

Purify Bay

(Wakulla County)

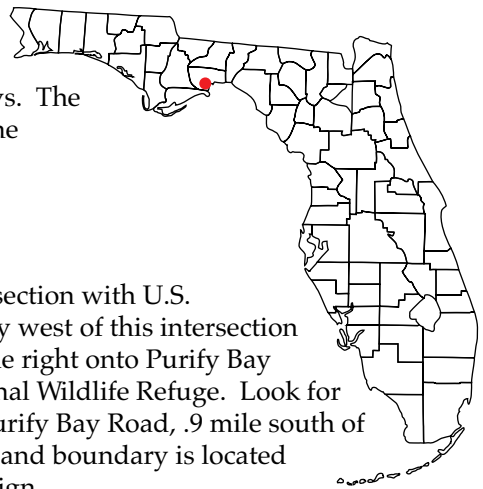
BAYHEAD SWAMP



Looking into a bayhead wetland from the pine flatwoods

LOCATION

Purify Bay is located in southern coastal Wakulla County, within the St. Marks National Wildlife Refuge. In general this portion of the Refuge is characterized as poorly drained, low pine flatwoods containing numerous areas of irregularly shaped forested sloughs and flowways. The reference site is a bayhead community within pine flatwoods.



ACCESS

To visit the reference site, take U.S. 98 to its intersection with U.S. Highway 319 (Crawfordville Hwy.). Immediately west of this intersection (on Hwy. 98) take Hwy. 375 south, then stay to the right onto Purify Bay Road, which runs south into the St. Marks National Wildlife Refuge. Look for the Florida Trail marker along the west side of Purify Bay Road, .9 mile south of the entrance sign to the wildlife refuge. The wetland boundary is located approximately 100 feet west of the Florida Trail sign.

COMMUNITY CHARACTERIZATION

Purify Bay is an example of a bayhead wetland. Bayheads are peat-filled depressions that typically support evergreen hardwoods such as *Magnolia virginiana* var. *australis* (sweetbay magnolia), *Gordonia lasianthus* (loblolly bay) and *Cliftonia monophylla* (black titi). This reference site is located at the base of a very shallow slope. Moisture is provided from ground water and runoff from the surrounding pine flatwoods. Within the ecotone between the flatwoods and the deeper portion of the bayhead is a zone where the seepage of water from the uplands emerges from the mineral soil and maintains a saturated peat layer. Here, sphagnum moss and various evergreen shrubs grade into the taller evergreen hardwoods of the deeper portion of the bayhead. Within the interior of the bayhead is a small blackwater slough or shallow stream.

The structure of a bayhead is maintained by infrequent, periodic fire. Bayheads are rarely dry enough to burn. Fire may burn and kill the top most portion of the hardwoods at the edge of the bayhead and the typical domed appearance is due in part to this phenomenon.

The reference site is forested by a canopy composed of sweetbay magnolia, loblolly bay, *Nyssa sylvatica* var. *biflora* (swamp tupelo), and *Taxodium ascendens* (pond cypress). Pond cypress and swamp tupelo are dominant in deeper areas with sweetbay magnolia and loblolly bay more common on the edge. Black titi dominated the subcanopy and groundcover and in some areas become a canopy component. Soils are peaty and saturated, including the ecotone of the wetland. The center of the wetland is inundated except during droughts.

The pine-dominated upland, landward of the wetland, had recently burned. Stump sprouts of gordonia and black titi were found within the ecotone.

DELINEATION PROCEDURE

The wetland boundary lies within an ecotone between a pine flatwoods and a bayhead dominated by black titi, sweetbay magnolia, swamp tupelo, loblolly bay, and pond cypress. Beginning within the bayhead, a wetland identified by the use of the definition in subsection 62-340.200(19), F.A.C., the dominance of obligate and facultative wet vegetation is followed landward up to the ecotone between the bayhead and the flatwoods. At this point, subsections 62-340.300(2)(a) and (b), F.A.C., are no longer appropriate as dominance by hydrophytic species ends. Hydric soils and hydrologic indicators (greater than 2 inches of mucky texture) continue into the ecotone. The wetland boundary is established slightly landward of the limits of vegetative dominance using, subsection 62-340.300(2)(d), F.A.C., at the point where hydrologic indicators are not present.

The following plant lists with corresponding soils descriptions were prepared during the May 1995 visit to the reference site. The common plant species in the bayhead wetland and the flatwoods are listed below. Soil descriptions and photographs follow the vegetative list. Note: the subcanopy landward of the ecotone has been killed to the

ground by fire.

Wetland Vegetation List

Canopy

| | | |
|---|------|--------------------|
| <i>Cliftonia monophylla</i> | FACW | buckwheat-tree |
| <i>Gordonia lasianthus</i> | FACW | bay, loblolly |
| <i>Magnolia virginiana</i> var. <i>australis</i> | OBL | magnolia, sweetbay |
| <i>Nyssa syloatica</i> var. <i>biflora</i> | OBL | tupelo, swamp |
| <i>Taxodium ascendens</i> | OBL | cypress, pond |

Subcanopy

| | | |
|--|------|----------------|
| <i>Cliftonia monophylla</i> | FACW | buckwheat-tree |
| <i>Gordonia lasianthus</i> | FACW | bay, loblolly |
| <i>Nyssa syloatica</i> var. <i>biflora</i> | OBL | tupelo, swamp |
| <i>Taxodium ascendens</i> | OBL | cypress, pond |

Ground cover

| | | |
|------------------------------|--------|---------------------|
| <i>Aronia arbutifolia</i> | FACW | red chokeberry |
| <i>Clethra alnifolia</i> | FACW | sweet pepper bush |
| <i>Cyrilla racemiflora</i> | FAC | cyrilla, swamp |
| <i>Gordonia lasianthus</i> | FACW | bay, loblolly |
| <i>Ilex coriacea</i> | FACW | holly, bay-gall |
| <i>Ilex glabra</i> | UPLAND | gallberry |
| <i>Lyonia ligustrina</i> | FAC | maleberry |
| <i>Lyonia lucida</i> | FACW | fetter-bush |
| <i>Lyonia mariana</i> | FACW | fetter-bush |
| <i>Pteridium aquilinum</i> | UPLAND | bracken fern |
| <i>Rhododendron viscosum</i> | FACW | azalea, swamp |
| <i>Scleria</i> spp. | FACW | nutrush |
| <i>Serenoa repens</i> | UPLAND | saw palmetto |
| <i>Smilax laurifolia</i> | VINE | bamboo vine |
| <i>Sphagnum</i> spp. | OBL | sphagnum moss |
| <i>Vaccinium corymbosum</i> | FACW | blueberry, highbush |
| <i>Vitis rotundifolia</i> | VINE | muscadine grape |

Upland Vegetation List

Canopy

Planted Pine

Pinus elliottii UPLAND slash pine

Subcanopy

None, as the site had recently been burned and the subcanopy to the edge of the bayhead has been killed by fire.

Ground cover

| | | |
|---------------------------------|--------|-----------------------------|
| <i>Carphophorus paniculatus</i> | FAC | deer-tongue |
| <i>Clethra alnifolia</i> | FACW | sweet pepper bush |
| <i>Cyrilla racemiflora</i> | FAC | cyrilla, swamp |
| <i>Cuscuta</i> sp. | VINE | dodder |
| <i>Gaylussacia frondosa</i> | FAC | dangleberry |
| <i>Gordonia lasianthus</i> | FACW | bay, loblolly |
| <i>Hypericum drummondii</i> | UPLAND | St. John's-wort, Drummond's |
| <i>Ilex coriacea</i> | FACW | holly, bay-gall |
| <i>Ilex glabra</i> | UPLAND | gallberry |
| <i>Lyonia lucida</i> | FACW | fetter-bush |
| <i>Myrica cerifera</i> | FAC | bayberry, southern |
| <i>Pteridium aquilinum</i> | UPLAND | bracken fern |
| <i>Rhus copallina</i> | UPLAND | winged sumac |
| <i>Quercus minima</i> | UPLAND | oak, dwarf live |
| <i>Quercus pumila</i> | UPLAND | oak, running |
| <i>Scleria</i> spp. | FACW | nutrush |
| <i>Serenoa repens</i> | UPLAND | saw palmetto |
| <i>Sporobolus floridanus</i> | FACW | dropseed, Florida |
| <i>Vaccinium myrsinites</i> | UPLAND | shiny blueberry |
| <i>Vitis rotundifolia</i> | VINE | muscadine grape |

SOIL DESCRIPTIONS

USDA - NRCS Wakulla County Soil Survey - Sheet 30

Soil Profile Descriptions

Point 1-2a. One foot waterward of the wetland boundary line.

Horizon Depth (in)

| | | |
|----|-------|--------------------------------|
| Oe | 1-0 | dark brown (7.5YR 3/3) sand |
| A1 | 0-5 | very dark gray (10YR 3/1) sand |
| A2 | 5-12 | dark gray (10YR 4/1) sand |
| E | 12-24 | brown (10YR 5/2) sand |
| Bh | 24+ | black (10YR 2/1) sand |

Hydric soil: Yes

Hydric soil field indicators: five inches of greater than 70% coatings on the sand grains (horizon A1).



Point 1-2a

Point 1-2b. One foot landward of the wetland boundary line.

Horizon Depth (in)

| | | |
|----|------|--|
| A1 | 0-4 | black (10YR 2/1) sand with many fine roots |
| A2 | 4-8 | black (10YR 2/1) sand with few fine roots |
| E | 8-13 | dark gray (10YR 4/1) sand |
| Bh | 13+ | black (10YR 2/1) sand |

Hydric soil: No

Hydric soil field indicators: none - the A1 and A2 horizons were salt and pepper in appearance (50% coatings on the sand grains).



Point 1-2b



Point 1-3

Point 1-3. Twenty foot landward of the wetland boundary line.

Horizon Depth (in)

| | | |
|----|--------|-------------------------------|
| Oe | 1-0 | black (5YR 2.5/1) peat |
| A | 0-3 | black (10YR 2/1) sand |
| E1 | 3-9 | gray (10YR 5/1) |
| E2 | 9-23 | grayish brown (10YR 5/2) sand |
| Bh | 23-34+ | dark brown (7.5YR 3/2) sand |

Hydric soil: No

Hydric soil field indicators: none