

# **PINE LOG CREEK CONSERVATION UNIT**

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## I. GENERAL DESCRIPTION OF CONSERVATION UNIT

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The Pine Log Creek Conservation Unit (CU) is a 1,165 (+/-) acre tract located north of West Bay in Sections 13, 14, 15, 22, and 23 of Township 1 South, Range 16 West in Bay County Florida (see Figure 1: General Location Map). The 1,165 total acres are broken into 1,105 acres of Type 1 CU and 60 acres of Type 2 CU. The geographic position of the Pine Log Creek CU is within the headwaters of Crooked Creek and Pine Log Creek. Due to headwater protection, the CU is vital to the protection of the Crooked Creek Watershed and West Bay.

The land cover of the Pine Log Creek CU is dominated by coniferous plantation (51%) and by wetland coniferous (18%). There are also small inclusions of wetland forested mixed and wetland scrub shrub. The National Wetland Inventory identifies 36% of the area as palustrine wetlands and the remainder as uplands (64%), which is closely correlated to the soil types and estimated high and low quality wetlands in this CU. The uplands and wetlands are primarily planted with slash pine (*Pinus elliottii*).

The wetlands within the Pine Log Creek CU are comprised of Baygalls, Basin Swamps, and Seepage Slopes/Wet Prairies that drain into Blackwater Streams. This CU also has upland areas that are classified as Sandhills and Mesic Flatwoods. Groundwater seeps from the Sandhills and Mesic Flatwoods through the wetlands and into the Blackwater Streams. Many of these plant communities have been replaced by pine plantations; however, these areas currently provide forestry resources and habitat for wildlife. Once these areas are placed into a conservation easement, they can potentially be restored to their historical plant communities. These plant communities provide habitat for State and Federally listed flora and fauna. There is one documented threatened species within the CU and no documented threatened species within 1 mile of this site (FLEO, 2009). Table 1 provides a list of species that would be expected to use these habitats.

## II. REGIONAL SIGNIFICANCE

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The Pine Log Creek CU protects both uplands and wetlands that are important for recharge within the Crooked Creek watershed and West Bay. This CU is a corridor between the Crooked Creek-West Bay CU and the Little Burnt Mill Creek CU to the south and east, respectively. Conserving this unit will contribute to sustained water quality and water quantity treatment for Crooked Creek, West Bay, and ultimately, St. Andrews Bay.

The Pine Log Creek CU is identified as a priority Strategic Habitat Conservation Area (SHCA) by the Florida Fish and Wildlife Conservation Commission (FFWCC) (Endries et al., 2008). Further, this CU is ranked as a priority area by FFWCC based on their Integrated Habitat Ranking System (IHRS) (FFWCC, 2008). These rankings take into consideration the types of habitat and the species likely to use these habitats. Due to

the landscape-scale conversion of this CU to pine plantation, the historical habitats are listed on FNAI's list of underrepresented plant communities (FNAI, 2009).

This CU is vital to water quality treatment and storage, habitat conservation, and species conservation. It also provides an essential corridor connecting CUs in the headwaters of Crooked Creek and Burnt Mill Creek.

### III. BIODIVERSITY

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The habitats within the Pine Log Creek watershed are a landscape of herbaceous and forested wetlands and uplands. The Wet Prairie/Seepage Slope component has a dense herbaceous layer, while the Baygalls and Basin Swamps contain the majority of their diversity in the canopy and subcanopy strata. The Baygalls and Basin Swamps grade into Floodplain Forests that surround Blackwater Streams. Groundwater seeps through these systems from the surrounding Mesic Flatwoods and Sandhills. In the current condition, the existing pine plantations have altered the plant communities and wildlife composition. Although these landscapes are planted in pine, they have retained physical characteristics that would allow for restoration to their historical plant communities.

The Pine Log Creek CU has been documented to overlap with the potential habitat of at least seven wildlife species resulting in a species richness index of 7 (FFWCC, 2008). This CU has also been ranked as a priority SHCA by FFWCC due to the potential to protect imperiled species (Endries et al., 2008). Additionally, this CU has been ranked as a priority under the IHRS (FFWCC, 2008) due to an analysis of various factors affecting the ecological significance of land areas including species richness, listed species locations, and SHCA.

*Verbesina chapmanii* has been documented within the CU (FNAI, 2009) and a portion of the CU is documented as potential habitat for the indigo snake (FFWCC, 2008). There are no documented occurrences within one mile of the CU. Further, there are 41 plants and 9 animals identified in Bay County as Threatened or Endangered Species that could potentially occur in this CU. Due to the likelihood of occurrence of species and documented species, portions of this CU are ranked by FNAI as a Rare Species Habitat Conservation Priority (FNAI, 2009). Conserving these areas will help to maintain habitat for listed species in the region. Table 1 provides a list of species that may be expected to use these areas if the planted pine areas are restored to their historical plant communities.

### IV. WATER QUALITY

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The Pine Log Creek CU is located adjacent to the headwaters of both Crooked Creek

and Burnt Mill Creek. The CU is comprised of 62% of the Pine Log Creek Hydrologic Unit Code 12 drainage area within the RGP/EMA; therefore, the preservation of this CU will provide significant protection compared to other watersheds that have experienced heightened development pressures.

Pine Log Creek is not listed on either the 305(b) or 303(d) list of impaired waters (FDEP, 2008). There are currently no known point sources in the watershed and non-point sources are limited to runoff from forestry roads. Conserving lands within the CU will help to maintain a buffer around Pine Log Creek. Maintaining this buffer in a natural condition will ensure water quality protection and will reduce future impairment from point and non-point sources

The habitats within the Pine Log Creek CU are shallow Wet Prairie/Seepage Slopes that grade into Baygalls and Basin Swamps and then eventually into Blackwater Streams. Seepage through these systems comes from the adjacent Mesic Pine Flatwoods and Sandhills and significantly contributes to surface water inflows to both Crooked Creek and West Bay. These habitats have experienced minor alterations from being planted in pine; however, they still provide valuable water input, water filtration, and water storage function.

This CU area has been identified by FNAI as a significant surface water priority (FNAI, 2009) primarily due to its support of coastal surface waters. Pine Log Creek provides recharge for Crooked Creek, which ultimately outflows into West Bay. West Bay is a Class II Waterbody and supports seagrass beds at the mouth of Crooked Creek. Preserving the lands surrounding Pine Log Creek will help to maintain the brackish shallow water estuaries.

#### **IV. ESSENTIAL FISH HABITAT AND MARINE RESOURCES**

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Land areas within the Pine Log Creek subwatershed drain into Blackwater Streams that flow into tidal creeks associated with Crooked Creek and eventually West Bay and the Choctawhatchee Bay since this CU is located on the drainage divide of the St. Andrews Bay and the Choctawhatchee Bay. West Bay is classified as Class II waters. The majority of West Bay is conditionally approved for shellfish harvesting with some areas classified as prohibited for shellfish harvesting. West Bay and St. Andrews Bay are not classified as Essential Fish Habitat but seagrasses in both West Bay and St. Andrews Bay provide resources for fish and a variety of non-game species. As mentioned above, preserving this CU will contribute to water quality protection and will help maintain the downstream aquatic resources.