, R4E

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Convex | Slope (%): >1

Subregion (LRR or MLRA): LRR-P | Lat: 30.456175° | Long: (-) 90.760420° | Datum: NAD83

Soil Map Unit Name: Natalbany silty clay loam, frequently flooded (Na) | NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? **Yes** (If no, explain in remarks)

Are vegetation X, soil X, or hydrology X significantly disturbed? Are "normal circumstances" present? **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? No Hydric soil present? Yes Indicators of wetland hydrology present? Yes	**Is the Sampled Area within a Wetland?** **No**

Remarks:

Cut-over/Harvested area, disturbed vegetation and soils, possible altered hydrology.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that ap

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Moss Trim Lines (B16)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface water present?	Yes	____	No	X	Depth (inches): ____
Water table present?	Yes	____	No	X	Depth (inches): ____
Saturation present? (includes capillary fringe)	Yes	____	No	X	Depth (inches): ____

Wetland Hydrology Present? **Yes**

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION -- Use scientific names of plants. Sampling Point: SP8

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Staus
1			
2			
3			
4			
5			
6			
7			
8			
	0	= Total Cover	
50% of total cover: 0		20% of total cover: 0	

Sapling/Shrub Stratun (Plot size: 30)			
1 *Ilex vomitoria*	12	Y	FAC
2 *Hypericum perforatum*	5	Y	FACU
3 *Quercus nigra*	3	N	FAC
4 *Liquidambar styraciflua*	2	N	FAC
5 *Pinus serotina*	1	N	FACW
6			
7			
8			
	23	= Total Cover	
50% of total cover: 11.5		20% of total cover: 4.6	

Herb stratum (Plot size: 30)			
1 *Juncus interior*	55	Y	FACU
2 *Cyperus esculentus*	25	Y	FAC
3 *Dichanthelium aciculare*	25	Y	FACU
4 *Eragrostis spectabilis*	12	N	FACU
5 *Eupatorium capillifolium*	8	N	FACU
6 *Sabal minor*	3	N	FACW
7 *Andropogon virginicus*	2	N	FAC
8			
9			
10			
11			
12			
	130	= Total Cover	
50% of total cover: 65		20% of total cover: 26	

Woody vine stratum (Plot size: 30)			
1 *Rubus argutus*	5	Y	FAC
2 *Rubus trivialis*	5	Y	FACU
3 *Vitis rotundifolia*	5	Y	FAC
4			
5			
	15	= Total Cover	
50% of total cover: 7.5		20% of total cover: 3	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species that are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0	
FACW species	4	x 2 =	8	
FAC species	49	x 3 =	147	
FACU species	105	x 4 =	420	
UPL species	0	x 5 =	0	
Column totals	158	(A)	575	(B)

Prevalence Index = B/A = 3.64

Hydrophytic Vegetation Indicators:

___ Rapid test for hydrophytic vegetation

___ Dominance test is >50%

___ Prevalence index is ≤3.0*

___ Problematic hydrophytic vegetation* (explain)

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

Definitions of Five Vegetation Strata

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) 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 3.26 ft (1m) tall

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? **No**

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

SOIL Sampling Point: SP8

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*	Loc**		
0-8	10YR 6/2	88	10YR 7/2	10	D	M	silt loam	
			10YR 5/6	2	C	M	silt loam	
8-14	10YR 6/2	90	10YR 4/1	3	D	M	silt loam	
			10YR 6/6	5	C	M	silt loam	
			10YR 5/8	2	C	PL	silt loam	
14-16	10YR 6/1	80	10YR 6/6	10	C	M	silt loam	
			10YR 5/8	10	C	M	silt loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (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 Mucky 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)
- ___ Loamy Gleyed Matrix (F2)
- X 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils:

- ___ 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes**

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Colyell 420-Acre Site | City/County: Colyell/Livingston | Sampling Date: 2/6/2019

Applicant/Owner: Weyerhaeuser NR Company | State: Louisiana | Sampling Point: SP9

Investigator(s): Curt Schaeffer, Cal Fontenot | Section, Township, Range: S12, T7S, R4E

Landform (hillslope, terrace, etc.): Terrace/Hardwoods | Local relief (concave, convex, none): Concave | Slope (%): 2

Subregion (LRR or MLRA): LRR-P | Lat: 30.453555° | Long: (-) 90.746284° | Datum: NAD83

Soil Map Unit Name: Deerford-Verdun complex, 0 to 1 percent slopes (Dv) | NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? **Yes** (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? **Yes**

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 Hydric soil present? Yes Indicators of wetland hydrology present? No	**Is the Sampled Area within a Wetland?** **No**

Remarks:

Mixed pine/hardwoods habitat

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that ap

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Moss Trim Lines (B16)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface water present?	Yes	___	No	X	Depth (inches): ___
Water table present?	Yes	___	No	X	Depth (inches): ___
Saturation present? (includes capillary fringe)	Yes	___	No	X	Depth (inches): ___

Wetland Hydrology Present? **No**

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

FAC-Neutral test - 4:0

VEGETATION -- Use scientific names of plants. Sampling Point: SP9

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Staus
1 *Pinus taeda*	35	Y	FAC
2 *Quercus nigra*	8	N	FAC
3			
4			
5			
6			
7			
8			
	43	= Total Cover	
50% of total cover: 21.5	20% of total cover: 8.6		

Sapling/Shrub Stratun (Plot size: 30)			
1 *Sabal minor*	40	Y	FACW
2 *Quercus nigra*	20	Y	FAC
3 *Triadica sebifera*	15	N	FAC
4 *Ilex vomitoria*	10	N	FAC
5 *Liquidambar styraciflua*	5	N	FAC
6 *Morella cerifera*	5	N	FAC
7 *Ulmus alata*	5	N	FACU
8			
	100	= Total Cover	
50% of total cover: 50	20% of total cover: 20		

Herb stratum (Plot size: 30)			
1 *Sabal minor*	10	Y	FACW
2 *Chasmanthium laxum*	4	Y	FACW
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
	14	= Total Cover	
50% of total cover: 7	20% of total cover: 2.8		

Woody vine stratum (Plot size: 30)			
1 *Smilax laurifolia*	5	Y	FACW
2 *Lygodium japonicum*	2	Y	FAC
3			
4			
5			
	7	= Total Cover	
50% of total cover: 3.5	20% of total cover: 1.4		

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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	59	x 2 =	118
FAC species	98	x 3 =	294
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column totals	162 (A)		432 (B)

Prevalence Index = B/A = 2.67

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ___ Problematic hydrophytic vegetation* (explain)

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

Definitions of Five Vegetation Strata

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) 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 3.26 ft (1m) tall

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**

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

SOIL Sampling Point: SP9

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*	Loc**		
0-6	10YR 4/2	49	10YR 6/8	2	C	M	silt loam	
	10YR 4/6	49					silt loam	
6-16	10YR 6/1	88	10YR 5/6	12	D	M	silt loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (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 Mucky 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)
- ___ Loamy Gleyed Matrix (F2)
- X 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils:

- ___ 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes**

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Colyell 420-Acre Site | City/County: Colyell/Livingston | Sampling Date: 2/18/2019

Applicant/Owner: Weyerhaeuser NR Company | State: Louisiana | Sampling Point: SP10

Investigator(s): Curt Schaeffer, Cal Fontenot | Section, Township, Range: S12, T7S, R4E

Landform (hillslope, terrace, etc.): Lowland | Local relief (concave, convex, none): Concave | Slope (%): <1

Subregion (LRR or MLRA): LRR-P | Lat: 30.454206° | Long: (-) 90.753963° | Datum: NAD83

Soil Map Unit Name: Satsuma silt loam, 1 to 3 percent slopes (Sa) | NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? **Yes** (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? **Yes**

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 Hydric soil present? Yes Indicators of wetland hydrology present? Yes	**Is the Sampled Area within a Wetland?** **Yes**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that ap

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- X Water Marks (B1)
- X Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- X Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Moss Trim Lines (B16)
- X Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface water present?	Yes	___	No	X	Depth (inches):	
Water table present?	Yes	X	No	___	Depth (inches):	10
Saturation present? (includes capillary fringe)	Yes	X	No	___	Depth (inches):	0

Wetland Hydrology Present? **Yes**

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

FAC-Neutral test - 4:0

VEGETATION -- Use scientific names of plants. Sampling Point: SP10

Tree Stratum (Plot size: 30)		Absolute % Cover	Dominant Species	Indicator Staus
1	*Pinus taeda*	10	Y	FAC
2	*Triadica sebifera*	10	Y	FAC
3				
4				
5				
6				
7				
8				
		20	= Total Cover	
	50% of total cover: 10		20% of total cover: 4	

Sapling/Shrub Stratun (Plot size: 30)				
1	*Sabal minor*	8	Y	FACW
2	*Morella cerifera*	3	Y	FAC
3				
4				
5				
6				
7				
8				
		11	= Total Cover	
	50% of total cover: 5.5		20% of total cover: 2.2	

Herb stratum (Plot size: 30)				
1	*Juncus effusus*	30	Y	OBL
2	*Leersia virginica*	20	Y	FACW
3	*Scirpus cyperinus*	12	Y	OBL
4	*Saccharum giganteum*	10	N	FACW
5	*Andropogon glomeratus*	8	N	FACW
6	*Chasmanthium laxum*	8	N	FACW
7	*Typha latifolia*	7	N	OBL
8	*Sagittaria latifolia*	4	N	OBL
9	*Ludwigia octovalvis*	3	N	OBL
10	*Xyris difformis*	3	N	OBL
11				
12				
		105	= Total Cover	
	50% of total cover: 52.5		20% of total cover: 21	

Woody vine stratum (Plot size: 30)				
1				
2				
3				
4				
5				
		0	= Total Cover	
	50% of total cover: 0		20% of total cover: 0	

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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:			
OBL species	59	x 1 =	59
FACW species	54	x 2 =	108
FAC species	23	x 3 =	69
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	136 (A)		236 (B)

Prevalence Index = B/A = 1.74

Hydrophytic Vegetation Indicators:

- [ ] Rapid test for hydrophytic vegetation
- [X] Dominance test is >50%
- [X] Prevalence index is ≤3.0*
- [ ] Problematic hydrophytic vegetation* (explain)

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

Definitions of Five Vegetation Strata

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) 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 3.26 ft (1m) tall

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**

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

SOIL Sampling Point: SP10

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*	Loc**		
0-4	10YR 4/1	90	10YR 3/6	10	C	PL	silty clay	
4-11	10YR 6/1	80	5YR 4/6	20	C	PL	clay loam	
11-16	2.5Y 5/1	98	2.5Y 5/6	2	D	M	clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (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 Mucky 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)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- X 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils:

- ___ 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes**

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Colyell 420-Acre Site | City/County: Colyell/Livingston | Sampling Date: 2/18/2019

Applicant/Owner: Weyerhaeuser NR Company | State: Louisiana | Sampling Point: SP11

Investigator(s): Curt Schaeffer, Cal Fontenot | Section, Township, Range: S12, T7S, R4E

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): 2

Subregion (LRR or MLRA): LRR-P | Lat: 30.454206° | Long: (-) 90.753963° | Datum: NAD83

Soil Map Unit Name: Satsuma silt loam, 1 to 3 percent slopes | NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? **Yes** (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? **Yes**

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 Hydric soil present? Yes Indicators of wetland hydrology present? No	**Is the Sampled Area within a Wetland?** **No**

Remarks:

Pine plantation, upland

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that ap

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Moss Trim Lines (B16)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface water present?	Yes ___	No X	Depth (inches): ___	**Wetland Hydrology Present?**	**No**
Water table present?	Yes ___	No X	Depth (inches): ___		
Saturation present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___		

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

FAC-Neutral test - 3:1

VEGETATION -- Use scientific names of plants. Sampling Point: SP11

Tree Stratum (Plot size: 30)		Absolute % Cover	Dominant Species	Indicator Staus
1	*Pinus taeda*	70	Y	FAC
2				
3				
4				
5				
6				
7				
8				
		70	= Total Cover	
	50% of total cover: 35	20% of total cover: 14		

Sapling/Shrub Stratun (Plot size: 30)				
1	*Sabal minor*	25	Y	FACW
2	*Ilex vomitoria*	20	Y	FAC
3	*Liquidambar styraciflua*	8	N	FAC
4	*Quercus nigra*	5	N	FAC
5	*Morella cerifera*	3	N	FAC
6	*Vaccinium elliottii*	3	N	FACW
7				
8				
		64	= Total Cover	
	50% of total cover: 32	20% of total cover: 12.8		

Herb stratum (Plot size: 30)				
1	*Chasmanthium laxum*	10	Y	FACW
2	*Ilex vomitoria*	5	Y	FAC
3	*Gelsemium sempervirens*	3	N	FAC
4				
5				
6				
7				
8				
9				
10				
11				
12				
		18	= Total Cover	
	50% of total cover: 9	20% of total cover: 3.6		

Woody vine stratum (Plot size: 30)				
1	*Gelsemium sempervirens*	7	Y	FAC
2	*Smilax laurifolia*	5	Y	FACW
3	*Rubus trivialis*	3	Y	FACU
4				
5				
		15	= Total Cover	
	50% of total cover: 7.5	20% of total cover: 3		

Dominance Test Worksheet

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

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

Percent of Dominant Species that are OBL, FACW, or FAC: 87.50% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0	
FACW species	38	x 2 =	76	
FAC species	121	x 3 =	363	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column totals	159	(A)	439	(B)

Prevalence Index = B/A = 2.76

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ___ Problematic hydrophytic vegetation* (explain)

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

Definitions of Five Vegetation Strata

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) 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 3.26 ft (1m) tall

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**

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

SOIL Sampling Point: SP11

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*	Loc**		
0-5	10YR 6/3	95	10YR 5/6	5	C	M	silt	
5-13	10YR 4/2	90	10YR 6/3	5	D	M	silt/clay/loar	
			10YR 5/6	5	C	M	silt/clay/loar	
13-16	10YR 6/1	85	10YR 6/8	10	D	M	silt/clay/loar	
			5YR 5/6	5	C	M	silt/clay/loar	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (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 Mucky 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)
- ___ Loamy Gleyed Matrix (F2)
- X 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils:

- ___ 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes**

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Colyell 420-Acre Site | City/County: Colyell/Livingston | Sampling Date: 2/18/2019

Applicant/Owner: Weyerhaeuser NR Company | State: Louisiana | Sampling Point: SP12

Investigator(s): Curt Schaeffer, Cal Fontenot | Section, Township, Range: S1, T7S, R4E

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): None | Slope (%): 0

Subregion (LRR or MLRA): LRR-P | Lat: 30.465943° | Long: (-) 90.755610° | Datum: NAD83

Soil Map Unit Name: Colyell silt loam, 1 to 3 percent slopes, rarely flooded | NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? **Yes** (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? **Yes**

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 Hydric soil present? Yes Indicators of wetland hydrology present? No	**Is the Sampled Area within a Wetland?** **No**

Remarks:

Pine/Hardwoods upland

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that ap

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Moss Trim Lines (B16)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface water present?	Yes	____	No	X	Depth (inches): ____
Water table present?	Yes	____	No	X	Depth (inches): ____
Saturation present? (includes capillary fringe)	Yes	____	No	X	Depth (inches): ____

Wetland Hydrology Present? **No**

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

FAC-Neutral test - 2:2

VEGETATION -- Use scientific names of plants. Sampling Point: SP12

Tree Stratum (Plot size: 30)		Absolute % Cover	Dominant Species	Indicator Staus
1	*Pinus taeda*	15	Y	FAC
2	*Quercus virginiana*	5	Y	FACU
3				
4				
5				
6				
7				
8				
		20	= Total Cover	
	50% of total cover: 10		20% of total cover: 4	

Sapling/Shrub Stratun (Plot size: 30)		Absolute % Cover	Dominant Species	Indicator Staus
1	*Sabal minor*	55	Y	FACW
2	*Morella cerifera*	20	N	FAC
3	*Ilex vomitoria*	15	N	FAC
4	*Liquidambar styraciflua*	8	N	FAC
5	*Quercus nigra*	8	N	FAC
6	*Pinus taeda*	3	N	FAC
7				
8				
		109	= Total Cover	
	50% of total cover: 54.5		20% of total cover: 21.8	

Herb stratum (Plot size: 30)		Absolute % Cover	Dominant Species	Indicator Staus
1	*Chasmanthium laxum*	40	Y	FACW
2	*Juncus interior*	15	N	FACU
3	*Symphyotrichum laeve*	12	N	UPL
4	*Sabal minor*	10	N	FACW
5	*Andropogon virginicus*	3	N	FAC
6				
7				
8				
9				
10				
11				
12				
		80	= Total Cover	
	50% of total cover: 40		20% of total cover: 16	

Woody vine stratum (Plot size: 30)		Absolute % Cover	Dominant Species	Indicator Staus
1	*Rubus trivialis*	8	Y	FACU
2				
3				
4				
5				
		8	= Total Cover	
	50% of total cover: 4		20% of total cover: 1.6	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species that are OBL, FACW, or FAC: 60.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	105	x 2 =	210
FAC species	72	x 3 =	216
FACU species	28	x 4 =	112
UPL species	12	x 5 =	60
Column totals	217 (A)		598 (B)

Prevalence Index = B/A = 2.76

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ___ Problematic hydrophytic vegetation* (explain)

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

Definitions of Five Vegetation Strata

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) 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 3.26 ft (1m) tall

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**

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

SOIL Sampling Point: SP12

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*	Loc**		
0-5	10YR 3/2	95	10YR 6/2	5	D	M	loam	
5-16	10YR 6/2	70	10YR 5/6	15	C	M	loam	
			10YR 4/6	10	C	M	loam	
			10YR 3/1	5	D	M	loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (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 Mucky 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)
- ___ Loamy Gleyed Matrix (F2)
- X 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils:

- ___ 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes**

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Colyell 420-Acre Site | City/County: Colyell/Livingston | Sampling Date: 2/18/2019

Applicant/Owner: Weyerhaeuser NR Company | State: Louisiana | Sampling Point: SP13

Investigator(s): Curt Schaeffer, Cal Fontenot | Section, Township, Range: S1, T7S, R4E

Landform (hillslope, terrace, etc.): Bottomland | Local relief (concave, convex, none): Concave | Slope (%): 0

Subregion (LRR or MLRA): LRR-P | Lat: 30.465873° | Long: (-) 90.756211° | Datum: NAD83

Soil Map Unit Name: Gilbert-Brimstone silt loams, occasionally flooded | NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? **Yes** (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? **Yes**

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 Hydric soil present? Yes Indicators of wetland hydrology present? Yes	**Is the Sampled Area within a Wetland?** **Yes**

Remarks:

Bottomland hardwoods habitat

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that ap

- [X] Surface Water (A1)
- [X] High Water Table (A2)
- [X] Saturation (A3)
- [X] Water Marks (B1)
- [X] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [X] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] Hydrogen Sulfide Odor (C1)
- [X] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [X] Dry-Season Water Table (C2)
- [ ] Moss Trim Lines (B16)
- [X] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [X] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [X] FAC-Neutral Test (D5)
- [X] Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface water present?	Yes	X	No		Depth (inches):	0
Water table present?	Yes	X	No		Depth (inches):	3
Saturation present? (includes capillary fringe)	Yes	X	No		Depth (inches):	0

Wetland Hydrology Present? **Yes**

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

FAC-Neutral test - 5:0

VEGETATION -- Use scientific names of plants. Sampling Point: SP13

Tree Stratum (Plot size: 30)		Absolute % Cover	Dominant Species	Indicator Staus
1	*Quercus nigra*	30	Y	FAC
2	*Magnolia virginiana*	12	Y	FACW
3	*Acer rubrum*	8	N	FAC
4	*Nyssa sylvatica*	8	N	FAC
5				
6				
7				
8				
		58	= Total Cover	
	50% of total cover: 29	20% of total cover: 11.6		

Sapling/Shrub Stratun (Plot size: 30)				
1	*Sabal minor*	45	Y	FACW
2	*Ilex opaca*	15	Y	FAC
3	*Nyssa sylvatica*	5	N	FAC
4				
5				
6				
7				
8				
		65	= Total Cover	
	50% of total cover: 32.5	20% of total cover: 13		

Herb stratum (Plot size: 30)				
1	*Sabal minor*	10	Y	FACW
2	*Chasmanthium laxum*	5	Y	FACW
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
		15	= Total Cover	
	50% of total cover: 7.5	20% of total cover: 3		

Woody vine stratum (Plot size: 30)				
1	*Smilax laurifolia*	5	Y	FACW
2				
3				
4				
5				
		5	= Total Cover	
	50% of total cover: 2.5	20% of total cover: 1		

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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0	
FACW species	77	x 2 =	154	
FAC species	66	x 3 =	198	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column totals	143	(A)	352	(B)

Prevalence Index = B/A = 2.46

Hydrophytic Vegetation Indicators:

- [ ] Rapid test for hydrophytic vegetation
- [X] Dominance test is >50%
- [X] Prevalence index is ≤3.0*
- [ ] Problematic hydrophytic vegetation* (explain)

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

Definitions of Five Vegetation Strata

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) 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 3.26 ft (1m) tall

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**

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

SOIL Sampling Point: SP13

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*	Loc**		
0-5	10YR 4/2	98	10YR 4/6	2	C	PL	silty loam	
5-16	10YR 6/2	90	10YR 5/6	10	C	PL	silty loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (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 Mucky 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)
- ___ Loamy Gleyed Matrix (F2)
- X 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils:

- ___ 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes**

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Colyell 420-Acre Site | City/County: Colyell/Livingston | Sampling Date: 2/18/2019

Applicant/Owner: Weyerhaeuser NR Company | State: Louisiana | Sampling Point: SP14

Investigator(s): Curt Schaeffer, Cal Fontenot | Section, Township, Range: S1, T7S, R4E

Landform (hillslope, terrace, etc.): Bottom | Local relief (concave, convex, none): none | Slope (%): none

Subregion (LRR or MLRA): LRR-P | Lat: 30.463850° | Long: (-) 90.757351° | Datum: NAD83

Soil Map Unit Name: Colyell silt loam, 1 to 3 percent slope, rarely flooded | NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? **Yes** (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? **Yes**

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 Hydric soil present? Yes Indicators of wetland hydrology present? Yes	**Is the Sampled Area within a Wetland?** **Yes**

Remarks:

Mixed pine hardwoods

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that ap

- [X] Surface Water (A1)
- [ ] High Water Table (A2)
- [X] Saturation (A3)
- [X] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [X] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] Hydrogen Sulfide Odor (C1)
- [X] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Dry-Season Water Table (C2)
- [ ] Moss Trim Lines (B16)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [X] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface water present?	Yes	X	No		Depth (inches):	0
Water table present?	Yes	X	No		Depth (inches):	0
Saturation present? (includes capillary fringe)	Yes	X	No		Depth (inches):	0

Wetland Hydrology Present? **Yes**

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

FAC-Neutral test - 2:0

VEGETATION -- Use scientific names of plants. Sampling Point: SP14

Tree Stratum (Plot size: 30)		Absolute % Cover	Dominant Species	Indicator Staus
1	*Triadica sebifera*	15	Y	FAC
2	*Liquidambar styraciflua*	8	Y	FAC
3	*Pinus taeda*	8	Y	FAC
4	*Quercus nigra*	5	N	FAC
5				
6				
7				
8				
		36	= Total Cover	
	50% of total cover: 18	20% of total cover:	7.2	

Sapling/Shrub Stratun (Plot size: 30)				
1	*Morella cerifera*	20	Y	FAC
2	*Sabal minor*	5	N	FACW
3	*Ligustrum sinense*	3	N	FAC
4	*Pinus taeda*	3	N	FAC
5				
6				
7				
8				
		31	= Total Cover	
	50% of total cover: 15.5	20% of total cover:	6.2	

Herb stratum (Plot size: 30)				
1	*Eleocharis obtusa*	40	Y	OBL
2	*Alternanthera philoxeroides*	15	Y	OBL
3	*Dichanthelium acuminatum*	12	N	FAC
4	*Juncus marginatus*	10	N	FACW
5	*Carex lupulina*	7	N	OBL
6	*Chasmanthium laxum*	5	N	FACW
7	*Pluchea foetida*	3	N	OBL
8				
9				
10				
11				
12				
		92	= Total Cover	
	50% of total cover: 46	20% of total cover:	18.4	

Woody vine stratum (Plot size: 30)				
1				
2				
3				
4				
5				
		0	= Total Cover	
	50% of total cover: 0	20% of total cover:	0	

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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	65	x 1 =	65	
FACW species	20	x 2 =	40	
FAC species	74	x 3 =	222	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column totals	159	(A)	327	(B)

Prevalence Index = B/A = 2.06

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ___ Problematic hydrophytic vegetation* (explain)

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

Definitions of Five Vegetation Strata

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) 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 3.26 ft (1m) tall

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**

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

SOIL Sampling Point: SP14

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*	Loc**		
0-6	10YR 4/2	93	10YR 6/2	5	D	M	silt loam	
			10YR 4/6	2	C	PL	silt loam	
6-16	10YR 6/2	90	10YR 5/6	10	C	PL	silt loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (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 Mucky 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)
- ___ Loamy Gleyed Matrix (F2)
- X 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils:

- ___ 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes**

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Colyell 420-Acre Site | City/County: Colyell/Livingston | Sampling Date: 2/18/2019

Applicant/Owner: Weyerhaeuser NR Company | State: Louisiana | Sampling Point: SP15

Investigator(s): Curt Schaeffer, Cal Fontenot | Section, Township, Range: S1, T7S, R4E

Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): Convex | Slope (%): 2

Subregion (LRR or MLRA): LRR-P | Lat: 30.464017° | Long: (-) 90.756988° | Datum: NAD83

Soil Map Unit Name: Colyell silt loam, 1 to 3 percent slopes, rarely flooded | NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? **Yes** (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? **Yes**

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 Hydric soil present? Yes Indicators of wetland hydrology present? No	**Is the Sampled Area within a Wetland?** **No**

Remarks:

Mixed pine/hardwoods edge

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that ap

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Moss Trim Lines (B16)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface water present?	Yes	____	No	X	Depth (inches): ____
Water table present?	Yes	____	No	X	Depth (inches): ____
Saturation present? (includes capillary fringe)	Yes	____	No	X	Depth (inches): ____

Wetland Hydrology Present? **No**

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

FAC-Neutral test - 1:1

VEGETATION -- Use scientific names of plants.

Sampling Point: SP15

Tree Stratum (Plot size: 30)		Absolute % Cover	Dominant Species	Indicator Staus
1	*Pinus taeda*	15	Y	FAC
2	*Quercus virginiana*	8	Y	FACU
3	*Liquidambar styraciflua*	5	N	FAC
4	*Quercus nigra*	5	N	FAC
5				
6				
7				
8				
		33	= Total Cover	
	50% of total cover: 16.5	20% of total cover:	6.6	

Sapling/Shrub Stratun (Plot size: 30)				
1	*Triadica sebifera*	20	Y	FAC
2	*Morella cerifera*	15	Y	FAC
3	*Ilex vomitoria*	8	N	FAC
4	*Liquidambar styraciflua*	8	N	FAC
5	*Pinus taeda*	8	N	FAC
6	*Quercus nigra*	5	N	FAC
7	*Quercus texana*	5	N	FACW
8				
		69	= Total Cover	
	50% of total cover: 34.5	20% of total cover:	13.8	

Herb stratum (Plot size: 30)				
1	*Chasmanthium laxum*	15	Y	FACW
2	*Pinus taeda*	5	Y	FAC
3	*Andropogon virginicus*	2	N	FAC
4				
5				
6				
7				
8				
9				
10				
11				
12				
		22	= Total Cover	
	50% of total cover: 11	20% of total cover:	4.4	

Woody vine stratum (Plot size: 30)				
1	*Rubus argutus*	20	Y	FAC
2	*Smilax laurifolia*	5	N	FACW
3	*Lygodium japonicum*	3	N	FAC
4				
5				
		28	= Total Cover	
	50% of total cover: 14	20% of total cover:	5.6	

Dominance Test Worksheet

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

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

Percent of Dominant Species that are OBL, FACW, or FAC: 85.71% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	116	x 3 =	348
FACU species	8	x 4 =	32
UPL species	0	x 5 =	0
Column totals	144 (A)		420 (B)

Prevalence Index = B/A = 2.92

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ___ Problematic hydrophytic vegetation* (explain)

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

Definitions of Five Vegetation Strata

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) 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 3.26 ft (1m) tall

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**

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

SOIL Sampling Point: SP15

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*	Loc**		
0-10	10YR 4/2	98	10YR 6/2	2	D	M	silt loam	
10-16	10YR 6/2	88	10YR 5/6	10	C	M	silt loam	
			10YR 4/2	2	D	M	silt loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (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 Mucky 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)
- ___ Loamy Gleyed Matrix (F2)
- X 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils:

- ___ 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)**
- ___ Anomolous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes**

Remarks:

APPENDIX B
PHOTOGRAPHIC LOG

Photograph 1: SP1 soil profile.


Photograph 2: SP1 overview looking north.

Photograph 3: SP1 overview looking east.

Photograph 4: SP1 overview looking south.

Photograph 5: SP1 overview looking west.

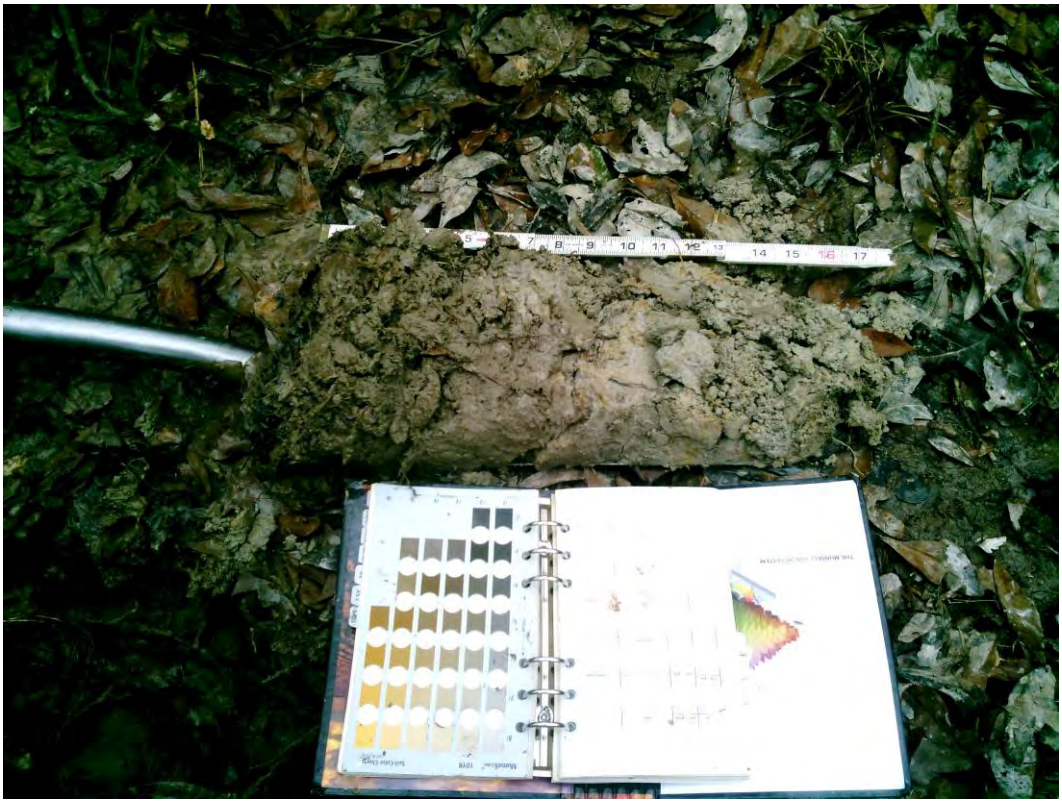
Photograph 6: SP2 soil profile.

Photograph 7: SP2 overview looking north.

Photograph 8: SP2 overview looking east.

Photograph 9: SP2 overview looking south.

Photograph 10: SP2 overview looking west.



Photograph 11: SP3 soil profile.

Photograph 12: SP3 overview looking north.

Photograph 13: SP3 overview looking east.

Photograph 14: SP3 overview looking south.

Photograph 15: SP3 overview looking west.

Photograph 16: SP4 soil profile.

Photograph 17: SP4 overview looking north.

Photograph 18: SP4 overview looking south.

Photograph 19: SP4 overview looking west.

Photograph 20: SP5 soil profile.

Photograph 21: SP5 overview looking north.

Photograph 22: SP5 overview looking east.

Photograph 23: SP5 overview looking south.

Photograph 24: SP5 overview looking west.

Photograph 25: SP6 soil profile.

Photograph 26: Overview looking north

Photograph 27: SP6 overview looking east.

Photograph 28: SP6 overview looking south.

Photograph 29: SP6 overview looking west.

Photograph 30: SP7 soil profile.

Photograph 31: SP7 overview looking north.

Photograph 32: SP7 overview looking east.

Photograph 33: SP7 overview looking south.

Photograph 34: SP7 overview looking west.

Photograph 35: SP8 soil profile.

Photograph 36: SP8 overview looking north.

Photograph 37: SP8 overview looking east.

Photograph 38: SP8 overview looking south.

Photograph 39: SP8 overview looking west.

Photograph 40: SP9 soil profile.

Photograph 41: SP9 overview looking north.

Photograph 42: SP9 overview looking east.

Photograph 43: SP9 overview looking south.

Photograph 44: SP9 overview looking west.

Photograph 45: SP10 soil profile.

Photograph 46: SP10 overview looking north.

Photograph 47: SP10 overview looking east.

Photograph 48: SP10 overview looking south.

Photograph 49: SP10 overview looking west.

Photograph 50: SP11 soil profile.

Photograph 51: SP11 overview looking north.

Photograph 52: SP11 overview looking east.

Photograph 53: SP11 overview looking south.

Photograph 54: SP11 overview looking west.

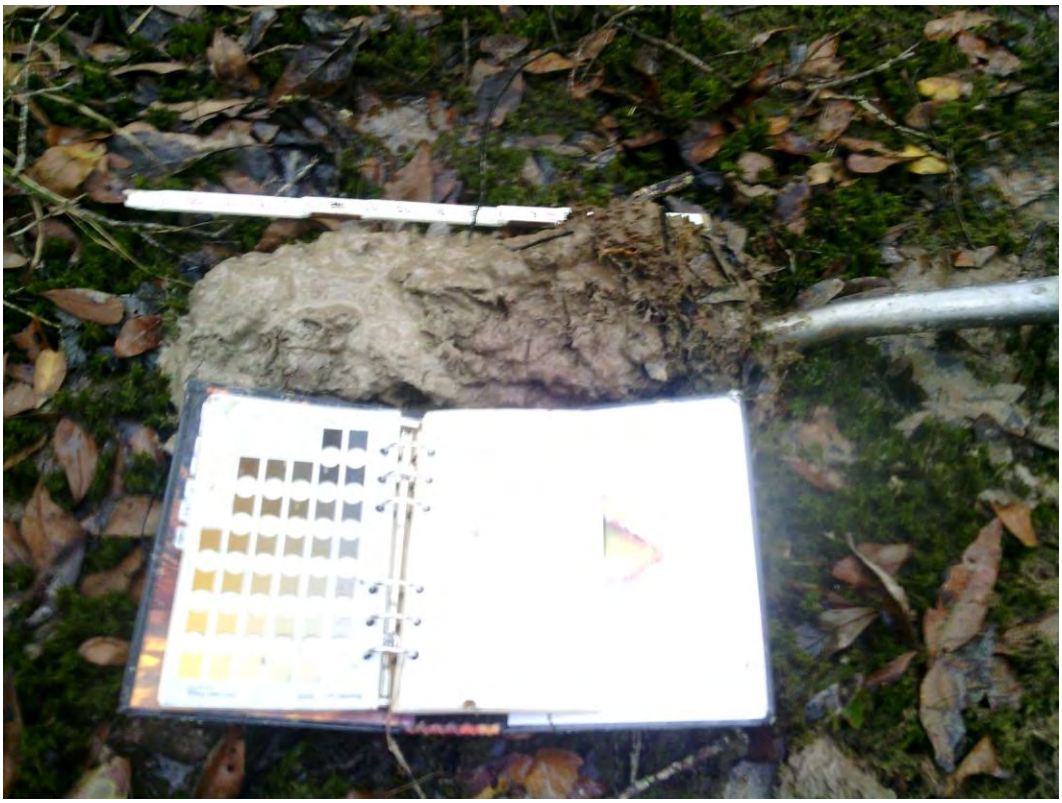
Photograph 55: SP12 soil profile.


Photograph 56: SP12 overview looking north.

Photograph 57: SP12 overview looking east.

Photograph 58: SP12 overview looking south.

Photograph 59: SP12 overview looking west.



Photograph 60: SP13 soil profile.

Photograph 61: SP13 overview looking north.

Photograph 62: SP13 overview looking east.

Photograph 63: SP13 overview looking south.

Photograph 64: SP13 overview looking west.

Photograph 65: SP14 soil profile.

Photograph 66: SP14 overview looking north.

Photograph 67: SP14 overview looking east.

Photograph 68: SP14 overview looking south.

Photograph 69: SP14 overview looking west.

Photograph 70: SP15 soil profile.

Photograph 71: SP15 overview looking north.

Photograph 72: SP15 overview looking east.

Photograph 73: SP15 overview looking south.

Photograph 74: SP15 overview looking west.

Photograph 75: Little Colyell Creek (R4SBC) looking northeast.

Photograph 76: Little Colyell Creek (R4SBC) looking southwest.

Photograph 77: Little Colyell (R4SBC) Creek looking southwest.

Photograph 78: Little Colyell Creek (R4SBC) looking southwest.

Photograph 79: Central lake (PUB3Hx) looking north.

Photograph 80: Central lake (PUB3Hx) looking east.

Photograph 81: Central lake (PUB3Hx) looking south.

Photograph 82: Northern lake (PUB3Hx) looking northeast.

Photograph 83: Northern lake (PUB3Hx) looking north.

Photograph 84: Northern lake (PUB3Hx) looking northwest.

Photograph 85: PUB3Fx drain to Little Colyell Creek looking south.

Photograph 86: PUB3Fx drain to Little Colyell Creek looking south.

Photograph 87: Drain (PUB3Fx) in southwest corner of AOI.

Photograph 88: Drain (PUB3Fx) in southwest corner of AOI.

Photograph 89: Drain (PUB3Fx) in southwest corner of AOI.

Photograph 90: Drain (PUB3Fx) in southwest corner of AOI.

Photograph 91: Linear canal (PUB3Hx) along eastern boundary AOI.

Photograph 92: Linear canal (PUB3Hx) along eastern boundary AOI.

Photograph 93: Linear canal (PUB3Hx) along eastern boundary AOI.

Photograph 94: Linear canal (PUB3Hx) along eastern boundary AOI.

Photograph 95: Six 24-inch culverts from lake to east and canal along eastern boundary.

Photograph 96: Linear canal (PUB3Hx) in northeast corner of AOI.

Photograph 97: Linear canal (PUB3Hx) in northeast corner of AOI.

Photograph 98: Drain from linear canal (PUB3Fx) to eastern canal in northeast corner of AOI.