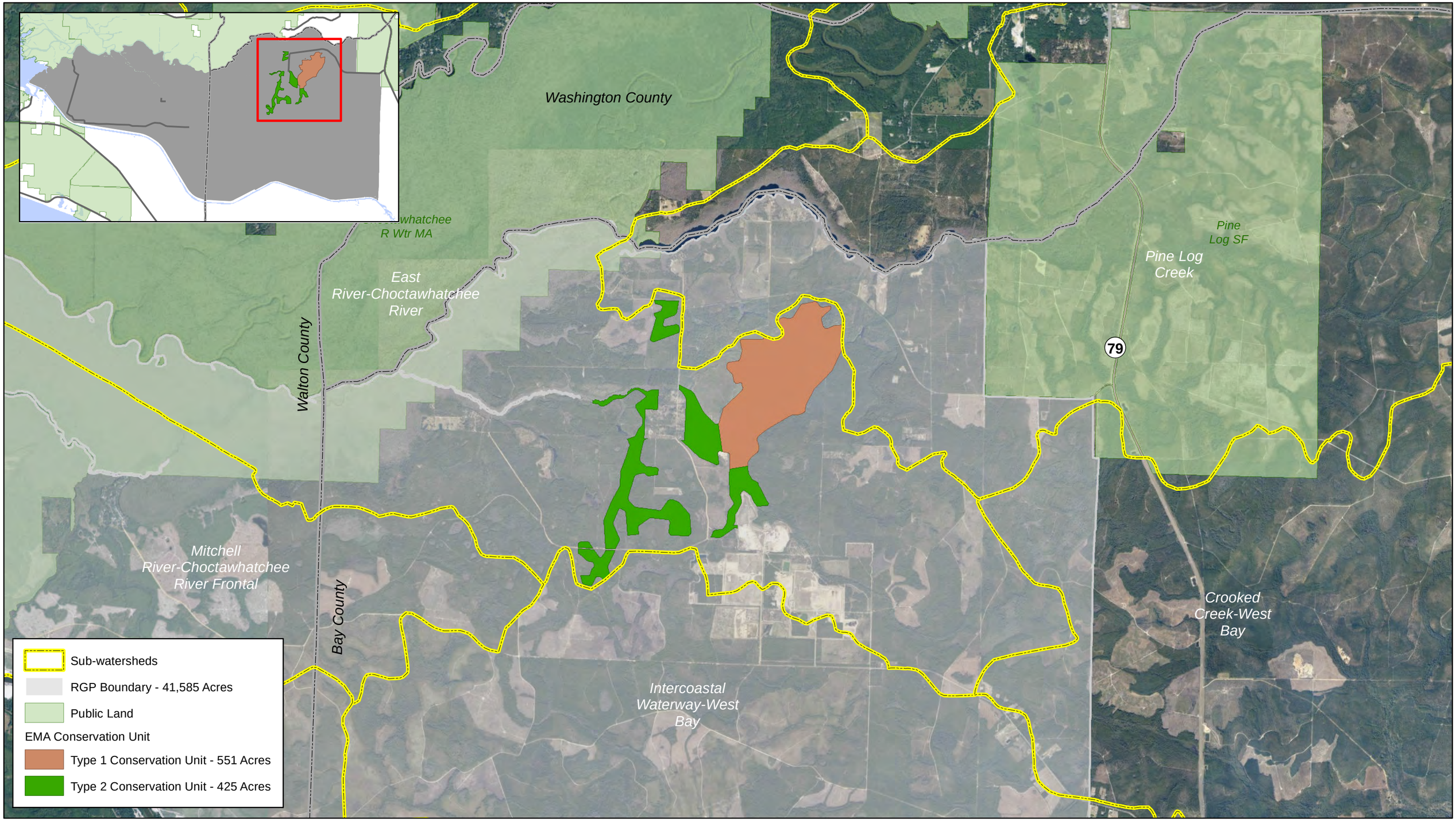

REGIONAL GENERAL PERMIT SAJ-114
CONSERVATION UNIT MAP
OTTER CREEK - 976 ACRES

Exhibit 14 - June 2016

0 1 2 Miles

1 in = 0.79 miles

1:50,000

OTTER CREEK
CONSERVATION UNIT

Icarus Ecological Services, Inc

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I. GENERAL DESCRIPTION OF CONSERVATION UNIT

The Otter Creek Conservation Unit (CU) is a 978 (+/-) acre area divided into three sections within the East River- Choctawhatchee River Subbasin North of Steelfield Road and South of Pine Log Road. This CU surrounds the Otter Creek area in the northern portion of the RGPEMA 3 site. It consists of tributaries and basin swamps draining into the Choctawhatchee river in Sections 14, 15 16, 21, 22, 23, 27, 28, 33 Township 1 South, Range 17 West in Bay County, Florida (see Figure 1: General Location Map). The wetlands in this area are dominated by a Basin Swamp and Mixed Hardwood Forested systems which drain to the Choctawhatchee River.

The topography in this CU is relatively flat with elevation ranging from 8-18 feet. There are two large wetland systems within this CU one is a basin swamp draining south near the Otter Creek community and connecting to the Choctawhatchee river. The other system is a slough type system that accepts drainage from adjacent lands and flows north to the Choctawhatchee River. The Choctawhatchee is the third largest river in Florida by volume and an important feature in NW Florida for wildlife habitat and water quality.

The FLUCCS land cover of the Barrett Branch CU is dominated by Wetland Forest Mixed (34%) Titi Swamps (22%), and Mixed Scrub-Shrub Wetland (21%) totaling (77%). The upland portion is dominated by coniferous plantations (11.5%). There are also small inclusions of Hydric Pine Flatwoods, Wet Prairie and Xeric Oak. The National Wetland Inventory (NWI) identifies 85% of the CU as palustrine wetlands and the remainder as uplands (15%), which is similar to the wetland coverage based on the soil types dominated by Rutledge Sand and Pamilico Dorovan (81%).

Using soil survey data, FLUCCS, NWI data, aerial photograph interpretation and additional groundtruthing a wetland estimation as part of the development of RGP-SAJ114 and EMA III, has been done. Over 140 data point locations were groundtruthed within the EMA boundary. Based on the more detailed wetland estimation the CU is comprised of 93% wetland (Basin Swamp and Baygall Systems) and 7% uplands (Pine Flatwoods in Silviculture). The majority of the uplands are currently planted with Slash Pine (*Pinus ellotti*).

The wetlands within the Otter Creek CU are comprised of Basin Swamps and Baygall systems that drain into Otter Creek and on to the Choctawhatchee River. This CU also has upland areas that are classified as Mesic Pine Flatwoods and small inclusions of Xeric Hammock. The uplands in this area are mesic and allow for overland flow to the depressional Basin Swamp system and Baygall slough system contributing to the Choctawhatchee river tributary, Otter Creek. The upland Mesic Pine Flatwoods are used for silviculture for Slash Pine. 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 appropriate for State and Federal listed flora and fauna. There are 3 documented listed species within the RGP/EMA 3 Boundary; the closest is Twin Striped Clubtail (*Gomphus geminatus*) 1000 ft from this Conservation Unit (FLEO, 2009). Table 1 provides a list of species that would be expected to use these areas if the habitats were in a natural state.

II. REGIONAL SIGNIFICANCE

The Otter Creek CU protects both uplands and expansive wetlands that contribute to the tributaries of the Choctawhatchee River. The eastern portion is the largest high quality wetland system within the RGPEMA 3 Boundary retaining huge volumes for water for flood attenuation, water quality and contributing to the health of the Choctawhatchee River.

The Choctawhatchee River is the third largest river in Florida by volume. It flows from Alabama through Northwest Florida and discharges to the Gulf of Mexico through Choctawhatchee Bay at East Pass in Destin, FL. The Bay and tributaries are considered critical/ strategic habitat by FFWCC, USFWS, and FNAI for Gulf Sturgeon, 5 mussel species and other species. The Bay, River and its tributaries are classified as Class 2 shellfish harvesting approved waters and an Outstanding Florida Waterbody (OFW) by FDEP. The Choctawhatchee River basin is a priority area for the NWFWMD, FFWCC and other agencies for preservation of this pristine waterbody. A large portion of the floodplain is in public ownership and designated for conservation.

The Otter Creek CU surrounds the Otter Creek community with conservation lands and preserves the largest wetland, within the RGP/EMA 3 site, contributing to the Choctawhatchee River outside the direct floodplain. This CU will allow for the wetlands contributing to water quality, flood attenuation to be kept in a natural state.

The Otter 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.

The majority of the Otter Creek CU is considered a priority area for aquifer recharge. The area is an Aquifer Recharge priority level 3-5 for FNAI (FNAI, 2009). These areas improve water quality for the entire region. The entire CU is a Green Links Priority 1, Level 1 and 2 (Hoctor, UF, 2013), the highest of the high priority areas for regional ecological planning.

This CU is vital to water quality treatment and storage, habitat conservation, and species conservation. This CU contributes to the landward wetlands of the Choctawhatchee River floodplain, expanding the conservation efforts of the NWFWMD.

III. BIODIVERSITY

The habitats within the Otter Creek CU are a landscape of planted Mesic and Hydric Pine Flatwoods, Baygall and Basin Swamp. The planted Mesic Pine Flatwoods upland diversity is in the ground cover layer, the Baygall diversity is within the shrub and canopy while the Basin Swamps contain the majority of their diversity in the canopy and subcanopy strata. Groundwater seeps through these systems from the surrounding uplands. In the current condition, the existing Mesic Pine Flatwoods 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 areas within the Baygall and Basin Swamp systems are dominated wetland hardwood and cypress. These areas are currently very similar to the historical conditions. Due the hydroperiod of the Basin Swamp very little impact has occurred to the wetland areas from the adjacent silviculture. This CU has also been ranked as a Priority 2 Strategic Habitat Conservation Area by FFWCC due to the potential to protect imperiled species (Endries et al., 2008). The basin swamp receives flow from the surrounding well drained sandy soils and exhibits a robust coverage of submerged aquatic vegetation. 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.

No threatened species have been documented within the CU. A documented occurance of Twin-Stripped Clubtail (*Gomphus geminatus*) is within 1000 ft of the CU. The Choctawhatchee tributaries, and associated wetland sloughs are essential habitat for the Gulf Sturgeon, five Mussel species, Bluenose shiner and other listed vertebrates and invertebrates. Further, there are 41 plants and 18 animals identified in Bay and Walton Counties as Threatened or Endangered Species that could potentially occur in this CU. Conserving these areas will help to maintain habitat for listed species in the region. Table 1 provides a list of species that may benefit by the conservation of this habitat directly or secondarily.

IV. WATER QUALITY

The Otter Creek CU surrounds the Otter Creek Community preserving the largest Basin Swamp system within the RGPEMA 3 project boundary which flows into large parcels of NWFWMD land within the Choctawhatchee Bay watershed. This CU is located in the East River – Choctawhatchee River Hydrologic Unit Code 12 drainage area within the GPEMA3 area. This area in addition to the other RGPEMA3 CUs and NWFWMD lands will preserve 3,986 Acres of the East River – Choctawhatchee River sub basin within the project boundary. With the addition of this CU, 39 % of the East River-Choctawhatchee sub basin within the RGP3 boundary will be in conservation.

Therefore, the preservation of this CU will provide significant protection compared to other watersheds that have experienced heightened development pressures. This large preservation area will provide an essential buffer to Choctawhatchee Bay, along with water quality treatment, and flood attenuation for the River.

Choctawhatchee River is listed on the 305(b) or 303(d) list of impaired waters (FDEP, 2008) for mercury in fish tissue. There are currently no known point sources in the watershed and non-point sources are limited to forestry roads. Conserving lands within the CU will help to maintain a restored buffer around the Choctawhatchee River. The CU protects the river floodplain to the upland extent.

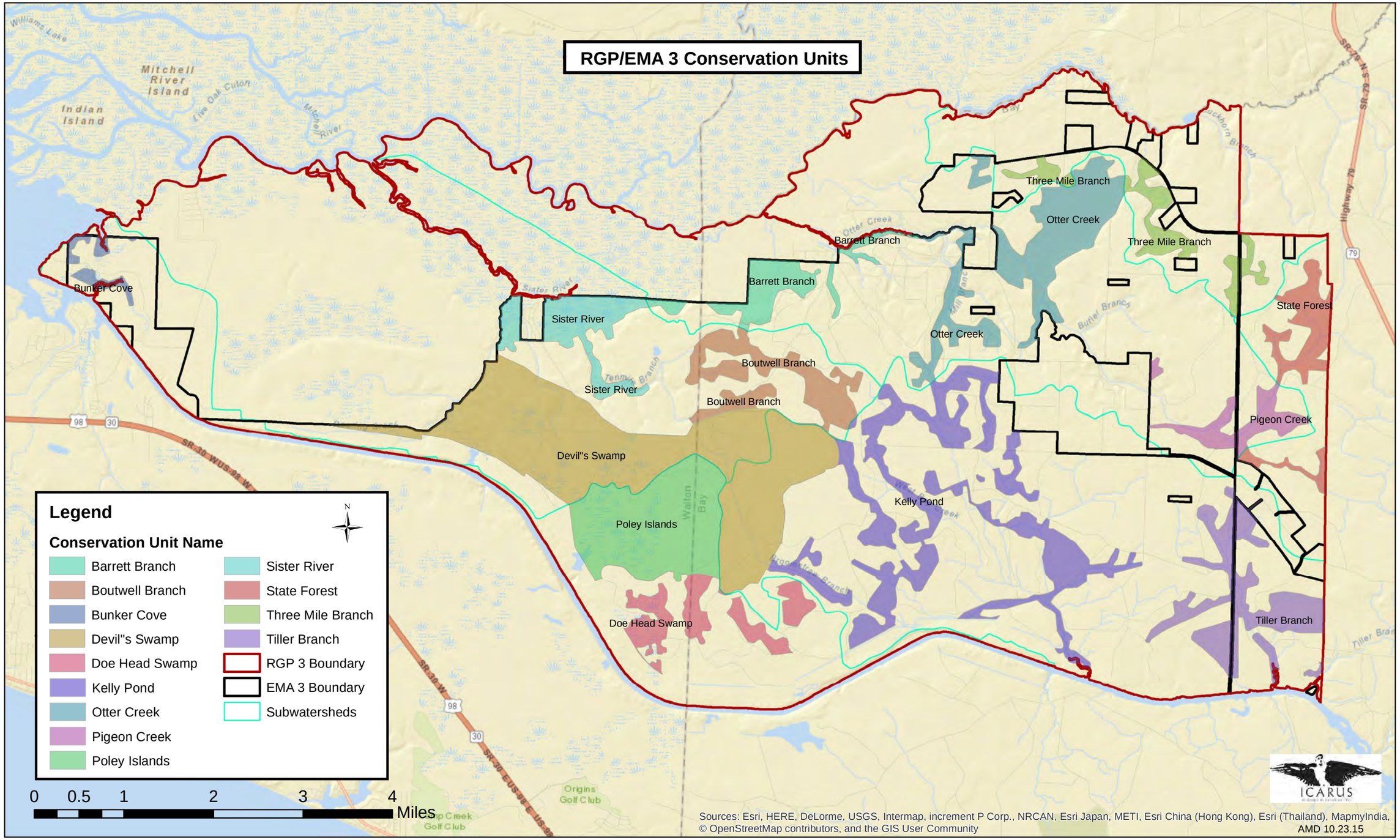
The habitats within the Otter Creek CU are planted Pine Flatwoods uplands, Baygall and Basin Swamps. Hydrology through these systems comes from surrounding Mesic and Hydric Pine Flatwoods and significantly contributes to surface water inflows to Choctawhatchee Bay. The upland habitats experienced alterations from being planted in pine; however, they still provide valuable water input, water filtration, and water storage function.

This CU has been identified by FNAI as a significant surface water priority level 2 and 4 (FNAI, 2009) primarily due to the support it provides to bay and coastal surface waters. Choctawhatchee Bay is a Class II Waterbody approved for shellfish harvesting that supports extensive Tidal Marsh and seagrass beds. Preserving the lands surrounding the Choctawhatchee River will help to maintain the brackish shallow water estuaries.

IV. ESSENTIAL FISH HABITAT AND MARINE RESOURCES

Land areas within East River – Choctawhatchee River subwatershed drain into Baygall and Basin Swamp wetlands to Flood Plain Creeks associated with Choctawhatchee River and Choctawhatchee Bay. Choctawhatchee Bay is classified as Class II waters. The majority of Choctawhatchee Bay is approved for shellfish harvesting with some areas classified as prohibited for shellfish harvesting. Choctawhatchee Bay is classified as Essential Fish Habitat by NOAA and National Marine Fisheries Service for 5 species of Shark, Red Drum, 43 species of reef fish, 4 species of Shrimp and Coastal Migratory Pelagic fishes. Conservation of the Otter Creek CU provides additional water quality protection to the landward extent of the Choctawhatchee River Floodplain, maintaining this Essential Fish Habitat.

RGP/EMA 3 Conservation Units



Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

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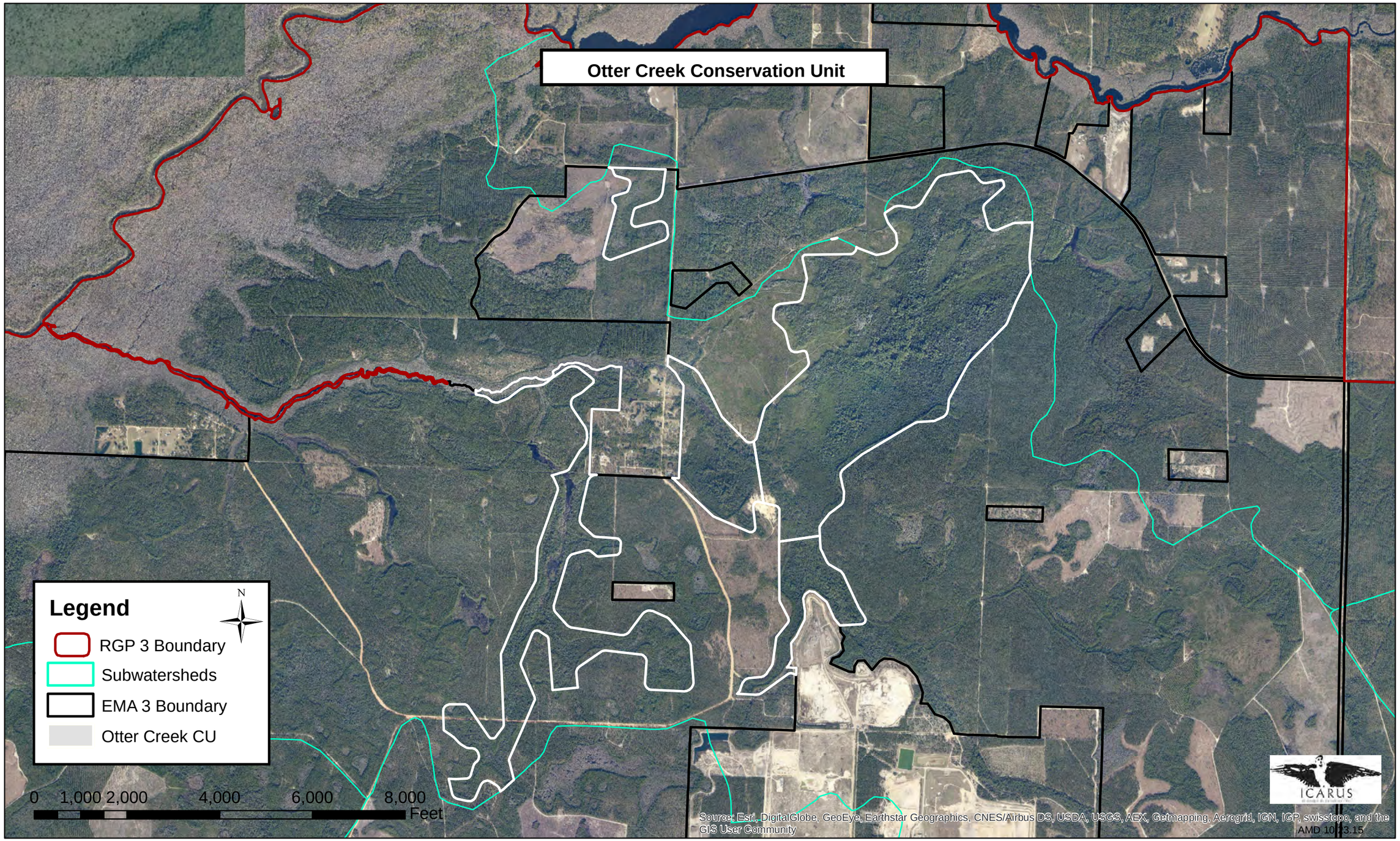
Otter Creek Conservation Unit
Legend
N
RGP 3 Boundary
Subwatersheds
EMA 3 Boundary
Otter Creek CU
0 1,000 2,000 4,000 6,000 8,000
Feet
ICARUS
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
AMD 10/13.15

Otter Creek Conservation Unit

Legend

- RGP 3 Boundary
- Subwatersheds
- EMA 3 Boundary
- Otter Creek CU

Wetland Estimation

- Converted Wetland
- Unconverted Wetland
- Upland

N

0 1,000 2,000 4,000 6,000 8,000 Feet

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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AMD 10.13.15

Table 1. Otter Creek Conservation Unit Potential Threatened and Endangered Species Occurrences

ANIMALS	**Scientific Name**	**Common Name**	**Status**	
AMPHIBIAN	Ambystoma Bishopi	Reticulated Flatwoods Salamander	FE	
BIRD	Charadrius melodus	Piping Plover	FT	
BIRD	Calidris canutus rufa	Red Knot	FT	
BIRD	Picoides borealis	Red-cockaded woodpecker	FE	
BIRD	Mycteria americana	Wood Stork	FT	
CLAM	Villosa choctawensis	Choctaw Bean	FE	
CLAM	Pleurobema strodeanum	Fuzzy Pigtoe	FT	
CLAM	Medionidus penicillatus	Gulf Moccasinshell	FE	
CLAM	Pleurobema pyriforme	Oval Pigtoe	FE	
CLAM	Ptychobranchus jonesi	Southern Kindeyshell	FT	
CLAM	Hamiota australis	Southern Sandshell	FT	
CLAM	Fusconaia burkei	Tapered Pigtoe	FT	
FISH	Acipenser oxyrinchus desotoi	Atlantic Gulf Sturgeon	FT	
FISH	Pteronotropis welaka	Bluenose Shiner	SSC	
MAMMAL	Myotis grisescens	Gray Bat	FE	
REPTILE	Drymarchon couperi	Eastern indigo snake	FT	
REPTILE	Gopherus polyphemus	Gopher tortoise	ST	
PLANTS	**Scientific Name**	**Common Name**	**Federal Status**	**State Status**
	Andropogon arctatus	pine-woods bluestem		LT
	Arnogolssum album	white-flowered Plantain		LE
	Asclepias viridula	green milkweed		LT
	Aster spinulosus (now Eurybia spinulosa)	pinewoods aster		LE
	Calamovilfa curtissii	Curtiss' Sandgrass		LT
	Carex baltzellii	Baltzell's sedge		LT
	Cleistes divaricata	spreading pogonia		LT
	Drosera filiformis	dew-thread		LE
	Drosera intermedia	water sundew		LT
	Gentiana pennelliana	wiregrass gentian		LE
	Hymenocallis henryae	Mrs Henry's spiderlily		LE
	Lachnocaulon digynum	Panhandle bogbuttons		LT
	Lilium catesbaei	Catesby lily		LT
	Linum macrocarpum	big-seed flax		LE
	Macbridea alba	white birds-in-a-nest	LT	LE
	Macranthera flammea	hummingbird-flower		LE
	Panicum nudicaule now Dichanthelium nudicaule	naked-stemmed panic grass		LT
	Physostegia godfreyi	Apalachicola dragonhead		LT
	Pinckneya bracteata	fever-tree		LT
	Pinguicula ionantha	Godfrey's or panhandle butterwort	LT	LE
	Pinguicula lutea	yellow-flowered butterwort		LT
	Pinguicula planifolia	swamp butterwort		LT
	Pinguicula primuliflora	primrose-flowered butterwort		LE
	Platanthera ciliaris	yellow-fringed orchid		LT
	Platanthera integra	orange rein orchid		LE
	Pogonia ophioglossoides	rose pogonia		LT
	Rhexia parviflora	Apalachicola meadow-beauty		LE
	Rhexia salicifolia	Panhandle meadow beauty		LT
	Rhynchospora crinipes	hairy peduncled beakrush		LE
	Rhynchospora stenophylla	narrow-leaf beakrush		LT
	Rudbeckia nitida	St. John's-Susan		LE
	Sarracenia leucophylla	white-top pitcher plant		LE
	Sarracenia psittacina	parrot pitcher plant		LT
	Sarracenia purpurea	decumbent pitcher plant		LT
	Stachydeoma graveolens (now Hedeoma graveolens)	mock pennyroyal		LE
	Zigadenus leimanthoides (now Stenanthium densum)	coastal death camas		LE
	Stenanthium gramineum	eastern featherbells		LE
	Verbesina chapmanii	Chapman's crownbeard		LT
	Xyris isoetifolia	quillwort yellow-eyed-grass		LE
	Xyris longisepala	Karst pond yellow-eyed-grass		LE
	Xyris scabrifolia	Harper's yellow-eyed grass		LE

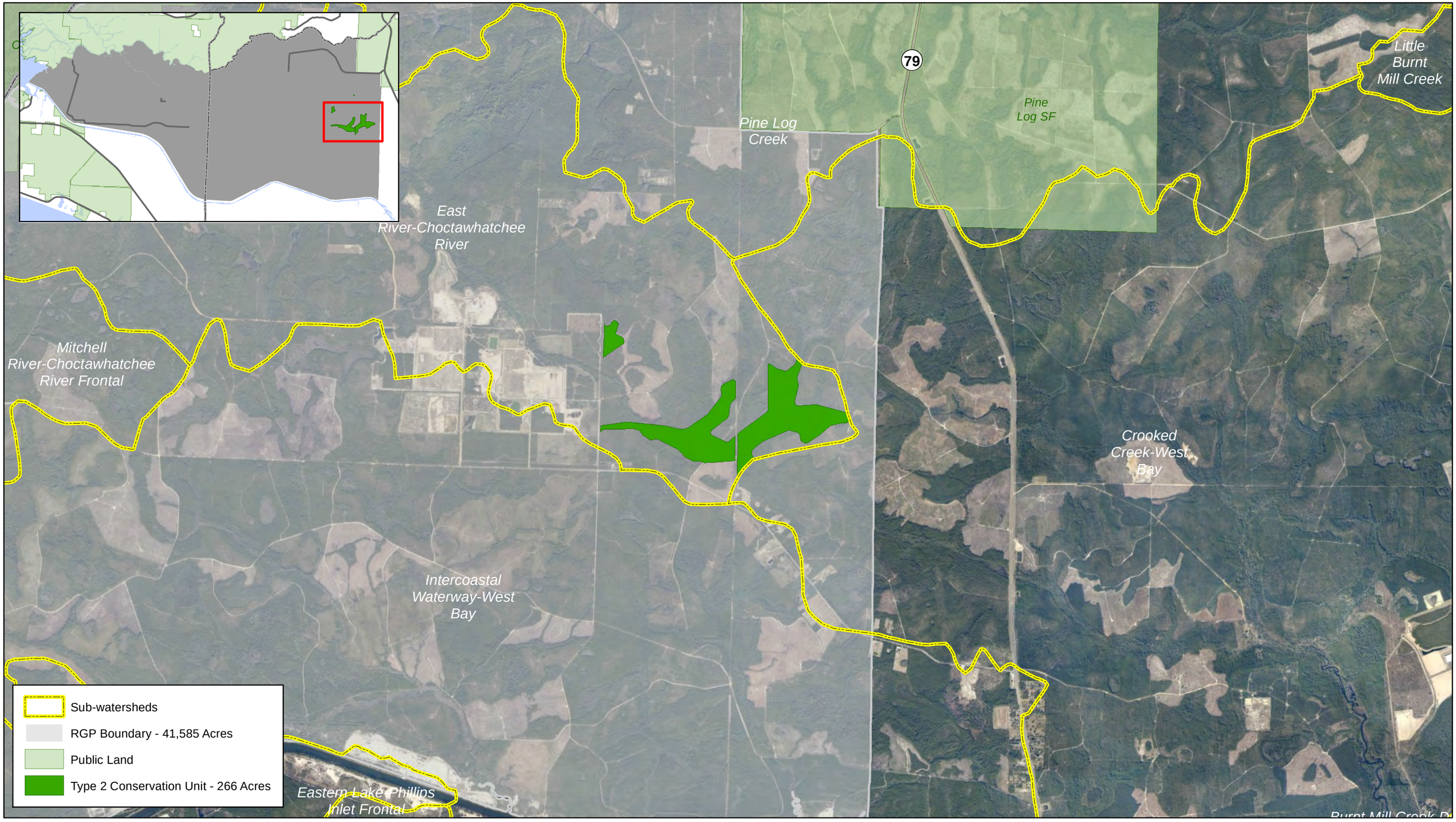
Abbreviations used herein are:

Plants:

T(S/A) =Threatened due to similarity of appearance
LE = Endangered
LT= Threatened
LS = Species of special concern
N = not currently listed
PT= proposed for listing as Threatened

Animals:

FE = Federal Endangered
FT = Federal Threatened
ST = State Threatened
SSC = Species of Special Concern
FT(S/A) = Federal Threatened due to similarity of appearance



REGIONAL GENERAL PERMIT SAJ-114
CONSERVATION UNIT MAP
PIGEON CREEK - 266 ACRES

Exhibit 15 - June 2016

0 0.75 1.5 Miles

1 in = 0.63 miles

1:40,000

PIGEON CREEK
CONSERVATION UNIT

Icarus Ecological Services, Inc

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I. GENERAL DESCRIPTION OF CONSERVATION UNIT

Pigeon Creek Conservation Unit (CU) is a 267 (+/-) acre area divided in two sections with in the East River- Choctawhatchee River Subbasin North of Steelfield Road and South of Pine Log Road. This CU is located East of the Steelfeild landfill in the eastern portion of the RGPEMA 3 site. It consists of Baygall and Basin Swamp Systems draining north toward the Choctawhatchee river in Section 36 Township 1 South, Range 17 West and Section 31, Township 1 South, Range 16 West in Bay County, Florida (see Figure 1: General Location Map). The wetlands in this area are dominated by a Basin Swamp and Mixed Hardwood Forested systems which drain through other wetland systems to the Choctawhatchee River.

The topography within this CU is relatively flat with elevation ranging from 15 to 25 feet. There is one large Basin Swamp system and surrounding Pine Flatwoods currently used for silviculture. The other system is a slough type system that accepts drainage from adjacent lands and flows north to the Choctawhatchee River. The Choctawhatchee is the third largest river in Florida by volume and an important feature in NW Florida for wildlife habitat and water quality.

The FLUCCS land cover of the Pigeon Creek CU is dominated by Coniferous Plantations (42%), Wetland Forested Mixed (22%) and Treeless Hydric Savanna (15%) totaling (79%). The upland is a portion of the Coniferous Plantations (42%). There are also small inclusions of Hydric Pine Flatwoods, Titi Swamps, and Freshwater Marshes making up 15%of the remaining area. The National Wetland Inventory (NWI) identifies 91% of the CU as palustrine wetlands and the remainder as uplands 8%, which is similar to the wetland coverage based on the soil types dominated by Rutlege and Pottsburg (75%).

Using soil survey data, FLUCCS, NWI data, aerial photograph interpretation and additional groundtruthing a wetland estimation, specific to the site, has been done. Over 140 data point locations were groundtruthed within the EMA boundary. Based on the more detailed wetland estimation the CU is comprised of 94% wetland (Basin Swamp and Baygall Systems) and 6% uplands (Pine Flatwoods in Silviculture). The majority of the uplands are currently planted with Slash Pine (*Pinus ellotti*).

The wetlands within the Pigeon Creek CU are comprised of Basin Swamps and Baygall systems that drain to a wetland along the north east edge of the steelfeild landfill and on to the Choctawhatchee River. This CU also has upland areas that are classified as Mesic Pine Flatwoods. The uplands in this area are mesic and allow for overland flow to the depressional Basin Swamp system and Baygall slough system contributing to the adjacent wetland hydrology. The upland Mesic Pine Flatwoods are used for silviculture for Slash Pine. 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 appropriate for State and Federal listed flora and fauna. There are 3 documented listed species within the RGP/EMA 3 Boundary; the closest is Twin Striped Clubtail (*Gomphus geminatus*) 1.5 miles from this Conservation Unit (FLEO, 2009). Table 1 provides a list of species that would be expected to use these areas if the habitats were in a natural state.

II. REGIONAL SIGNIFICANCE

The Pigeon Creek CU protects both uplands and expansive wetlands that contribute to the tributaries of the Choctawhatchee River. The Choctawhatchee River is the third largest river in Florida by volume. It flows from Alabama through Northwest Florida and discharges to the Gulf of Mexico through Choctawhatchee Bay at East Pass in Destin, FL. The Bay and tributaries are considered critical/ strategic habitat by FFWCC, USFWS, and FNAI for Gulf Sturgeon, 5 mussel species and other species. The Bay, River and its tributaries are classified as Class 2 shellfish harvesting approved waters and an Outstanding Florida Waterbody (OFW) by FDEP. The Choctawhatchee River basin is a priority area for the NWFWMD, FFWCC and other agencies for preservation of this pristine waterbody. A large portion of the floodplain is in public ownership and designated for conservation. This CU will allow for the wetlands contributing to water quality, flood attenuation to be kept in a natural state.

The Pigeon 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.

The Green Links Regional CLIP Database is an interagency effort to rank areas for potential natural resource impacts on a landscape scale. Representative from the Army Corps of Engineers, Florida Fish and Wildlife Conservation Commission, National Marine Fisheries, West Florida Regional Planning Council and many other agencies were involved. The Regional Ecological Network Data was combined with the CLIP and Regional Ecological Synthesis into the Regional CLIP data Layer. The entire CU is a Green Links Priority 1, Level 1 and 2 (Hoctor, UF, 2013), the highest of the high priority areas for regional ecological planning.

This CU is vital to water quality treatment and storage, habitat conservation, and species conservation. This CU contributes to the landward wetlands of the Choctawhatchee River floodplain, expanding the conservation efforts of the NWFWMD.

III. BIODIVERSITY

The habitats within the Pigeon Creek CU are a landscape of Coniferous Plantations and

Wetland Forested Mixed. The wetland forest mixed areas would also be classified as a mixture of Basin Swamp and Baygall systems. The planted Mesic Pine Flatwoods upland diversity is in the ground cover layer, the Baygall diversity is within the shrub and canopy while the Basin Swamps contain the majority of their diversity in the canopy and subcanopy strata. Groundwater seeps through these systems from the surrounding uplands. In the current condition, the existing Mesic Pine Flatwoods 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 areas within the Baygall and Basin Swamp systems are dominated wetland hardwood and cypress. These areas are currently very similar to the historical conditions. Due the hydroperiod of the Basin Swamp very little impact has occurred to the wetland areas from the adjacent silviculture. This CU has also been ranked as a Priority 2 Strategic Habitat Conservation Area 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.

No threatened species have been documented within the CU. A documented occurance of Twin-Stripped Clubtail (*Gomphus geminatus*) is within 1.5 Miles of the CU.The Choctawhatchee tributaries, and associated wetland sloughs are essential habitat for the Gulf Sturgeon, Seven Mussel species, Bluenose shiner and other listed vertebrates and invertebrates. Further, there are 41 plants and 9 animals identified in Bay and Walton Counties as Threatened or Endangered Species that could potentially occur in this CU. Conserving these areas will help to maintain habitat for listed species in the region. Table 1 provides a list of species that may benefit by the conservation of this habitat directly or secondarily.

IV. WATER QUALITY

The Pigeon Creek CU is located in the East River – Choctawhatchee River Hydrologic Unit Code 12 drainage area within the GPEMA3 area. This area in addition to the other RGPEMA3 CUs and NWFWMD lands will preserve 3,986 Acres of the East River – Choctawhatchee River sub basin within the project boundary. With the addition of this CU, 39 % of the East River- Choctawhatchee sub basin within the RGP3 boundary will be in conservation. Therefore, the preservation of this CU will provide significant protection compared to other watersheds that have experienced heightened development pressures. This large preservation area will provide an essential buffer to Choctawhatchee Bay, along with water quality treatment, and flood attenuation for the River.

Choctawhatchee River is listed on the 305(b) or 303(d) list of impaired waters (FDEP, 2008) for mercury in fish tissue. There are currently no known point sources in the watershed and non-point sources are limited to forestry roads.

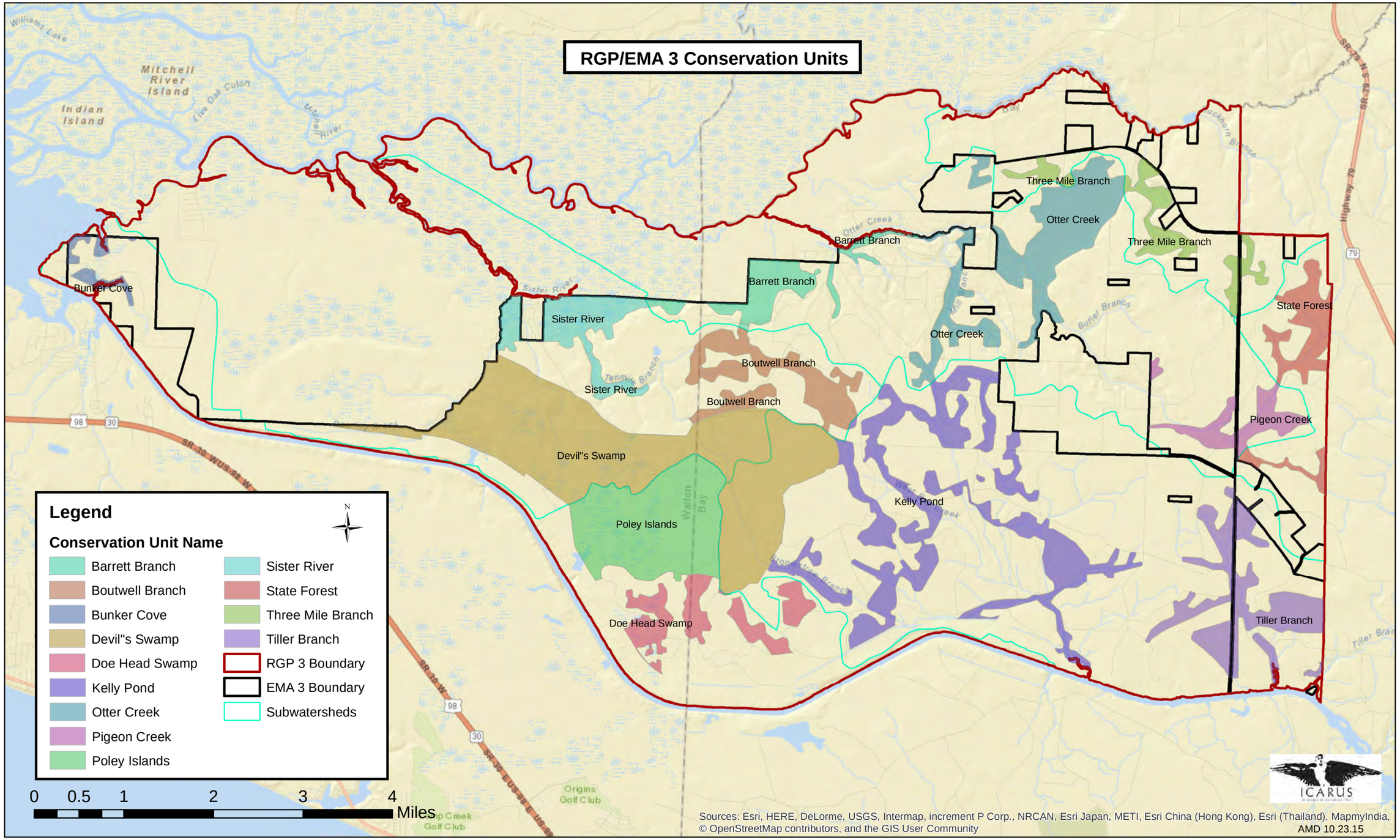
The habitats within the Pigeon Creek CU are planted Pine Flatwoods uplands, Baygall and Basin Swamps. Hydrology through these systems comes from surrounding Mesic and Hydric Pine Flatwoods and significantly contributes to surface water inflows to Choctawhatchee Bay. The upland habitats experienced alterations from being planted in pine; however, they still provide valuable water input, water filtration, and water storage function.

This CU has been identified by FNAI as a significant surface water priority level 2 and 3 (FNAI, 2009) primarily due to the support it provides to bay and coastal surface waters. Choctawhatchee Bay is a Class II Waterbody approved for shellfish harvesting that supports extensive Tidal Marsh and seagrass beds. Preserving the lands surrounding the Choctawhatchee River will help to maintain the brackish shallow water estuaries.

IV. ESSENTIAL FISH HABITAT AND MARINE RESOURCES

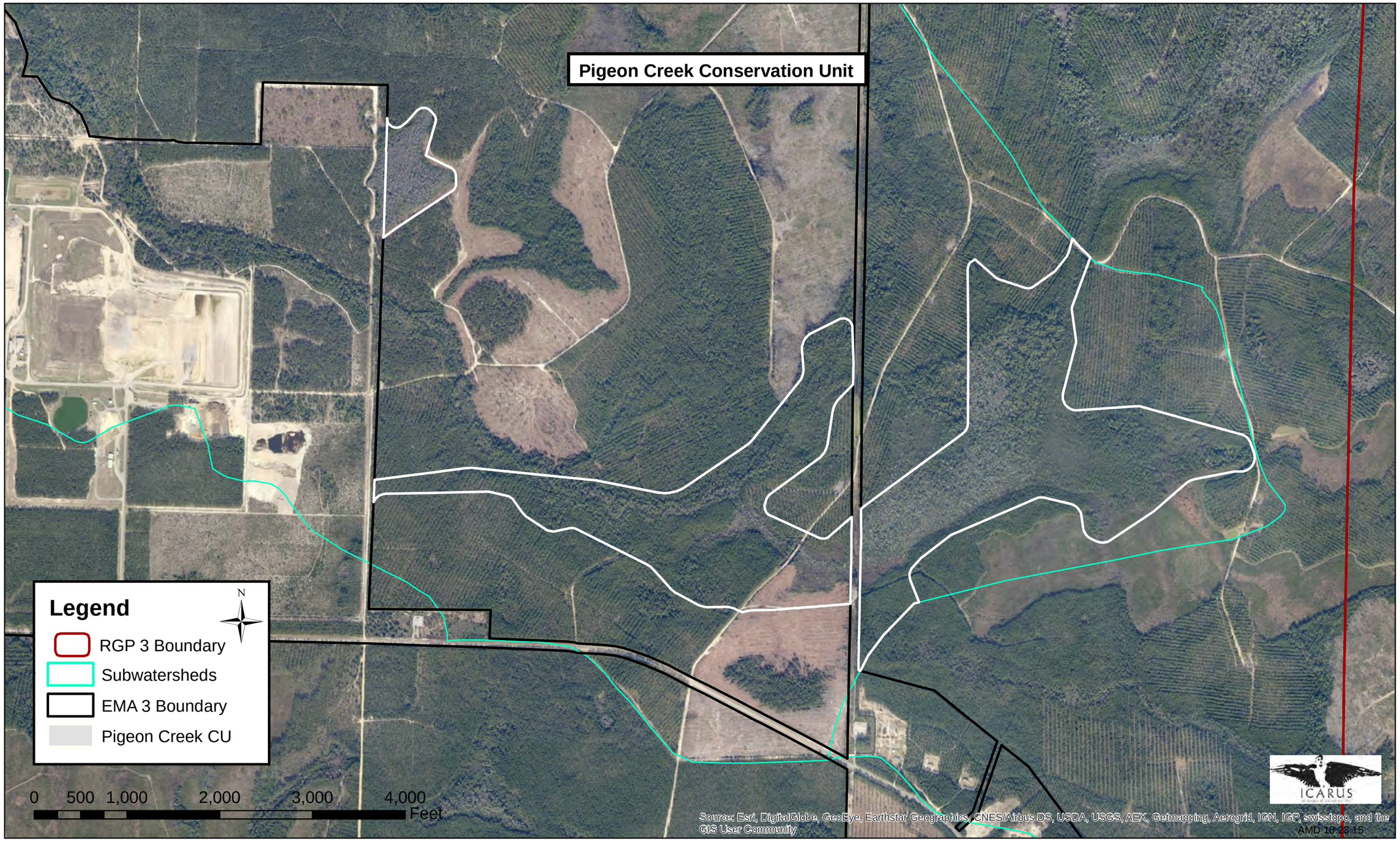
Land areas within East River – Choctawhatchee River subwatershed drain into Baygall and Basin Swamp wetlands to Flood Plain Creeks associated with Choctawhatchee River and Choctawhatchee Bay. Choctawhatchee Bay is classified as Class II waters. The majority of Choctawhatchee Bay is approved for shellfish harvesting with some areas classified as prohibited for shellfish harvesting. Choctawhatchee Bay is classified as Essential Fish Habitat by NOAA and National Marine Fisheries Service for 5 species of Shark, Red Drum, 43 species of reef fish, 4 species of Shrimp and Coastal Migratory Pelagic fishes. Conservation of the Pigeon Creek CU provides additional water quality protection to the landward extent of the Choctawhatchee River Floodplain, maintaining this Essential Fish Habitat.

RGP/EMA 3 Conservation Units



Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

AMD 10.23.15


Pigeon Creek Conservation Unit
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EMA 3 Boundary
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ICARUS
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
AMD 10.23.15


Pigeon Creek Conservation Unit
Legend
N
RGP 3 Boundary
Subwatersheds
EMA 3 Boundary
Pigeon Creek CU
Wetland Estimation
Converted Wetland
Unconverted Wetland
Upland
0 500 1,000 2,000 3,000 4,000
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
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Table 1. Pigeon Creek Conservation Unit Potential Threatened and Endangered Species Occurrences

ANIMALS	**Scientific Name**	**Common Name**	**Status**	
AMPHIBIAN	Ambystoma Bishopi	Reticulated Flatwoods Salamander	FE	
BIRD	Charadrius melodus	Piping Plover	FT	
BIRD	Calidris canutus rufa	Red Knot	FT	
BIRD	Picoides borealis	Red-cockaded woodpecker	FE	
BIRD	Mycteria americana	Wood Stork	FT	
FISH	Pteronotropis welaka	Bluenose Shiner	SSC	
MAMMAL	Myotis grisescens	Gray Bat	FE	
REPTILE	Drymarchon couperi	Eastern indigo snake	FT	
REPTILE	Gopherus polyphemus	Gopher tortoise	ST	
PLANTS	**Scientific Name**	**Common Name**	**Federal Status**	**State Status**
	Andropogon arctatus	pine-woods bluestem		LT
	Arnogolssum album	white-flowered Plantain		LE
	Asclepias viridula	green milkweed		LT
	Aster spinulosus (now Eurybia spinulosa)	pinewoods aster		LE
	Calamovilfa curtissii	Curtiss' Sandgrass		LT
	Carex baltzellii	Baltzell's sedge		LT
	Cleistes divaricata	spreading pogonia		LT
	Drosera filiformis	dew-thread		LE
	Drosera intermedia	water sundew		LT
	Gentiana pennelliana	wiregrass gentian		LE
	Hymenocallis henryae	Mrs Henry's spiderlily		LE
	Lachnocaulon digynum	Panhandle bogbuttons		LT
	Lilium catesbaei	Catesby lily		LT
	Linum macrocarpum	big-seed flax		LE
	Macbridea alba	white birds-in-a-nest	LT	LE
	Macranthera flammea	hummingbird-flower		LE
	Panicum nudicaule now Dichanthelium nudicaule	naked-stemmed panic grass		LT
	Physostegia godfreyi	Apalachicola dragonhead		LT
	Pinckneya bracteata	fever-tree		LT
	Pinguicula ionantha	Godfrey's or panhandle butterwort	LT	LE
	Pinguicula lutea	yellow-flowered butterwort		LT
	Pinguicula planifolia	swamp butterwort		LT
	Pinguicula primuliflora	primrose-flowered butterwort		LE
	Platanthera ciliaris	yellow-fringed orchid		LT
	Platanthera integra	orange rein orchid		LE
	Pogonia ophioglossoides	rose pogonia		LT
	Rhexia parviflora	Apalachicola meadow-beauty		LE
	Rhexia salicifolia	Panhandle meadow beauty		LT
	Rhynchospora crinipes	hairy peduncled beakrush		LE
	Rhynchospora stenophylla	narrow-leaf beakrush		LT
	Rudbeckia nitida	St. John's-Susan		LE
	Sarracenia leucophylla	white-top pitcher plant		LE
	Sarracenia psittacina	parrot pitcher plant		LT
	Sarracenia purpurea	decumbent pitcher plant		LT
	Stachydeoma graveolens (now Hedeoma graveolens)	mock pennyroyal		LE
	Zigadenus leimanthoides (now Stenanthium densum)	coastal death camas		LE
	Stenanthium gramineum	eastern featherbells		LE
	Verbesina chapmanii	Chapman's crownbeard		LT
	Xyris isoetifolia	quillwort yellow-eyed-grass		LE
	Xyris longisepala	Karst pond yellow-eyed-grass		LE
	Xyris scabrifolia	Harper's yellow-eyed grass		LE

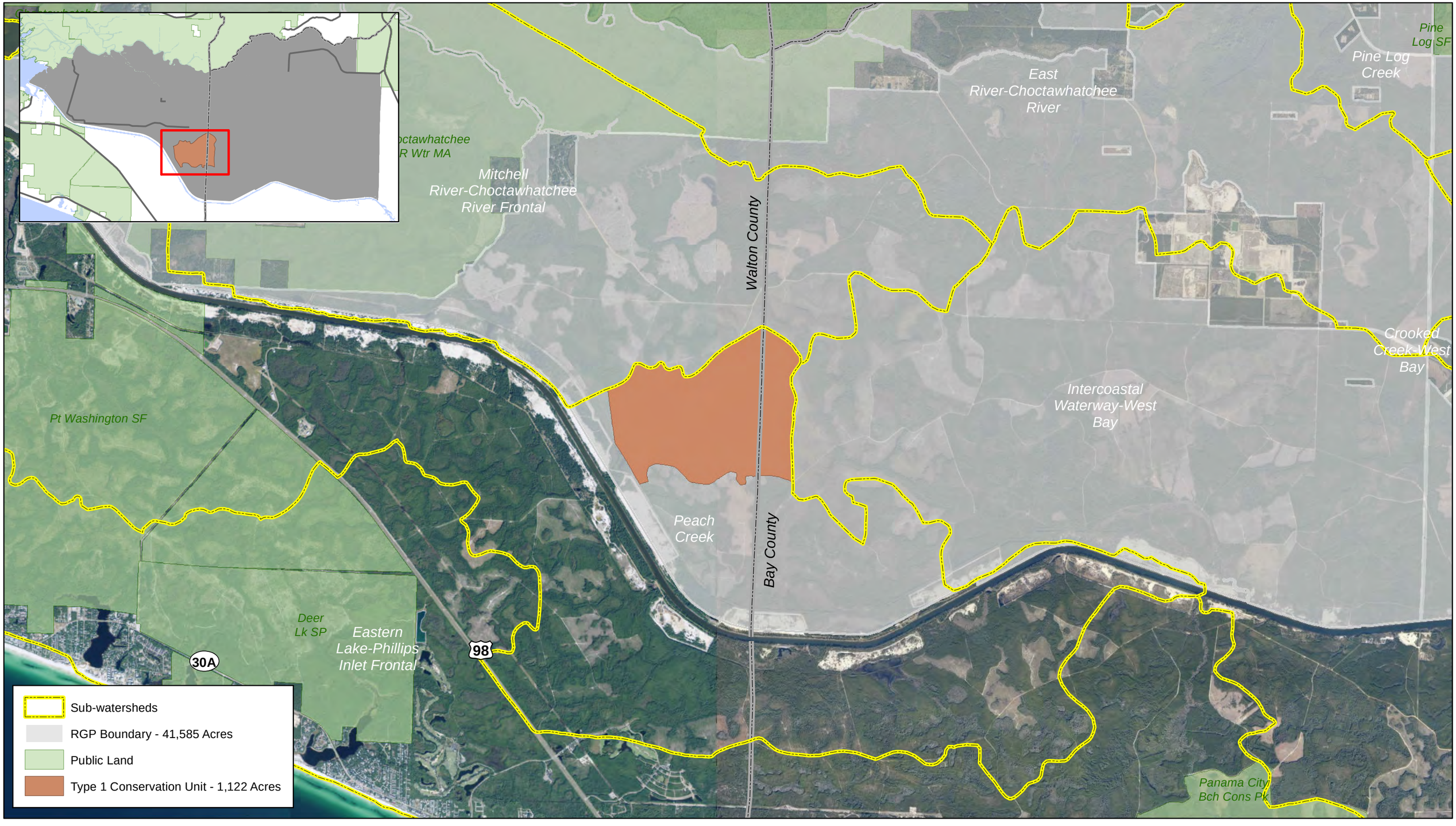
Abbreviations used herein are:

Plants:

T(S/A) =Threatened due to similarity of appearance
LE = Endangered
LT= Threatened
LS = Species of special concern
N = not currently listed
PT= proposed for listing as Threatened

Animals:

FE = Federal Endangered
FT = Federal Threatened
ST = State Threatened
SSC = Species of Special Concern
FT(S/A) = Federal Threatened due to similarity of appearance



REGIONAL GENERAL PERMIT SAJ-114
CONSERVATION UNIT MAP
POLEY ISLANDS - 1,122 ACRES

Exhibit 16 - June 2016

0 1 2 Miles

1 in = 0.79 miles

1:50,000

POLEY ISLANDS
CONSERVATION UNIT

Icarus Ecological Services, Inc

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I. GENERAL DESCRIPTION OF CONSERVATION UNIT

Poley Islands Conservation Unit (CU) is a 1,122 (+/-) acre area in the Peach Creek sub basin South of Steelfield Road. This CU surrounds a portion of the Devil's Swamp Mitigation Bank in the center of the SAJ-114 and EMA 3 site. It consists of tributaries and basin swamps draining into the Intercoastal waterway (ICW) in Sections 1, 2, 11, 12 Township 3 South, Range 18 West in Walton County and Sections 6, 7 Township 2 South, Range 17 West in Bay County, Florida (see Figure 1: General Location Map). The wetlands in this area are dominated by a Basin Swamp and Mixed Hardwood Forested systems which drain to the ICW.

The topography within this CU is relatively flat with the elevation ranging from 35 – 45 feet throughout the CU. There are numerous large wetland systems within this CU draining to a freshwater marsh through the ICW spoil easement to the ICW.
The FLUCCS land cover of the Poley Islands CU is dominated by Treeless Hydric Savanna (23%), Wetland Forest Mixed (19%), and Wet Prairies (10%), totaling (52%). The upland portion is dominated by Forest Regeneration Areas (32%) and Coniferous Plantations (14%), totaling (46%). The National Wetland Inventory (NWI) identifies 62% of the CU as palustrine wetlands and the remainder as uplands 38%, which is similar to the wetland coverage based on the soil types dominated by Pamlico, Pickney, Rutledge, Pottsburg and Hurricane totaling 73% and Upland soil type Leon (25%) in the Walton and Bay County Soil Surveys.

Using soil survey data, FLUCCS, NWI data, aerial photograph interpretation and additional groundtruthing a wetland estimation, specific to the site, has been done. Over 140 data point locations were groundtruthed within the EMA boundary. Based on the more detailed wetland estimation the CU is comprised of 67% wetland (Basin Swamp and Baygall Systems) and 33% uplands (Pine Flatwoods in Silviculture). The majority of the uplands are currently planted with Slash Pine (*Pinus ellotti*).

The wetlands within the Poley Islands CU are comprised of Basin Swamps and Baygall systems that drain to Choctawhatchee Bay. This CU also has upland areas that are classified as Mesic Pine Flatwoods. The uplands in this area are mesic and allow for overland flow to the depressional Basin Swamp system and Baygall slough system contributing to the Choctawhatchee river and the ICW. The upland Mesic Pine Flatwoods were historically used for silviculture for Slash Pine, but are now within a restoration plan. These areas currently provide habitat for wildlife. These areas are in a conservation easement, and are being restored to their historical plant communities.

These plant communities provide habitat appropriate for State and Federal listed flora and fauna. There are 3 documented listed species within the RGP/EMA 3 Boundary; One documented occurance is located within 2000 ft of this CU, Gopher Tortoise (*Gopherus polyphemus*) (FLEO, 2009). Table 1 provides a list of additional species that would be expected to use these areas if the habitats were in a natural state.

II. REGIONAL SIGNIFICANCE

The Poley Islands CU protects both uplands and expansive wetlands that contribute to the tributaries of the Choctawhatchee River. This CU contains a portion of the Devil's Swamp Mitigation Bank, a 3,050 acre wetland and upland restoration project.

The Choctawhatchee River is the third largest river in Florida by volume. It flows from Alabama through Northwest Florida and discharges to the Gulf of Mexico through Choctawhatchee Bay at East Pass in Destin, FL. The Bay and tributaries are considered critical/ strategic habitat by FFWCC, USFWS, and FNAI for Gulf Sturgeon, 5 clam species and other species. The Bay, River and its tributaries are classified as Class 2 shellfish harvesting approved waters and an Outstanding Florida Waterbody (OFW) by FDEP. The Choctawhatchee River basin is a priority area for the NWFWMD, FFWCC and other agencies for preservation of this pristine waterbody. A large portion of the floodplain is in public ownership and designated for conservation.

The Poley Islands 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.

The majority of the Poley Islands CU is considered a priority area for aquifer recharge. The area is an Aquifer Recharge priority level 4-5 for FNAI (FNAI, 2009). These areas improve water quality for the entire region. The entire CU is a Green Links Priority 1, Level 1 and 2 (Hoctor, UF, 2013), the highest of the high priority areas for regional ecological planning.

III. BIODIVERSITY

The habitats within the Poley Islands CU are a landscape of wet prairie, seepage stream, dome swamp, bog, mesic flatwoods, and sandhill. The restoration of fire into the landscape is promoting a return of diversity in the groundcover layers of all onsite habitats. Groundwater seeps through these systems from the surrounding uplands. In the current condition, the existing habitats benefit 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 areas within the Baygall and Basin Swamp systems are dominated wetland hardwood and cypress. These areas are currently very similar to the historical conditions. Due the hydroperiod of the Basin Swamp very little impact has occurred to the wetland areas from the adjacent silviculture. This CU has also been ranked as a Priority 2 Strategic Habitat Conservation Area 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.

The Gopher Tortoise (*Gopherus polyphemus*) (FLEO, 2009) has been documented within 2000 ft of this CU. The Choctawhatchee tributaries, and associated wetland sloughs are essential habitat for the Gulf Sturgeon, Seven Mussel species, Bluenose shiner and other listed vertebrates and invertebrates. Further, there are 41 plants and 9 animals identified in Bay and Walton Counties as Threatened or Endangered Species that could potentially occur in this CU. Conserving these areas will help to maintain habitat for listed species in the region. Table 1 provides a list of species that may benefit by the conservation of this habitat directly or secondarily.

IV. WATER QUALITY

The Poley Islands CU surrounds a portion of the Devil's Swamp Mitigation Bank. This CU is located in the Peach Creek Hydrologic Unit Code 12 drainage area within the SAJ-114 and EMA 3 area. This area in addition to the other CUs and NWFWMD lands will preserve 1,860 Acres of Peach Creek sub basin. With the addition of this CU, 37 % of the entire Peach Creek sub basin will be in conservation within the SAJ-114 Boundary. Therefore, the preservation of this CU will provide significant protection compared to other watersheds that have experienced heightened development pressures. This large preservation area will provide an essential buffer to Choctawhatchee Bay, along with water quality treatment.

Choctawhatchee River is listed on the 305(b) or 303(d) list of impaired waters (FDEP, 2008) for mercury in fish tissue. There are currently no known point sources in the watershed and non-point sources are limited to forestry roads. Conserving lands within the CU will help to maintain a restored buffer around the Choctawhatchee River. The CU protects the river floodplain to the upland extent.

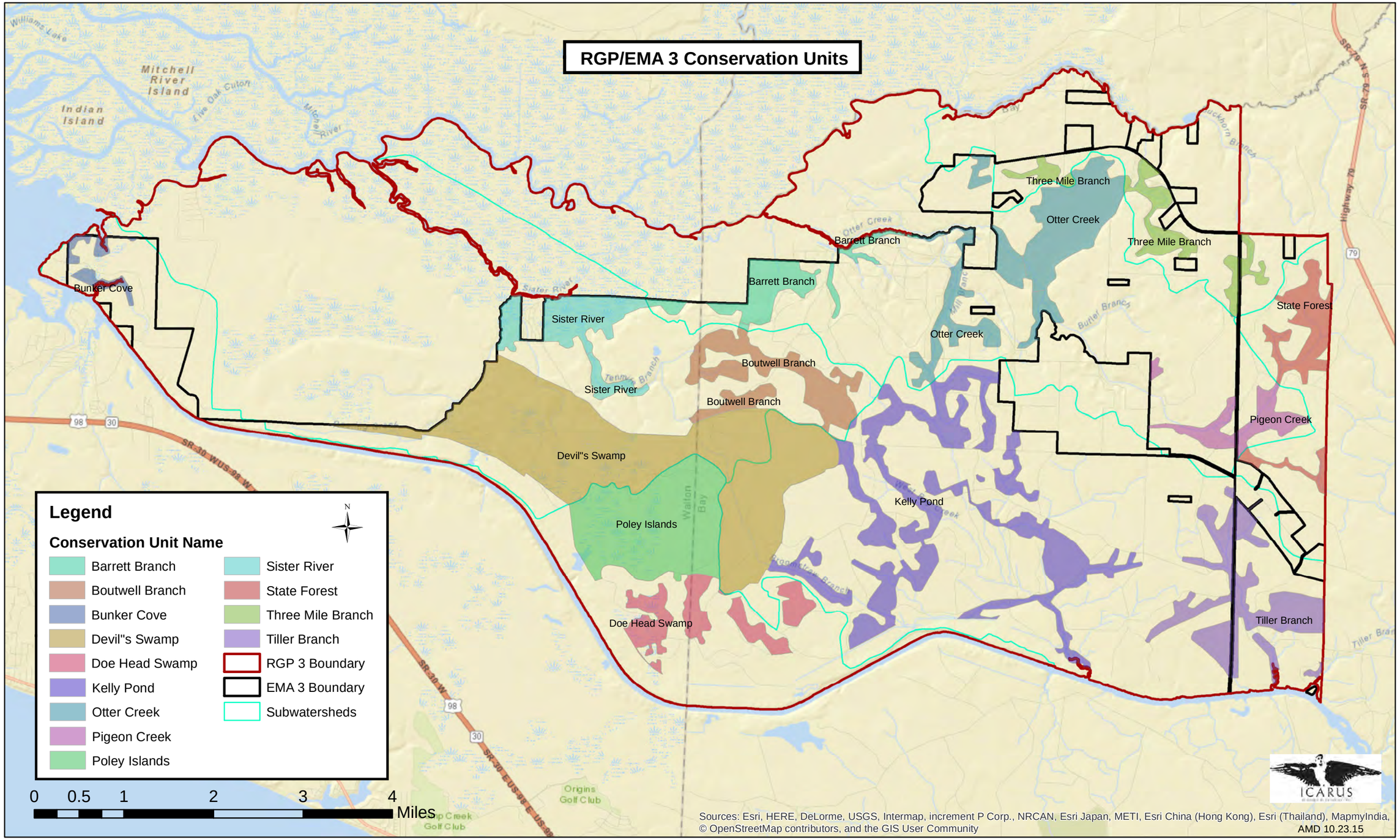
The habitats within the Poley Islands CU are wet prairie, seepage stream, dome swamp, bog, mesic flatwoods, and sandhill. Hydrology through these systems comes from surrounding Mesic and Hydric Pine Flatwoods and significantly contributes to surface water inflows to Choctawhatchee Bay and the ICW. The upland habitats are being restored through intensive prescribed fire management and they provide valuable water input, water filtration, and water storage function.

This CU has been identified by FNAI as a significant surface water priority level 2, 4, 6 (FNAI, 2009) primarily due to the support it provides to bay and coastal surface waters. Choctawhatchee Bay is a Class II Waterbody approved for shellfish harvesting that supports extensive Tidal Marsh and seagrass beds. Preserving the lands surrounding the Choctawhatchee River will help to maintain the brackish shallow water estuaries.

IV. ESSENTIAL FISH HABITAT AND MARINE RESOURCES

Land areas within Peach Creek subwatershed drain into Baygall and Basin Swamp wetlands to Creeks associated with the ICW and on to Choctawhatchee Bay. Choctawhatchee Bay is classified as Class II waters. The majority of Choctawhatchee Bay is approved for shellfish harvesting with some areas classified as prohibited for shellfish harvesting. The Choctawhatchee tributaries, and associated wetland sloughs are essential habitat for the Gulf Sturgeon, Seven Mussel species, Bluenose shiner and other listed vertebrates and invertebrates. Choctawhatchee Bay is classified as Essential Fish Habitat by NOAA and National Marine Fisheries Service for 5 species of Shark, Red Drum, 43 species of reef fish, 4 species of Shrimp and Coastal Migratory Pelagic fishes. Conservation of the Poley Islands CU provides additional water quality protection to the landward extent of the Choctawhatchee River Floodplain, maintaining this Essential Fish Habitat.

RGP/EMA 3 Conservation Units



Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

AMD 10.23.15


Poley Island Conservation Unit
Legend
N
RGP 3 Boundary
Subwatersheds
EMA 3 Boundary
Poley Island CU
0 500 1,000 2,000 3,000 4,000
Feet
ICARUS
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
AMD 10.23.15


Poley Island Conservation Unit
Legend
N
RGP 3 Boundary
Subwatersheds
EMA 3 Boundary
Poley Island CU
Wetland Estimation
Converted Wetland
Unconverted Wetland
Upland
0 500 1,000 2,000 3,000 4,000
Feet
ICARUS
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
AMD 10.23.15

Table 1. Poley Islands Conservation Unit Potential Threatened and Endangered Species Occurrences

ANIMALS	Scientific Name	Common Name	Status	
AMPHIBIAN	Ambystoma Bishopi	Reticulated Flatwoods Salamander	FE	
BIRD	Charadrius melodus	Piping Plover	FT	
BIRD	Calidris canutus rufa	Red Knot	FT	
BIRD	Picoides borealis	Red-cockaded woodpecker	FE	
BIRD	Mycteria americana	Wood Stork	FT	
FISH	Pteronotropis welaka	Bluenose Shiner	SSC	
MAMMAL	Myotis grisescens	Gray Bat	FE	
REPTILE	Drymarchon couperi	Eastern indigo snake	FT	
REPTILE	Gopherus polyphemus	Gopher tortoise	ST	
PLANTS	**Scientific Name**	**Common Name**	**Federal Status**	**State Status**
	Andropogon arctatus	pine-woods bluestem		LT
	Arnogolssum album	white-flowered Plantain		LE
	Asclepias viridula	green milkweed		LT
	Aster spinulosus (now Eurybia spinulosa)	pinewoods aster		LE
	Calamovilfa curtissii	Curtiss' Sandgrass		LT
	Carex baltzellii	Baltzell's sedge		LT
	Cleistes divaricata	spreading pogonia		LT
	Drosera filiformis	dew-thread		LE
	Drosera intermedia	water sundew		LT
	Gentiana pennelliana	wiregrass gentian		LE
	Hymenocallis henryae	Mrs Henry's spiderlily		LE
	Lachnocaulon digynum	Panhandle bogbuttons		LT
	Lilium catesbaei	Catesby lily		LT
	Linum macrocarpum	big-seed flax		LE
	Macbridea alba	white birds-in-a-nest	LT	LE
	Macranthera flammea	hummingbird-flower		LE
	Panicum nudicaule now Dichanthelium nudicaule	naked-stemmed panic grass		LT
	Physostegia godfreyi	Apalachicola dragonhead		LT
	Pinckneya bracteata	fever-tree		LT
	Pinguicula ionantha	Godfrey's or panhandle butterwort	LT	LE
	Pinguicula lutea	yellow-flowered butterwort		LT
	Pinguicula planifolia	swamp butterwort		LT
	Pinguicula primuliflora	primrose-flowered butterwort		LE
	Platanthera ciliaris	yellow-fringed orchid		LT
	Platanthera integra	orange rein orchid		LE
	Pogonia ophioglossoides	rose pogonia		LT
	Rhexia parviflora	Apalachicola meadow-beauty		LE
	Rhexia salicifolia	Panhandle meadow beauty		LT
	Rhynchospora crinipes	hairy peduncled beakrush		LE
	Rhynchospora stenophylla	narrow-leaf beakrush		LT
	Rudbeckia nitida	St. John's-Susan		LE
	Sarracenia leucophylla	white-top pitcher plant		LE
	Sarracenia psittacina	parrot pitcher plant		LT
	Sarracenia purpurea	decumbent pitcher plant		LT
	Stachydeoma graveolens (now Hedeoma graveolens)	mock pennyroyal		LE
	Zigadenus leimanthoides (now Stenanthium densum)	coastal death camas		LE
	Stenanthium gramineum	eastern featherbells		LE
	Verbesina chapmanii	Chapman's crownbeard		LT
	Xyris isoetifolia	quillwort yellow-eyed-grass		LE
	Xyris longisepala	Karst pond yellow-eyed-grass		LE
	Xyris scabrifolia	Harper's yellow-eyed grass		LE

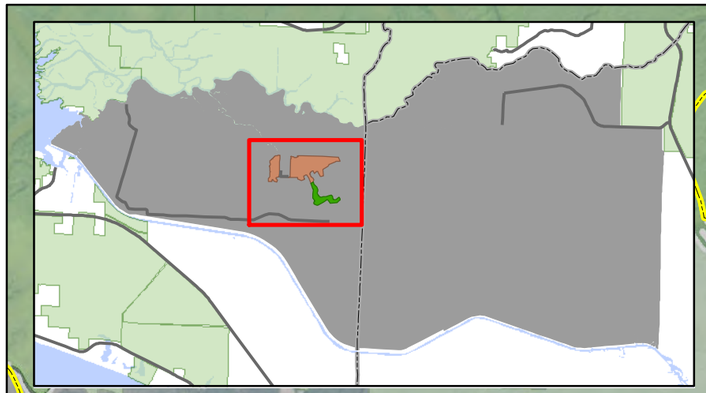
Abbreviations used herein are:

Plants:

T(S/A) =Threatened due to similarity of appearance
LE = Endangered
LT= Threatened
LS = Species of special concern
N = not currently listed
PT= proposed for listing as Threatened

Animals:

FE = Federal Endangered
FT = Federal Threatened
ST = State Threatened
SSC = Species of Special Concern
FT(S/A) = Federal Threatened due to similarity of appearance



Washington County

Pine Log Creek

East River-Choctawhatchee River

Mitchell River-Choctawhatchee River Frontal

Walton County

Peach Creek

Eastern Lake-Phillips Inlet Frontal

Bay County

Intercoastal Waterway-West Bay

Sub-watersheds

RGP Boundary - 41,585 Acres

Public Land

EMA Conservation Unit

Type 1 Conservation Unit - 366 Acres

Type 2 Conservation Unit - 75 Acres

REGIONAL GENERAL PERMIT SAJ-114
CONSERVATION UNIT MAP
SISTER RIVER - 441 ACRES

Exhibit 17 - June 2016

0 0.75 1.5 Miles

1 in = 0.63 miles

1:40,000

SISTER RIVER
CONSERVATION UNIT

Icarus Ecological Services, Inc

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I. GENERAL DESCRIPTION OF CONSERVATION UNIT

Sister River Conservation Unit (CU) is a 442 (+/-) acre area with in the Mitchell River-Choctawhatchee River Frontal Subbasin North of Steelfield Road and South of Pine Log Road. This CU borders the northern edge of the RGPEMA 3 boundary along the flood plain of the Choctawhatchee River Sections 25, 26, 35, 36 Township 2 South, Range 18 West in Walton County, Florida (see Figure 1: General Location Map). The wetlands in this area are dominated by a Basin Swamp and Mixed Hardwood Forested systems which are the landward extent of the Choctawhatchee River Floodplain.

The topography gradient from the upland scrub and Sand Pine silviculture areas to the floodplain wetland is 1:5 - 1:10; this transition has one of the steepest grades within the project area. The elevation ranges within the CU are 5 to 40 feet. This CU has approx. 1.5 mi along the boarder with Northwest Florida Water Management District (NWFWMD) property within the Choctawhatchee floodplain. The Choctawhatchee is the third largest river in Florida by volume and an important feature in NW Florida for wildlife habitat and water quality.

The FLUCCS land cover of the Sister River CU is dominated by Streams and Lake Swamps (Bottomland) (37.5%) and Treeless Hydric Savanna (26%), Wetland Forested Mixed (19%) totaling (82.5%). The upland portion is dominated by Coniferous Plantations (17%). The National Wetland Inventory (NWI) identifies 87% of the CU as palustrine wetlands and the remainder as uplands 13%, which is similar to the wetland coverage based on the soil types dominated by Maurepas and Dorovan (76.5%).

Using soil survey data, NWI data, aerial photograph interpretation and additional groundtruthing a wetland estimation, specific to the site, has been done. Over 140 data point locations were groundtruthed within the EMA boundary. Based on the more detailed wetland estimation the CU is comprised of 91% wetland (Seepage Slope and Bottomland/ Floodplain Swamp) and 9% uplands (Scrub in Silviculture). The majority of the uplands are currently planted with Sand Pine (*Pinus clausea*).

The wetlands within the Sister River CU are comprised of Bottomland/ Floodplain Swamp and Seepage Slopes that drain into the Choctawhatchee River. This CU also has upland areas that are classified as Sand Pine Scrub. Groundwater seeps from the sand pine scrub through the hardwood and wetland slope and into the floodplain. Due to the steepness of the slope the area has been left in a natural hardwood state. The upland scrub is used for silviculture for Sand Pine. 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 appropriate for State and Federal listed flora and fauna. There are 3 documented listed species within the RGP/EMA 3 Boundary; the closest is Twin Striped Clubtail (*Gomphus geminatus*) I mile from this Conservation

Unit (FLEO, 2009). Table 1 provides a list of species that would be expected to use these areas if the habitats were in a natural state.

II. REGIONAL SIGNIFICANCE

The Sister River CU protects both uplands and wetlands that are the landward extent of the Choctawhatchee River floodplain. The Choctawhatchee River is the third largest river in Florida by volume. It flows from Alabama through Northwest Florida and discharges to the Gulf of Mexico through Choctawhatchee Bay at East Pass in Destin, FL. The Bay and tributaries are considered critical/ strategic habitat by FFWCC, USFWS, and FNAI for Gulf Sturgeon, 5 mussel species and other species. The Bay, River and its tributaries are classified as Class 2 shellfish harvesting approved waters and an Outstanding Florida Waterbody (OFW) by FDEP. The Choctawhatchee River basin is a priority area for the NWFWMD, FFWCC and other agencies for preservation of this pristine waterbody. A large portion of the floodplain is in public ownership and designated for conservation.

The Sister River CU is a subset of the overall Long-Term Conservation areas identified in the “Wildlife and Vegetation Resource Report” completed for the Bay-Walton Sector Plan, reviewed by the Florida Department of Environmental Protection, Florida Wildlife Conservation Commission, and the U.S. Fish and Wildlife Service, and subsequently approved by the Bay and Walton Board of County Commissions and the Florida Division of Community Development.

The Sister River CU borders approximately 2 miles of lands owned by NWFWMD, thus increasing the conservation benefits to the Choctawhatchee river floodplain. When the CU is combined with the Barrett Branch CU, to the east, over 4 miles of the southern Choctawhatchee floodplain will be preserved to its landward extent along with significant upland areas that buffer the floodplain.

The Sister River 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.

The majority of the Sister River CU is considered a priority area for aquifer recharge. The area is an Aquifer Recharge priority level 2-4 for FNAI (FNAI, 2009). These areas improve water quality for the entire region. The entire CU is a Green Links Priority 1, Level 1 (Hoctor, UF, 2013), the highest of the high priority areas for regional ecological planning.

This CU is vital to water quality treatment and storage, habitat conservation, and species conservation. This CU is directly adjacent to the Choctawhatchee River floodplain and expands the conservation efforts of the NWFWMD.

III. BIODIVERSITY

The habitats within the Sister River CU are a landscape of planted Sand Pine Scrub uplands, Seepage Slope to Basin Swamp/ Floodplain Hardwood Swamp.
The planted Sand Pine Scrub upland diversity is in the ground cover layer, the Seepage slope diversity is within the shrub and canopy while the Basin Swamps contain the majority of their diversity in the canopy and subcanopy strata. Groundwater seeps through these systems from the surrounding Scrub uplands and sandy soils which act as water recharge areas. In the current condition, the existing sand 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 areas within the Basin Swamp/ Floodplain are dominated wetland hardwood and cypress. These areas are currently very similar to the historical conditions. Due to the slope of the upland-wetland transition and the hydroperiod of the Basin Swamp/ Floodplain very little impact has occurred to the wetland areas due to the adjacent silviculture. This CU has also been ranked as a Strategic Habitat Conservation Area 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.

No threatened species have been documented within the CU. A documented occurance of Twin-Stripped Clubtail (*Gomphus geminatus*) is within 1 mile of the CU. The Choctawhatchee tributaries, and associated wetland sloughs are essential habitat for the Gulf Sturgeon, Seven Mussel species, Bluenose shiner and other listed vertebrates and invertebrates. Further, there are 41 plants and 18 animals identified in Bay and Walton Counties as Threatened or Endangered Species that could potentially occur in this CU. Conserving these areas will help to maintain habitat for listed species in the region. Table 1 provides a list of species that may benefit by the conservation of this habitat directly or secondarily.

IV. WATER QUALITY

The Sister River CU is adjacent to large parcels of NWFWMD land within the Choctawhatchee Bay watershed. This CU is located in the Mitchell River – Choctawhatchee River Frontal Hydrologic Unit Code 12 drainage area within the GPEMA3 area. This area in addition to the other RGPEMA3 CUs and NWFWMD lands will preserve 8,634 Acres of the Mitchell River – Choctawhatchee River Frontal sub basin within the project boundary. 74 % of the entire Mitchell River – Choctawhatchee River Frontal sub basin within the RGP3 boundary will be in conservation. Therefore,

the preservation of this CU will provide significant protection compared to other watersheds that have experienced heightened development pressures. This large preservation area will provide an essential buffer to Choctawhatchee Bay.

Choctawhatchee River is listed on the 305(b) or 303(d) list of impaired waters (FDEP, 2008) for mercury in fish tissue. There are currently no known point sources in the watershed and non-point sources are limited to forestry roads. Conserving lands within the CU will help to maintain a restored buffer around the Choctawhatchee River. The CU protects the river floodplain to the upland extent.

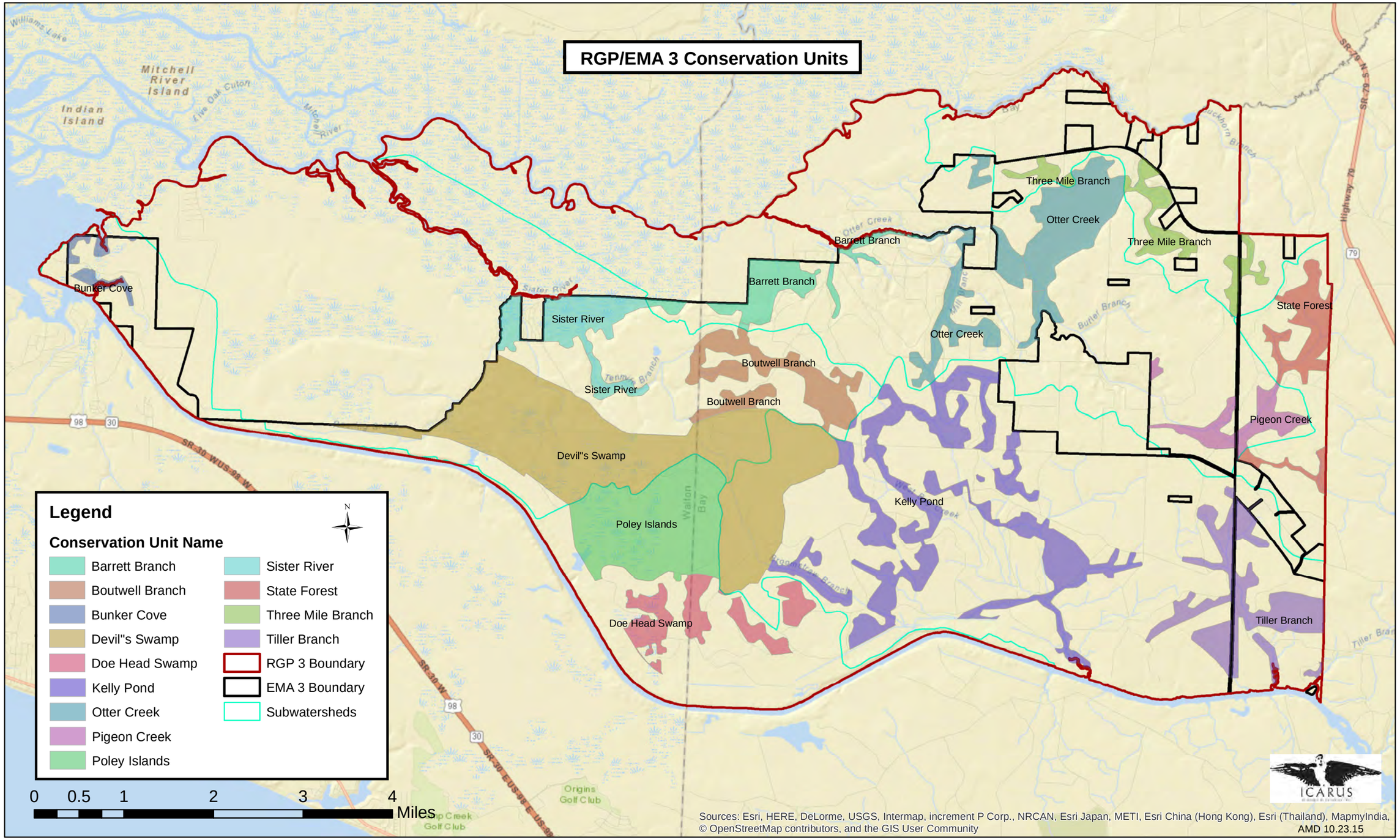
The habitats within the Sister River CU are planted Sand Pine Scrub uplands, Seepage Slope grading to Basin Swamp/ Floodplain Hardwood Swamp. Seepage through these systems comes from the adjacent Sand Pine Scrub uplands and significantly contributes to surface water inflows to Choctawhatchee Bay. The upland habitats experienced alterations from being planted in pine; however, they still provide valuable water input, water filtration, and water storage function.

This CU has been identified by FNAI as a significant surface water priority level 2- 4 (FNAI, 2009) primarily due to the support it provides to bay and coastal surface waters. Choctawhatchee Bay is a Class II Waterbody approved for shellfish harvesting that supports extensive Tidal Marsh and seagrass beds. Preserving the lands surrounding the Choctawhatchee River will help to maintain the brackish shallow water estuaries.

IV. ESSENTIAL FISH HABITAT AND MARINE RESOURCES

Land areas within Mitchell River – Choctawhatchee River Frontal subwatershed drain into Basin Swamp wetlands to Flood Plain Creeks associated with Choctawhatchee River and Choctawhatchee Bay. Choctawhatchee Bay is classified as Class II waters. The majority of Choctawhatchee Bay is approved for shellfish harvesting with some areas classified as prohibited for shellfish harvesting. Choctawhatchee Bay is classified as Essential Fish Habitat by NOAA and National Marine Fisheries Service for 5 species of Shark, Red Drum, 43 species of reef fish, 4 species of Shrimp and Coastal Migratory Pelagic fishes. Conservation of the Sister River CU provides additional water quality protection to the landward extent of the Choctawhatchee River Floodplain, maintaining this Essential Fish Habitat.

RGP/EMA 3 Conservation Units



Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

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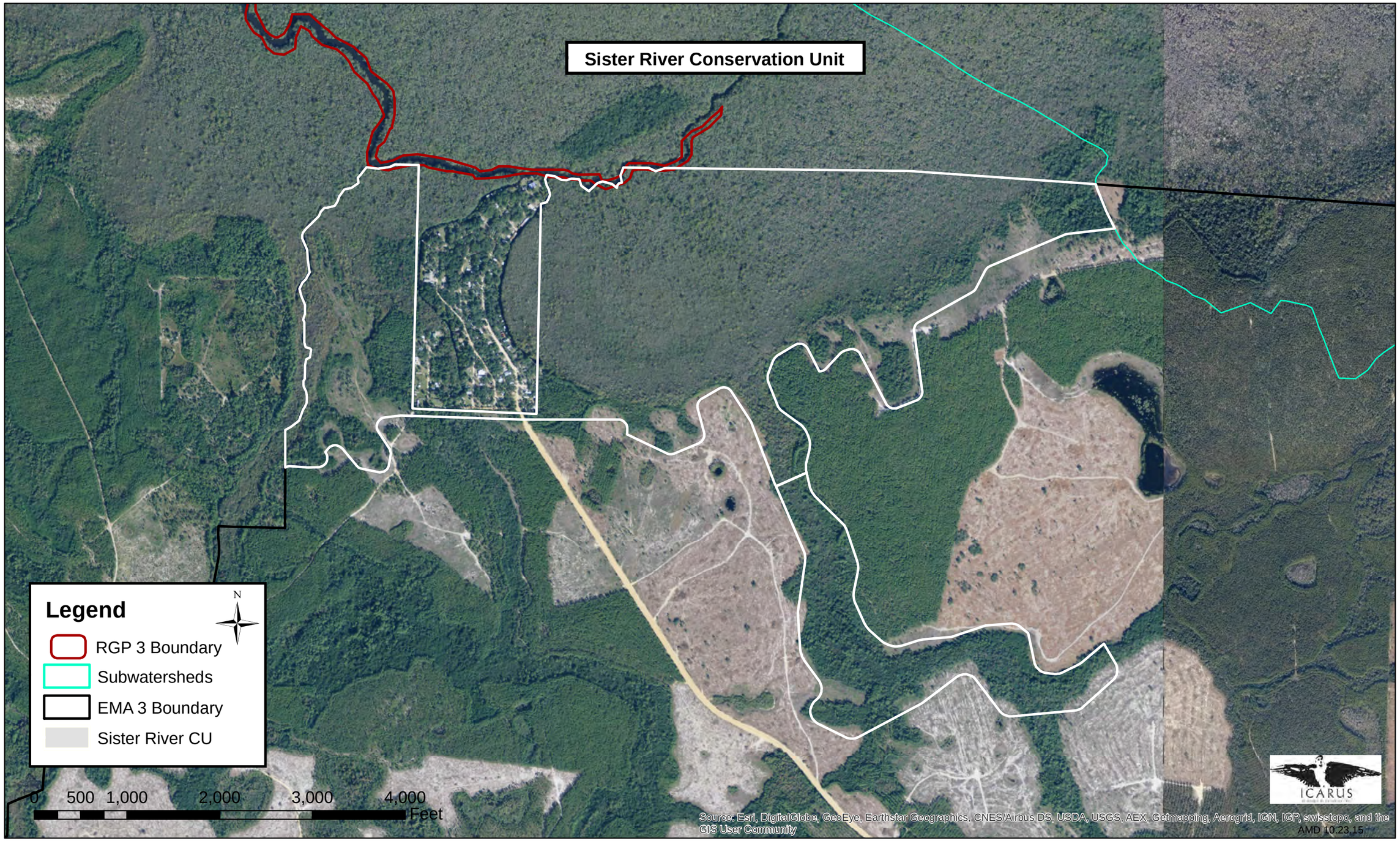
Sister River Conservation Unit
Legend
N
RGP 3 Boundary
Subwatersheds
EMA 3 Boundary
Sister River CU
0 500 1,000 2,000 3,000 4,000
Feet
ICARUS
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
AMD 10.23.15

Sister River Conservation Unit

Legend

- RGP 3 Boundary
- Subwatersheds
- EMA 3 Boundary
- Sister River CU

Wetland Estimation

- Converted Wetland
- Unconverted Wetland
- Upland

N

0 500 1,000 2,000 3,000 4,000 Feet

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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AMD 10.23.15

Table 1. Sister River Conservation Unit Potential Threatened and Endangered Species Occurrences

ANIMALS	**Scientific Name**	**Common Name**	**Status**	
AMPHIBIAN	Ambystoma Bishopi	Reticulated Flatwoods Salamander	FE	
BIRD	Charadrius melodus	Piping Plover	FT	
BIRD	Calidris canutus rufa	Red Knot	FT	
BIRD	Picoides borealis	Red-cockaded woodpecker	FE	
BIRD	Mycteria americana	Wood Stork	FT	
CLAM	Villosa choctawensis	Choctaw Bean	FE	
CLAM	Pleurobema strodeanum	Fuzzy Pigtoe	FT	
CLAM	Medionidus penicillatus	Gulf Moccasinshell	FE	
CLAM	Pleurobema pyriforme	Oval Pigtoe	FE	
CLAM	Ptychobranchus jonesi	Southern Kindeyshell	FT	
CLAM	Hamiota australis	Southern Sandshell	FT	
CLAM	Fusconaia burkei	Tapered Pigtoe	FT	
FISH	Acipenser oxyrinchus desotoi	Atlantic Gulf Sturgeon	FT	
FISH	Pteronotropis welaka	Bluenose Shiner	SSC	
MAMMAL	Myotis grisescens	Gray Bat	FE	
REPTILE	Drymarchon couperi	Eastern indigo snake	FT	
REPTILE	Gopherus polyphemus	Gopher tortoise	ST	
PLANTS	**Scientific Name**	**Common Name**	**Federal Status**	**State Status**
	Andropogon arctatus	pine-woods bluestem		LT
	Arnogolssum album	white-flowered Plantain		LE
	Asclepias viridula	green milkweed		LT
	Aster spinulosus (now Eurybia spinulosa)	pinewoods aster		LE
	Calamovilfa curtissii	Curtiss' Sandgrass		LT
	Carex baltzellii	Baltzell's sedge		LT
	Cleistes divaricata	spreading pogonia		LT
	Drosera filiformis	dew-thread		LE
	Drosera intermedia	water sundew		LT
	Gentiana pennelliana	wiregrass gentian		LE
	Hymenocallis henryae	Mrs Henry's spiderlily		LE
	Lachnocaulon digynum	Panhandle bogbuttons		LT
	Lilium catesbaei	Catesby lily		LT
	Linum macrocarpum	big-seed flax		LE
	Macbridea alba	white birds-in-a-nest	LT	LE
	Macranthera flammea	hummingbird-flower		LE
	Panicum nudicaule now Dichanthelium nudicaule	naked-stemmed panic grass		LT
	Physostegia godfreyi	Apalachicola dragonhead		LT
	Pinckneya bracteata	fever-tree		LT
	Pinguicula ionantha	Godfrey's or panhandle butterwort	LT	LE
	Pinguicula lutea	yellow-flowered butterwort		LT
	Pinguicula planifolia	swamp butterwort		LT
	Pinguicula primuliflora	primrose-flowered butterwort		LE
	Platanthera ciliaris	yellow-fringed orchid		LT
	Platanthera integra	orange rein orchid		LE
	Pogonia ophioglossoides	rose pogonia		LT
	Rhexia parviflora	Apalachicola meadow-beauty		LE
	Rhexia salicifolia	Panhandle meadow beauty		LT
	Rhynchospora crinipes	hairy peduncled beakrush		LE
	Rhynchospora stenophylla	narrow-leaf beakrush		LT
	Rudbeckia nitida	St. John's-Susan		LE
	Sarracenia leucophylla	white-top pitcher plant		LE
	Sarracenia psittacina	parrot pitcher plant		LT
	Sarracenia purpurea	decumbent pitcher plant		LT
	Stachydeoma graveolens (now Hedeoma graveolens)	mock pennyroyal		LE
	Zigadenus leimanthoides (now Stenanthium densum)	coastal death camas		LE
	Stenanthium gramineum	eastern featherbells		LE
	Verbesina chapmanii	Chapman's crownbeard		LT
	Xyris isoetifolia	quillwort yellow-eyed-grass		LE
	Xyris longisepala	Karst pond yellow-eyed-grass		LE
	Xyris scabrifolia	Harper's yellow-eyed grass		LE

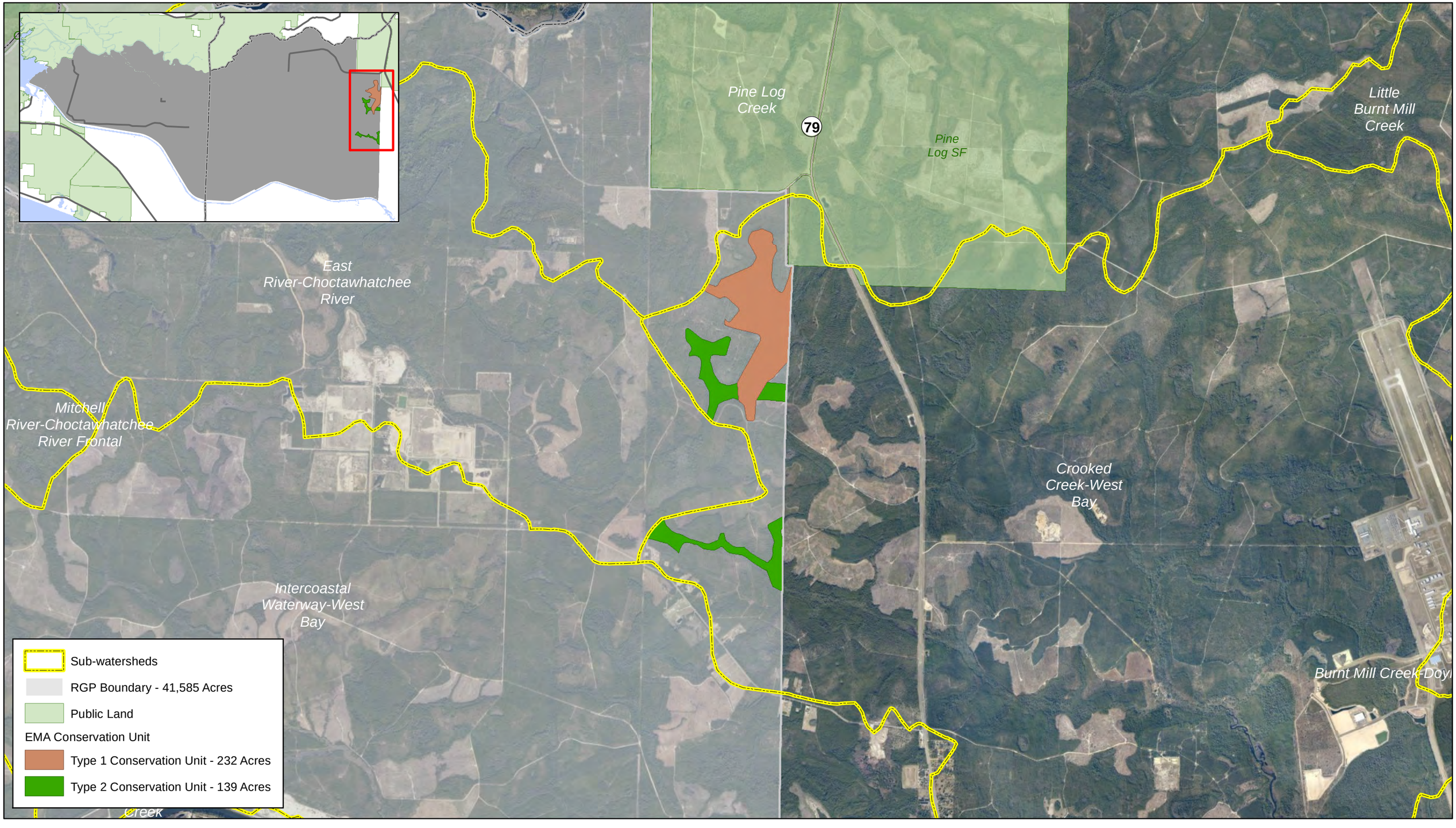
Abbreviations used herein are:

Plants:

T(S/A) =Threatened due to similarity of appearance
LE = Endangered
LT= Threatened
LS = Species of special concern
N = not currently listed
PT= proposed for listing as Threatened

Animals:

FE = Federal Endangered
FT = Federal Threatened
ST = State Threatened
SSC = Species of Special Concern
FT(S/A) = Federal Threatened due to similarity of appearance



REGIONAL GENERAL PERMIT SAJ-114
CONSERVATION UNIT MAP
STATE FOREST - 371 ACRES

Exhibit 18 - June 2016

0 0.75 1.5 Miles

1 in = 0.63 miles

1:40,000

STATE FOREST
CONSERVATION UNIT

Icarus Ecological Services, Inc

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I. GENERAL DESCRIPTION OF CONSERVATION UNIT

State Forest Conservation Unit (CU) is a 371 (+/-) acre area divided into two sections with in the Crooked Creek – West Bay Subbasin North of Steelfield Road and South of Pine Log Road. This CU consists of sloughs and basin swamps draining into West Bay in Sections 19, 30, 31 Township 1 South, Range 16 West, and Section 6, Township 2 South, Range 16 West in Bay County, Florida (see Figure 1: General Location Map). The wetlands in this area are dominated by Basin Swamp, Slough and Hydric Pine Plantation systems which drain to headwaters of Crooked Creek and Pigeon Creek then on to West Bay.

The topography within this CU is relatively flat with the elevation ranging from 18-24 feet. There are two large wetland systems within this CU both are draining southwest towards West Bay a Class II waterbody. Since the State Forest CU provides headwater protection, it is vital to the protection of the Crooked Creek Watershed and West Bay.

The FLUCCS land cover of the State Forest CU is dominated by Wetland Forest Mixed (67%) and Coniferous Plantations (24%), totaling (91%). There are also small inclusions of Treeless Hydric Savana (4%) and Forest Regeneration Areas (4%) of the remaining area. The National Wetland Inventory (NWI) identifies 85% of the CU as palustrine wetlands and the remainder as uplands (15%), which is similar to the wetland coverage based on the soil types dominated by Rutlege Sand (62%) and Pottsburg (25%). All of these data types are estimations with scattered grountruthing on a landscape scale.

Using soil survey data, FLUCCS, NWI data, aerial photograph interpretation and additional groundtruthing a wetland estimation, specific to the site, has been done. Over 140 data point locations were groundtruthed within the EMA boundary. Based on the more detailed wetland estimation the CU is comprised of 91.5% wetland (Basin Swamp and Baygall Systems) and 8.5% uplands (Pine Flatwoods in Silviculture). The majority of the uplands are currently planted with Slash Pine (*Pinus ellotti*).

The wetlands within the State Forest CU are comprised of Basin Swamps and Baygall systems that drain into Crooked Creek and Pigeon Creek and on to West Bay. This CU also has upland areas that are classified as Mesic Pine Flatwoods. The uplands in this area are mesic and allow for overland flow to the depressional Basin Swamp system and Baygall slough system contributing to the West Bay tributary, Crooked Creek. The upland Mesic Pine Flatwoods are used for silviculture for Slash Pine. 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 appropriate for State and Federal listed flora and fauna. There are 3 documented listed species within the RGP/EMA 3 Boundary; the closest is Twin Striped Clubtail (*Gomphus geminatus*) within 1 mile from this Conservation Unit (FLEO, 2009). Table 1 provides a list of species that would be

expected to use these areas if the habitats were in a natural state.

II. REGIONAL SIGNIFICANCE

The State Forest CU protects both uplands and wetlands that are important for recharge within the Crooked Creek watershed and West Bay. Conserving this unit will contribute to sustained water quality and water quantity treatment for Crooked Creek, West Bay, and ultimately, St. Andrews Bay. The State Forest CU is a subset of the overall West Bay Preservation Area (WBPA) as identified in the "Ecological assessment, Natural Resource Values and Regional Significance of the West Bay Preservation Area, Bay County, Florida" report prepared by The Nature Conservancy. This assessment was prepared during the Sector planning process which created a land use designation overlay known as the West Bay Preservation Area (WBPA).

The State Forest CU protects the headwater recharge area for Crooked Creek and Pigeon Creek. These creeks both are vital to the West Bay This CU will allow for the wetlands contributing to water quality, flood attenuation to be kept in a natural state.

The State Forest CU is identified as a priority 2 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.

The majority of the State Forest CU is considered a priority area for aquifer recharge. The area is an Aquifer Recharge priority level 3-5 for FNAI (FNAI, 2009). These areas improve water quality for the entire region. The entire CU is a Green Links Priority 1, Level 1 and 2 (Hoctor, UF, 2013), the highest of the high priority areas for regional ecological planning.

This CU is vital to water quality treatment and storage, habitat conservation, and species conservation. This CU contributes to the landward wetlands of the West Bay, expanding the conservation efforts of the NWFWMD and the Sector Plan.

III. BIODIVERSITY

The habitats within the State Forest CU are a landscape of Coniferous Plantations, Wetland Forested Mixed, Forest Regeneration Areas and Treeless Hydric Savanna. The planted Mesic Pine Flatwoods upland diversity is in the ground cover layer, the Baygall diversity is within the shrub and canopy while the Basin Swamps contain the majority of their diversity in the canopy and subcanopy strata. Groundwater seeps through these systems from the surrounding uplands. In the current condition, the existing Mesic Pine Flatwoods 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 areas within the Baygall and Basin Swamp systems are dominated wetland hardwood and cypress. These areas are currently very similar to the historical conditions. Due the hydroperiod of the Basin Swamp very little impact has occurred to the wetland areas from the adjacent silviculture. This CU has also been ranked as a Priority 2 Strategic Habitat Conservation Area 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.

No threatened species have been documented within the CU. A documented occurance of Twin-Stripped Clubtail (*Gomphus geminatus*) is within 1 Mile of the CU. Further, there are 41 plants and 9 animals identified in Bay and Walton Counties as Threatened or Endangered Species that could potentially occur in this CU. Conserving these areas will help to maintain habitat for listed species in the region. Table 1 provides a list of species that may benefit by the conservation of this habitat directly or secondarily.

IV. WATER QUALITY

The State Forest CU surrounds the headwaters of Crooked Creek and Pigeon Creek, Major tributaries to West Bay. This CU is located in the Crooked Creek – West Bay Hydrologic Unit Code 12 drainage area within the GPEMA3 area. This area in addition to the other RGPEMA3 CUs and NWFWMD lands will preserve 370 Acres of the Crooked Creek – West Bay sub basin. With the addition of this CU, 27 % of the Crooked Creek – West Bay sub basin within the SAJ-114 boundary will be in conservation. Therefore, the preservation of this CU will provide significant protection compared to other watersheds that have experienced heightened development pressures. This large preservation area will provide an essential buffer to headwaters of West Bay, along with water quality treatment, and flood attenuation for the Bay.

Crooked 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 Crooked 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 State Forest CU are planted Pine Flatwoods uplands, Baygall and Basin Swamps. Hydrology through these systems comes from surrounding Mesic

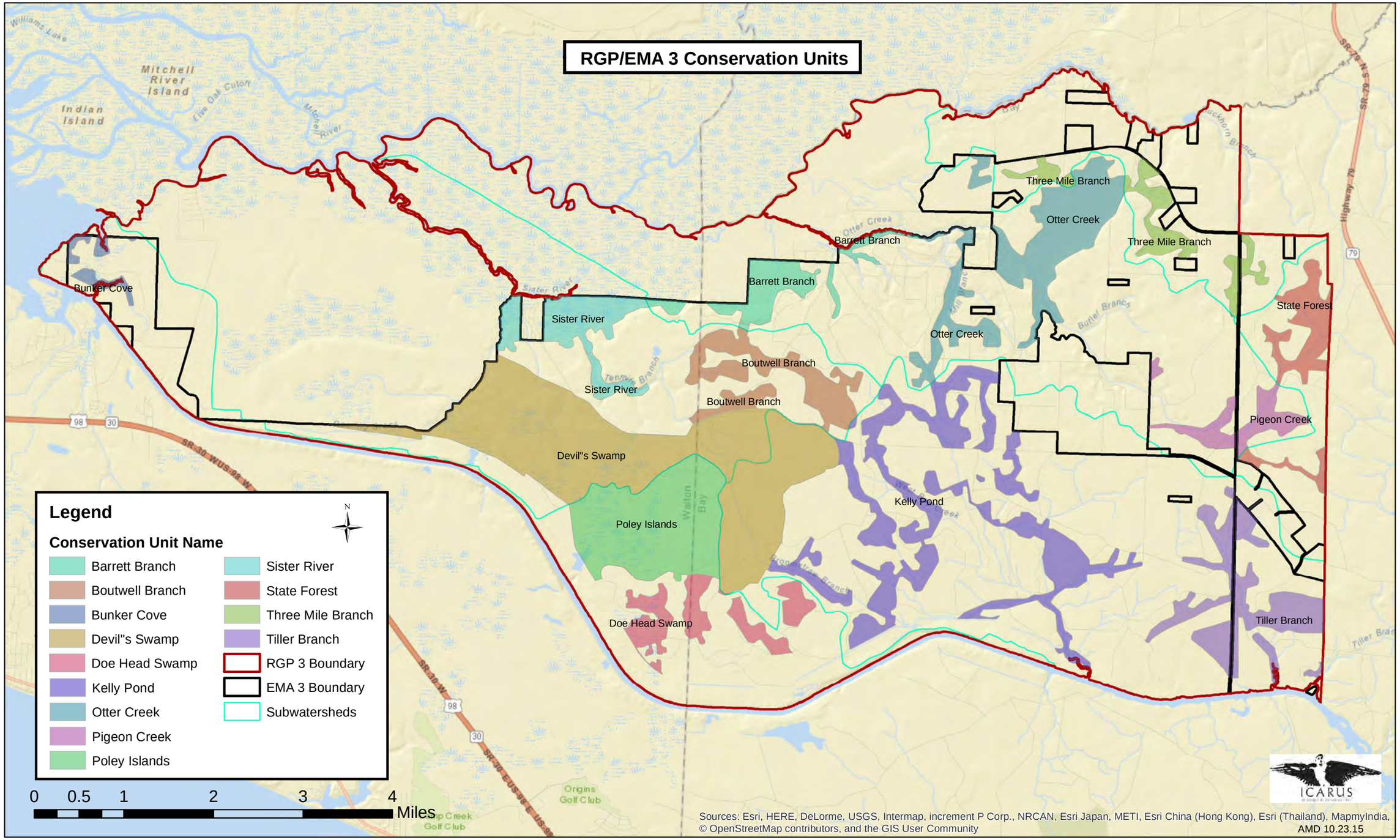
and Hydric Pine Flatwoods and significantly contributes to surface water inflows to Crooked Creek. The upland habitats experienced alterations from being planted in pine; however, they still provide valuable water input, water filtration, and water storage function.

This CU has been identified by FNAI as a significant surface water priority level 2-4 (FNAI, 2009) primarily due to the support it provides to bay and coastal surface waters. West Bay is a Class II Waterbody portions of which are Conditionally Approved for Shellfish Harvesting, that supports extensive Tidal Marsh and seagrass beds at the mouth of Crooked Creek. Preserving the lands surrounding the West Bay will help to maintain the brackish shallow water estuaries.

IV. ESSENTIAL FISH HABITAT AND MARINE RESOURCES

Land areas within the Crooked Creek – West Bay subwatershed drain into Blackwater Streams that flow into tidal creeks associated with Crooked Creek and eventually West 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 is classified as Essential Fish Habitat by NOAA and National Marine Fisheries Service for 5 species of Shark, Red Drum, 43 species of reef fish, 4 species of Shrimp and Coastal Migratory Pelagic fishes. Conservation of the State Forest CU provides additional water quality protection to West Bay, maintaining this Essential Fish Habitat. As mentioned above, preserving this CU will contribute to water quality protection and will help maintain the downstream aquatic resources.

RGP/EMA 3 Conservation Units



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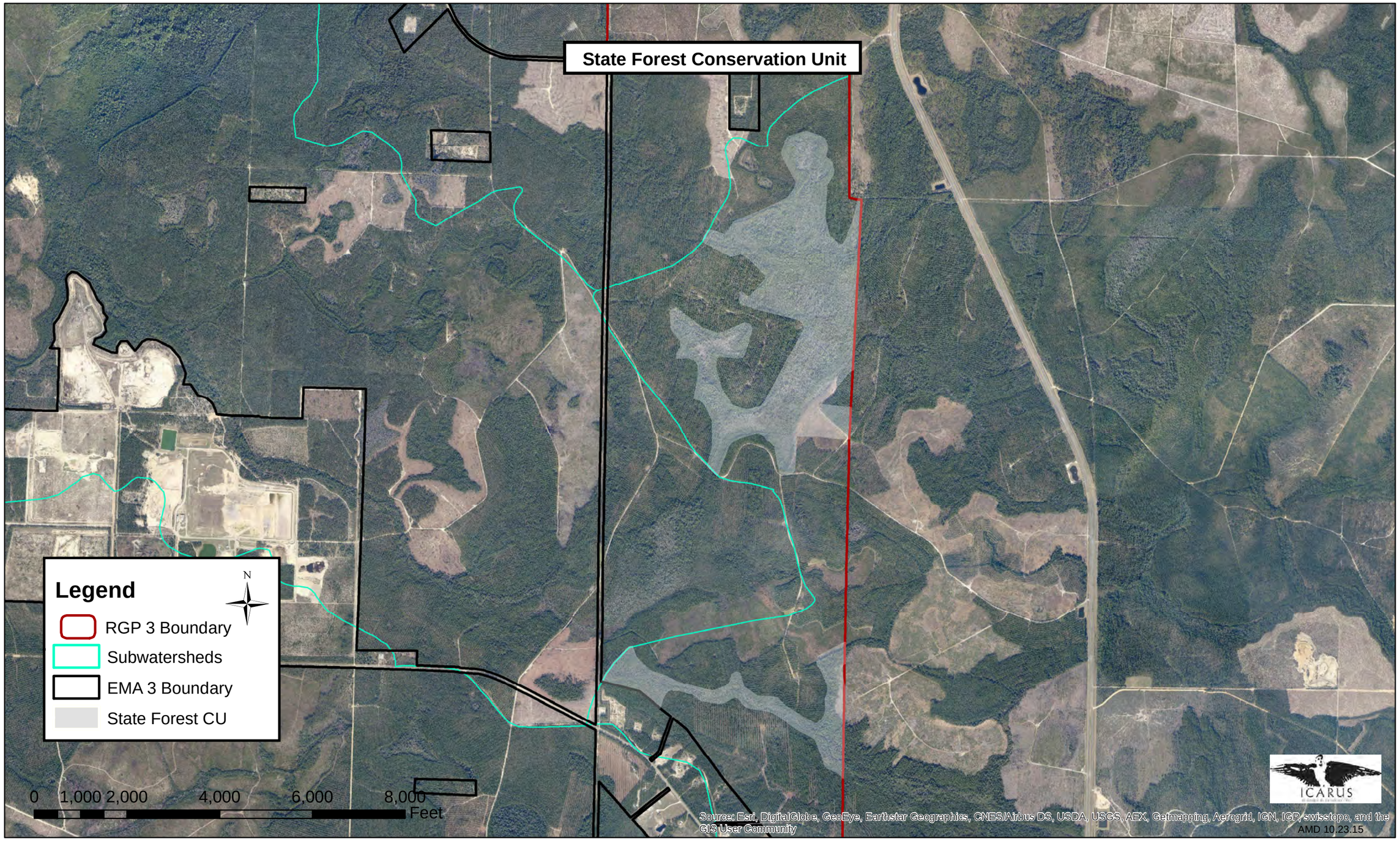
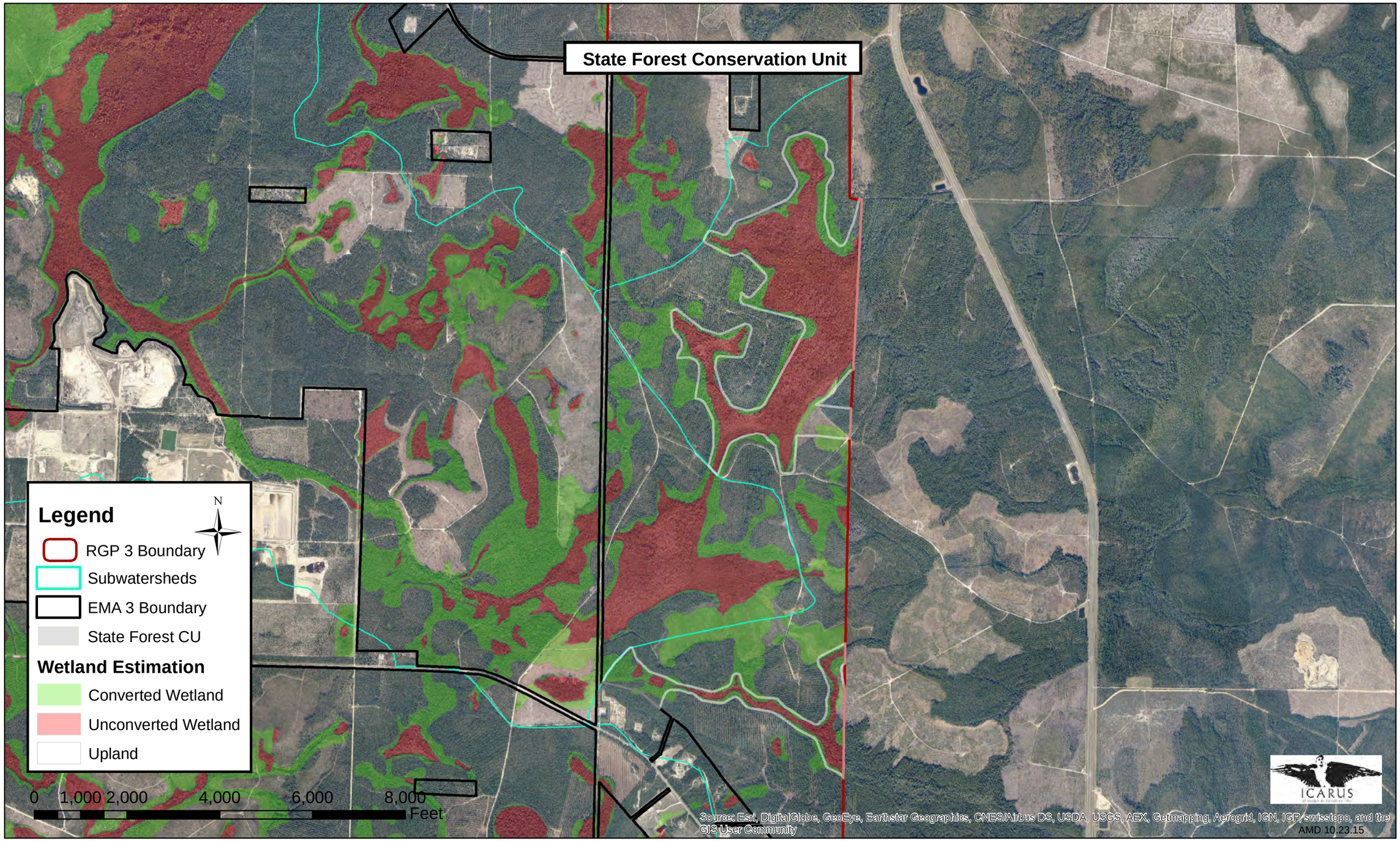

State Forest Conservation Unit
Legend
N
RGP 3 Boundary
Subwatersheds
EMA 3 Boundary
State Forest CU
0 1,000 2,000 4,000 6,000 8,000
Feet
ICARUS
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
AMD 10.23.15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Wetland Estimation
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Upland
0 1,000 2,000 4,000 6,000 8,000
Feet
ICARUS
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BIRD	Calidris canutus rufa	Red Knot	FT	
BIRD	Picoides borealis	Red-cockaded woodpecker	FE	
BIRD	Mycteria americana	Wood Stork	FT	
FISH	Pteronotropis welaka	Bluenose Shiner	SSC	
MAMMAL	Myotis grisescens	Gray Bat	FE	
REPTILE	Drymarchon couperi	Eastern indigo snake	FT	
REPTILE	Gopherus polyphemus	Gopher tortoise	ST	
PLANTS	**Scientific Name**	**Common Name**	**Federal Status**	**State Status**
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	Asclepias viridula	green milkweed		LT
	Aster spinulosus (now Eurybia spinulosa)	pinewoods aster		LE
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	Carex baltzellii	Baltzell's sedge		LT
	Cleistes divaricata	spreading pogonia		LT
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	Drosera intermedia	water sundew		LT
	Gentiana pennelliana	wiregrass gentian		LE
	Hymenocallis henryae	Mrs Henry's spiderlily		LE
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	Lilium catesbaei	Catesby lily		LT
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	Pinguicula planifolia	swamp butterwort		LT
	Pinguicula primuliflora	primrose-flowered butterwort		LE
	Platanthera ciliaris	yellow-fringed orchid		LT
	Platanthera integra	orange rein orchid		LE
	Pogonia ophioglossoides	rose pogonia		LT
	Rhexia parviflora	Apalachicola meadow-beauty		LE
	Rhexia salicifolia	Panhandle meadow beauty		LT
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	Rhynchospora stenophylla	narrow-leaf beakrush		LT
	Rudbeckia nitida	St. John's-Susan		LE
	Sarracenia leucophylla	white-top pitcher plant		LE
	Sarracenia psittacina	parrot pitcher plant		LT
	Sarracenia purpurea	decumbent pitcher plant		LT
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	Zigadenus leimanthoides (now Stenanthium densum)	coastal death camas		LE
	Stenanthium gramineum	eastern featherbells		LE
	Verbesina chapmanii	Chapman's crownbeard		LT
	Xyris isoetifolia	quillwort yellow-eyed-grass		LE
	Xyris longisepala	Karst pond yellow-eyed-grass		LE
	Xyris scabrifolia	Harper's yellow-eyed grass		LE

Abbreviations used herein are:

Plants:

T(S/A) =Threatened due to similarity of appearance
LE = Endangered
LT= Threatened
LS = Species of special concern
N = not currently listed
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Animals:

FE = Federal Endangered
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ST = State Threatened
SSC = Species of Special Concern
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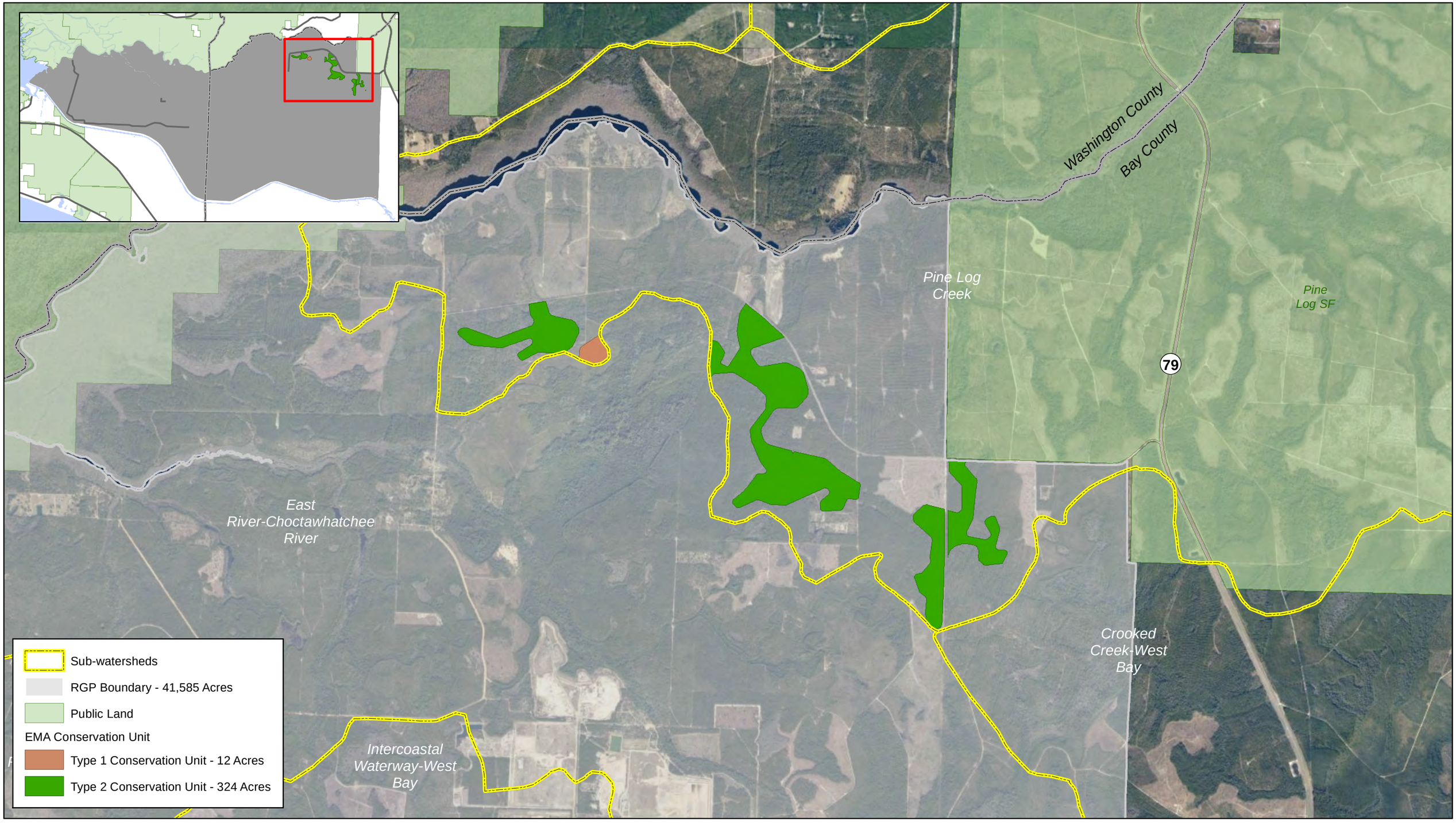

REGIONAL GENERAL PERMIT SAJ-114
CONSERVATION UNIT MAP
THREE MILE BRANCH - 336 ACRES

Exhibit 19 - June 2016

0 0.5 1 Miles

1 in = 0.47 miles

1:30,000

THREE MILE BRANCH CONSERVATION UNIT

Icarus Ecological Services, Inc

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I. GENERAL DESCRIPTION OF CONSERVATION UNIT

Three mile branch Conservation Unit (CU) is a 337 (+/-) acre area divided into five sections within the Pine Log Creek Subbasin along Pine log Road. This CU consists of tributaries and basin swamps draining into the Choctawhatchee river in Sections 13, 14, 15 19, 22, 23, 24, 25, 30 Township 1 South, Range 17 West in Bay County, Florida (see Figure 1: General Location Map). The wetlands in this area are dominated by a Basin Swamp and Mixed Hardwood Forested systems which drain to the Choctawhatchee River.

The topography within this CU is relatively flat with the elevation ranging from 12 – 18 feet. There are three wetland systems within this CU all are Basin Swamp and Baygall systems attached by sloughs flowing north to the Choctawhatchee River. The Choctawhatchee is the third largest river in Florida by volume and an important feature in NW Florida for wildlife habitat and water quality.

The FLUCCS land cover of the Three Mile Branch CU is dominated by Wetland Forest Mixed (51%) and Coniferous Plantations (34%), totaling (85%). The upland portion is dominated by coniferous plantations (11%). There are also small inclusions of Treeless Hydric Savanna, Pine Flatwoods and Forest Regeneration Areas making up 10% of the remaining area. The National Wetland Inventory (NWI) identifies 85% of the CU as palustrine wetlands and the remainder as uplands (15%), which is similar to the wetland coverage based on the soil types dominated by Rutledge Sand and Pamilico Dorovan (81%).

Using soil survey data, FLUCCS, NWI data, aerial photograph interpretation and additional groundtruthing a wetland estimation, specific to the site, has been done. Over 140 data point locations were groundtruthed within the EMA boundary. Based on the more detailed wetland estimation the CU is comprised of 82% wetland (Basin Swamp and Baygall Systems) and 18% uplands (Pine Flatwoods in Silviculture). The majority of the uplands are currently planted with Slash Pine (*Pinus ellotti*).

The wetlands within the Three Mile Branch CU are comprised of Basin Swamps and Baygall systems that drain into the Choctawhatchee River. This CU also has upland areas that are classified as Coniferous Plantations. The uplands in this area are mesic and allow for overland flow to the depressional Basin Swamp system and Baygall slough system contributing to the Choctawhatchee river tributaries. The upland Mesic Pine Flatwoods are used for silviculture for Slash Pine. 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 appropriate for State and Federal listed flora and fauna. There are 3 documented listed species within the RGP/EMA 3 Boundary; the closest is Twin Striped Clubtail (*Gomphus geminatus*) 1 mile from this Conservation

Unit (FLEO, 2009). Table 1 provides a list of species that would be expected to use these areas if the habitats were in a natural state.

II. REGIONAL SIGNIFICANCE

The Three Mile Branch CU protects both uplands and wetlands that contribute to the tributaries of the Choctawhatchee River. This Conservation Unit is the closest to the open water portion of the Choctawhatchee River. The wetlands in this CU are hydrologically connected to the River through three separate parallel slough system. Each of these slough systems ranges from 2000 – 4000 feet long, discharging to the open water portion of the Choctawhatchee River.

The Choctawhatchee River is the third largest river in Florida by volume. It flows from Alabama through Northwest Florida and discharges to the Gulf of Mexico through Choctawhatchee Bay at East Pass in Destin, FL. The Bay and tributaries are considered critical/ strategic habitat by FFWCC, USFWS, and FNAI for Gulf Sturgeon, 5 mussel species and other species. The Bay, River and its tributaries are classified as Class 2 shellfish harvesting approved waters and an Outstanding Florida Waterbody (OFW) by FDEP. The Choctawhatchee River basin is a priority area for the NWFWMD, FFWCC and other agencies for preservation of this pristine waterbody. A large portion of the floodplain is in public ownership and designated for conservation. This CU will allow for the wetlands contributing to water quality, flood attenuation to be kept in a natural state.

The Three Mile Branch CU is identified as a priority 2 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.

The Green Links Regional CLIP Database is an interagency effort to rank areas for potential natural resource impacts on a landscape scale. Representative from the Army Corps of Engineers, Florida Fish and Wildlife Conservation Commission, National Marine Fisheries, West Florida Regional Planning Council and many other agencies were involved. The Regional Ecological Network Data was combined with the CLIP and Regional Ecological Synthesis into the Regional CLIP data Layer. The entire CU is a Green Links Priority 1, Level 1 and 2 (Hoctor, UF, 2013), the highest of the high priority areas for regional ecological planning.

This CU is vital to water quality treatment and storage, habitat conservation, and species conservation. This CU contributes to the conservation landward wetlands of the Choctawhatchee River floodplain.

III. BIODIVERSITY

The habitats within the Three Mile Branch CU are a landscape of Coniferous Plantations and Wetland Forested Mixed. The wetland forest mixed areas would also be classified as a mixture of Basin Swamp and Baygall systems. The planted Mesic Pine Flatwoods upland diversity is in the ground cover layer, the Baygall diversity is within the shrub and canopy while the Basin Swamps contain the majority of their diversity in the canopy and subcanopy strata. Groundwater seeps through these systems from the surrounding uplands. In the current condition, the existing Mesic Pine Flatwoods 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 areas within the Baygall and Basin Swamp systems are dominated wetland hardwood and cypress. These areas are currently very similar to the historical conditions. Due the hydroperiod of the Basin Swamp very little impact has occurred to the wetland areas from the adjacent silviculture. This CU has also been ranked as a Priority 2 Strategic Habitat Conservation Area 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.

No threatened species have been documented within the CU. A documented occurance of Twin-Stripped Clubtail (*Gomphus geminatus*) is within 1 mile of the CU. The Choctawhatchee tributaries, and associated wetland sloughs are essential habitat for the Gulf Sturgeon, Seven Mussel species, Bluenose shiner and other listed vertebrates and invertebrates.Further, there are 41 plants and 9 animals identified in Bay and Walton Counties as Threatened or Endangered Species that could potentially occur in this CU. Conserving these areas will help to maintain habitat for listed species in the region. Table 1 provides a list of species that may benefit by the conservation of this habitat directly or secondarily.

IV. WATER QUALITY

The Three Mile Branch CU has three wetland systems; all are Basin Swamp and Baygall systems attached by sloughs flowing north to the Choctawhatchee River. This CU is located in the Pine Log Creek Hydrologic Unit Code 12 drainage area within the GPEMA3 area. This area in addition to the other RGPEMA3 CUs and NWFWMD lands will preserve 383 Acres of the Pine Log Creek sub basin. With the addition of this CU, 15% of the Pine Long Creek sub basin within the SAJ 114 boundary will be in conservation. Since this basin has numerous private land owners, this is a noteworthy percentage. Therefore, the preservation of this CU will provide significant protection compared to other watersheds that have experienced heightened development pressures. This large preservation area will provide an essential buffer to

Choctawhatchee Bay, along with water quality treatment, and flood attenuation for the River.

Choctawhatchee River is listed on the 305(b) or 303(d) list of impaired waters (FDEP, 2008) for mercury in fish tissue. There are currently no known point sources in the watershed and non-point sources are limited to forestry roads. Conserving lands within the CU will help to maintain a restored buffer around the Choctawhatchee River. The CU protects contributing wetlands within the River floodplain.

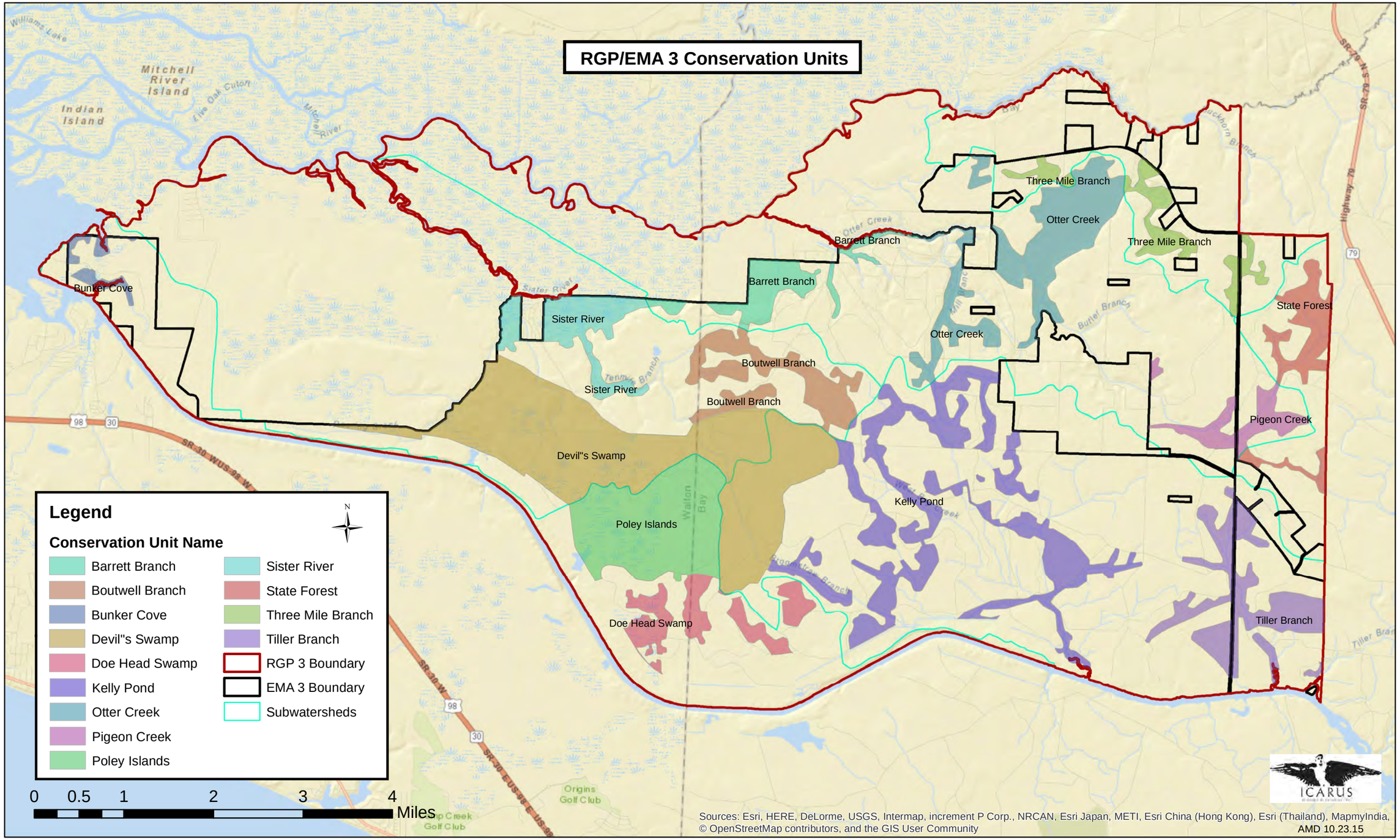
The habitats within the Three Mile Branch CU are planted Pine Flatwoods uplands, Baygall and Basin Swamps. Hydrology through these systems comes from surrounding Mesic and Hydric Pine Flatwoods and significantly contributes to surface water inflows to Choctawhatchee Bay. The upland habitats experienced alterations from being planted in pine; however, they still provide valuable water input, water filtration, and water storage function.

This CU has been identified by FNAI as a significant surface water priority level 2 and 4 (FNAI, 2009) primarily due to the support it provides to bay and coastal surface waters. Choctawhatchee Bay is a Class II Waterbody approved for shellfish harvesting that supports extensive Tidal Marsh and seagrass beds. Preserving the lands surrounding the Choctawhatchee River will help to maintain the brackish shallow water estuaries.

IV. ESSENTIAL FISH HABITAT AND MARINE RESOURCES

Land areas within Pine Log Creek subwatershed drain into Baygall and Basin Swamp wetlands to sloughs associated with Choctawhatchee River and Choctawhatchee Bay. Choctawhatchee Bay is classified as Class II waters. The majority of Choctawhatchee Bay is approved for shellfish harvesting with some areas classified as prohibited for shellfish harvesting. Choctawhatchee Bay is classified as Essential Fish Habitat by NOAA and National Marine Fisheries Service for 5 species of Shark, Red Drum, 43 species of reef fish, 4 species of Shrimp and Coastal Migratory Pelagic fishes. Conservation of the Three Mile Branch CU provides additional water quality protection to the landward extent of the Choctawhatchee River Floodplain, maintaining this Essential Fish Habitat.

RGP/EMA 3 Conservation Units



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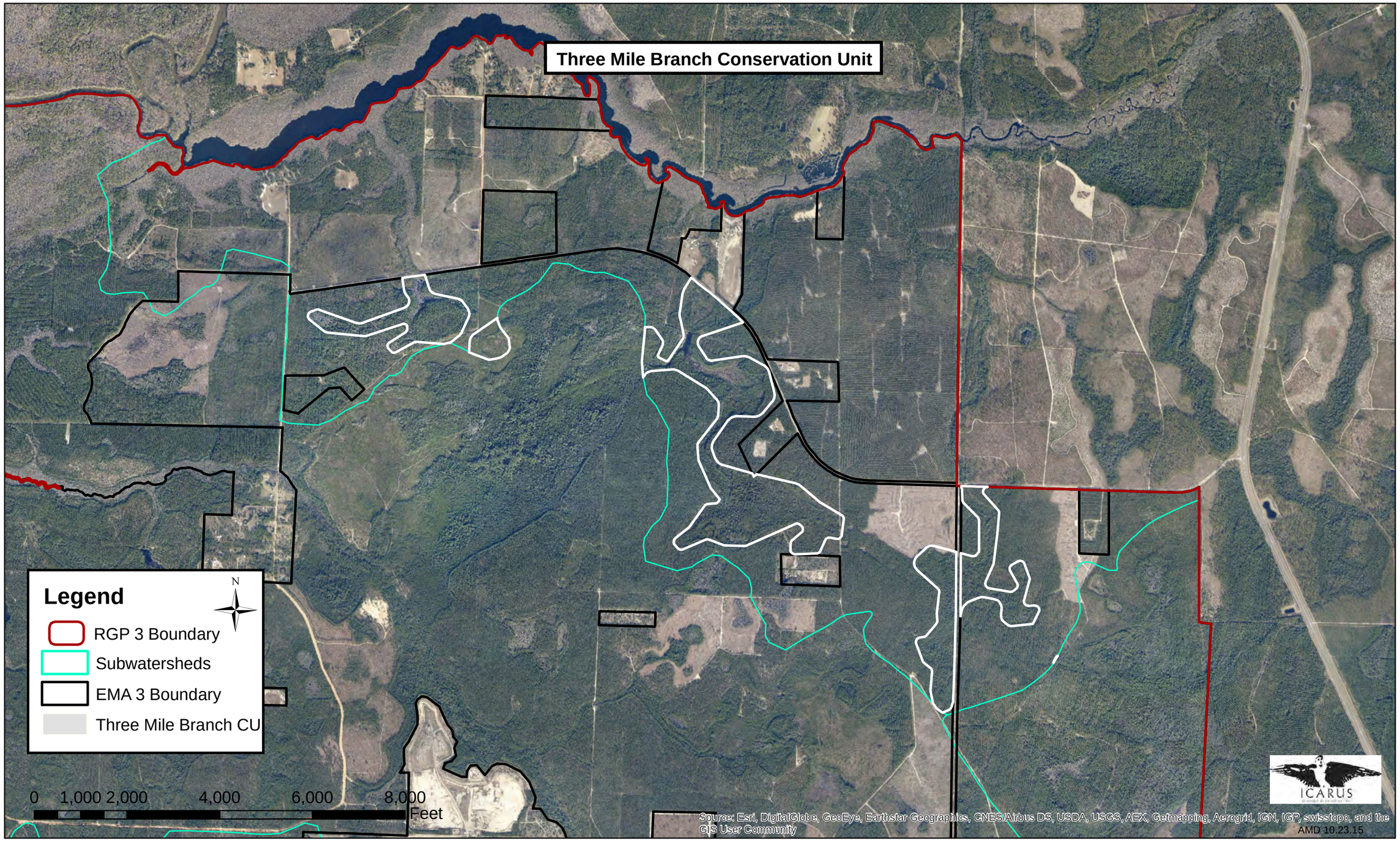
Three Mile Branch Conservation Unit
Legend
N
RGP 3 Boundary
Subwatersheds
EMA 3 Boundary
Three Mile Branch CU
0 1,000 2,000 4,000 6,000 8,000
Feet
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
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Three Mile Branch Conservation Unit

Legend

- RGP 3 Boundary
- Subwatersheds
- EMA 3 Boundary
- Three Mile Branch CU

Wetland Estimation

- Converted Wetland
- Unconverted Wetland
- Upland

N

0 1,000 2,000 4,000 6,000 8,000 Feet

ICARUS

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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Table 1. Three Mile Branch Conservation Unit Potential Threatened and Endangered Species Occurrences

ANIMALS	Scientific Name	Common Name	Status	
AMPHIBIAN	Ambystoma Bishopi	Reticulated Flatwoods Salamander	FE	
BIRD	Charadrius melodus	Piping Plover	FT	
BIRD	Calidris canutus rufa	Red Knot	FT	
BIRD	Picoides borealis	Red-cockaded woodpecker	FE	
BIRD	Mycteria americana	Wood Stork	FT	
FISH	Pteronotropis welaka	Bluenose Shiner	SSC	
MAMMAL	Myotis grisescens	Gray Bat	FE	
REPTILE	Drymarchon couperi	Eastern indigo snake	FT	
REPTILE	Gopherus polyphemus	Gopher tortoise	ST	
PLANTS	**Scientific Name**	**Common Name**	**Federal Status**	**State Status**
	Andropogon arctatus	pine-woods bluestem		LT
	Arnogolssum album	white-flowered Plantain		LE
	Asclepias viridula	green milkweed		LT
	Aster spinulosus (now Eurybia spinulosa)	pinewoods aster		LE
	Calamovilfa curtissii	Curtiss' Sandgrass		LT
	Carex baltzellii	Baltzell's sedge		LT
	Cleistes divaricata	spreading pogonia		LT
	Drosera filiformis	dew-thread		LE
	Drosera intermedia	water sundew		LT
	Gentiana pennelliana	wiregrass gentian		LE
	Hymenocallis henryae	Mrs Henry's spiderlily		LE
	Lachnocaulon digynum	Panhandle bogbuttons		LT
	Lilium catesbaei	Catesby lily		LT
	Linum macrocarpum	big-seed flax		LE
	Macbridea alba	white birds-in-a-nest	LT	LE
	Macranthera flammea	hummingbird-flower		LE
	Panicum nudicaule now Dichanthelium nudicaule	naked-stemmed panic grass		LT
	Physostegia godfreyi	Apalachicola dragonhead		LT
	Pinckneya bracteata	fever-tree		LT
	Pinguicula ionantha	Godfrey's or panhandle butterwort	LT	LE
	Pinguicula lutea	yellow-flowered butterwort		LT
	Pinguicula planifolia	swamp butterwort		LT
	Pinguicula primuliflora	primrose-flowered butterwort		LE
	Platanthera ciliaris	yellow-fringed orchid		LT
	Platanthera integra	orange rein orchid		LE
	Pogonia ophioglossoides	rose pogonia		LT
	Rhexia parviflora	Apalachicola meadow-beauty		LE
	Rhexia salicifolia	Panhandle meadow beauty		LT
	Rhynchospora crinipes	hairy peduncled beakrush		LE
	Rhynchospora stenophylla	narrow-leaf beakrush		LT
	Rudbeckia nitida	St. John's-Susan		LE
	Sarracenia leucophylla	white-top pitcher plant		LE
	Sarracenia psittacina	parrot pitcher plant		LT
	Sarracenia purpurea	decumbent pitcher plant		LT
	Stachydeoma graveolens (now Hedeoma graveolens)	mock pennyroyal		LE
	Zigadenus leimanthoides (now Stenanthium densum)	coastal death camas		LE
	Stenanthium gramineum	eastern featherbells		LE
	Verbesina chapmanii	Chapman's crownbeard		LT
	Xyris isoetifolia	quillwort yellow-eyed-grass		LE
	Xyris longisepala	Karst pond yellow-eyed-grass		LE
	Xyris scabrifolia	Harper's yellow-eyed grass		LE

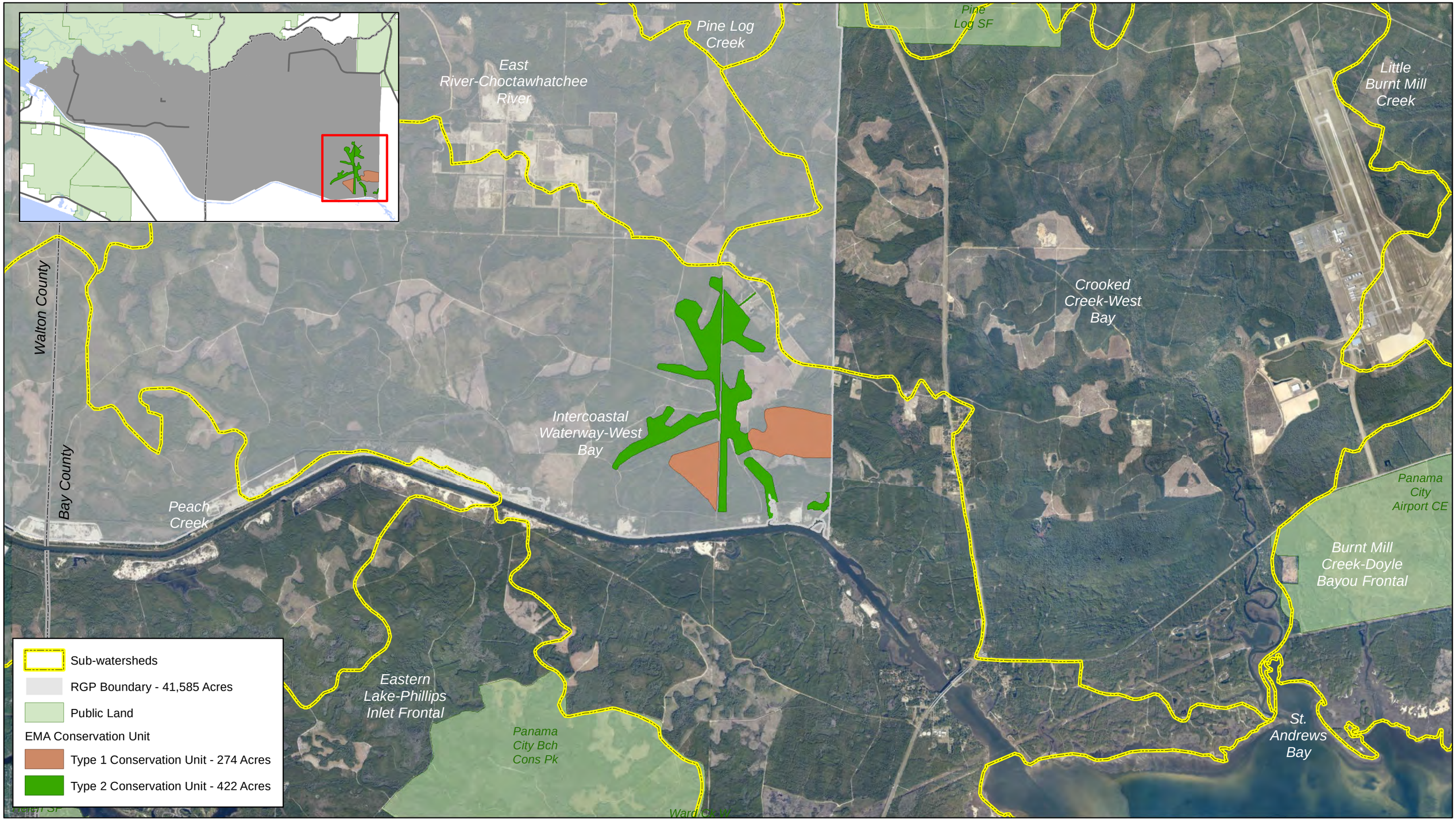
Abbreviations used herein are:

Plants:

T(S/A) =Threatened due to similarity of appearance
LE = Endangered
LT= Threatened
LS = Species of special concern
N = not currently listed
PT= proposed for listing as Threatened

Animals:

FE = Federal Endangered
FT = Federal Threatened
ST = State Threatened
SSC = Species of Special Concern
FT(S/A) = Federal Threatened due to similarity of appearance



REGIONAL GENERAL PERMIT SAJ-114
CONSERVATION UNIT MAP
TILLER BRANCH - 696 ACRES

Exhibit 20 - June 2016

0 1 2 Miles

1 in = 0.79 miles

1:50,000

TILLER BRANCH
CONSERVATION UNIT

Icarus Ecological Services, Inc

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TABLE

I. GENERAL DESCRIPTION OF CONSERVATION UNIT

Tiller Branch Conservation Unit (CU) is a 696 (+/-) acre area divided into sections associate with the headwaters of Tiller Branch with in the Inter Coastal Waterway (ICW)- West Bay South of Steelfield Road. It consists of sloughs and basin swamps draining into the Tiller Branch and on to the ICW in Sections 1, 13, 17 Township 2 South, Range 17 West and Section 6, 7, 18 Township 2 South, Range 16 West in Bay County, Florida (see Figure 1: General Location Map). The wetlands in this area are dominated by a Basin Swamp and Mixed Hardwood Forested systems which drain to the ICW and on to West Bay.

The topography within this CU is relatively flat with the elevations ranging from 8-12 feet throughout the CU. The wetlands just a couple feet below the grade of the adjacent uplands. The Tiller Branch CU is comprised of planted pine uplands and large Basin Swamp systems connected by sloughs. The area is the Headwaters of Tiller Branch Creek which flows into the ICW and on to West Bay.

The FLUCCS land cover of the Tiller Branch CU is dominated by Wetland Forested Mixed (54%) and Forest Regeneration Areas (17%), totaling (71%). The upland portion is dominated by Coniferous Plantations (20%). There are also small inclusions of Treeless Hydric Savannah (2%), and Hydric Pine Flatwoods making up 7% of the remaining area. The National Wetland Inventory (NWI) identifies 74% of the CU as palustrine wetlands, 1 % estuarine and the remainder as uplands 25%, which is similar to the wetland coverage based on the soil types dominated by Rutlege and Pottsburg (84%).

Using soil survey data, FLUCCS, NWI data, aerial photograph interpretation and additional groundtruthing a wetland estimation, specific to the site, has been done. Over 140 data point locations were groundtruthed within the EMA boundary. Based on the more detailed wetland estimation the CU is comprised of 87% wetland (Basin Swamp and Baygall Slough Systems) and 13% uplands (Pine Flatwoods in Silviculture). The majority of the uplands are currently planted with Slash Pine (*Pinus ellotti*).

The wetlands within the Tiller Branch CU are comprised of Basin Swamps and Baygall systems that drain into Tiller Branch and on to West Bay. This CU also has upland areas that are classified as Coniferous Plantations and Forest Regeneration Areas. The uplands in this area are mesic and allow for overland flow to the depressional Basin Swamp system and Baygall slough system contributing to the West Bay tributary, Tiller Branch. The upland Mesic Pine Flatwoods are used for silviculture for Slash Pine. 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 appropriate for State and Federal listed flora and fauna. There are 3 documented listed species within the RGP/EMA 3 Boundary; However, the closest is in the SAJ 105 boundary, South Milkweed (*Asclepias viridula)*

1 Mile from this Conservation Unit (FLEO, 2009). Table 1 provides a list of species that would be expected to use these areas if the habitats were in a natural state.

II. REGIONAL SIGNIFICANCE

The Tiller Branch CU protects both uplands and expansive wetlands that contribute to the tributaries of West Bay. Conserving this unit will contribute to sustained water quality and water quantity treatment for Tiller Branch, West Bay, and ultimately, St. Andrews Bay. The Tiller Branch CU is a subset of the overall West Bay Preservation Area (WBPA) as identified in the "Ecological assessment, Natural Resource Values and Regional Significance of the West Bay Preservation Area, Bay County, Florida" report prepared by The Nature Conservancy. This assessment was prepared during the Sector planning process which created a land use designation overlay known as the West Bay Preservation Area (WBPA).

The Tiller Branch CU protects the headwater recharge area for Tiller Branch. This creek is vital to the West Bay. This CU will allow for the wetlands contributing to water quality, flood attenuation to be kept in a natural state.

The Tiller Branch 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. The entire CU is a Green Links Priority 1, Level 1 and 2 (Hoctor, UF, 2013), the highest of the high priority areas for regional ecological planning.

This CU is vital to water quality treatment and storage, habitat conservation, and species conservation. This CU contributes to the landward wetlands of the Choctawhatchee River floodplain, expanding the conservation efforts of the NWFWMD.

III. BIODIVERSITY

The habitats within the Tiller Branch CU are a landscape of Coniferous Plantations and Wetland Forested Mixed including Basin Swamp and Baygall slough systems. The planted Mesic Pine Flatwoods upland diversity is in the ground cover layer, the Baygall diversity is within the shrub and canopy while the Basin Swamps contain the majority of their diversity in the canopy and subcanopy strata. Overland flow and groundwater seeps through these systems from the surrounding uplands. In the current condition, the existing Mesic Pine Flatwoods 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 areas within the Baygall and Basin Swamp systems are dominated wetland hardwood and cypress. These areas are currently very similar to the historical conditions. Due the hydroperiod of the Basin Swamp very little impact has occurred to the wetland areas from the adjacent silviculture. This CU has also been ranked as a Priority 2 Strategic Habitat Conservation Area 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.

No threatened species have been documented within the CU. There are 3 documented listed species within the RGP/EMA 3 Boundary; However, the closest is in the SAJ 105 boundary, South Milkweed (*Asclepias viridula)* 1 Mile from this Conservation Unit (FLEO, 2009). Further, there are 41 plants and 9 animals identified in Bay and Walton Counties as Threatened or Endangered Species that could potentially occur in this CU. Conserving these areas will help to maintain habitat for listed species in the region. Table 1 provides a list of species that may benefit by the conservation of this habitat directly or secondarily.

IV. WATER QUALITY

The Tiller Branch CU protects both uplands and expansive wetlands that contribute to the tributaries of West Bay. This CU is located in the ICW- West Bay Hydrologic Unit Code 12 drainage area within the GPEMA3 area. This area in addition to the other RGPEMA3 CUs and NWFWMD lands will preserve 3,101 Acres of the ICW- West Bay sub basin. With the addition of this CU, 29 % of the ICW- West Bay sub basin within SAJ-114 boundary will be in conservation. Therefore, the preservation of this CU will provide significant protection compared to other watersheds that have experienced heightened development pressures. This large preservation area will provide an essential buffer to West Bay, along with water quality treatment, and flood attenuation for the ICW.

West Bay is listed on the 305(b) or 303(d) list of impaired waters (FDEP, 2008) for mercury in fish tissue. There are currently no known point sources in the watershed and non-point sources are limited to forestry roads. Conserving lands within the CU will help to maintain a restored buffer around the Choctawhatchee River. The CU protects the river floodplain to the upland extent.

The habitats within the Tiller Branch CU are planted Pine Flatwoods uplands, Baygall sloughs and Basin Swamps. Hydrology through these systems comes from surrounding Mesic and Hydric Pine Flatwoods and significantly contributes to surface water inflows to West Bay. The upland habitats experienced alterations from being planted in pine; however, they still provide valuable water input, water filtration, and water storage

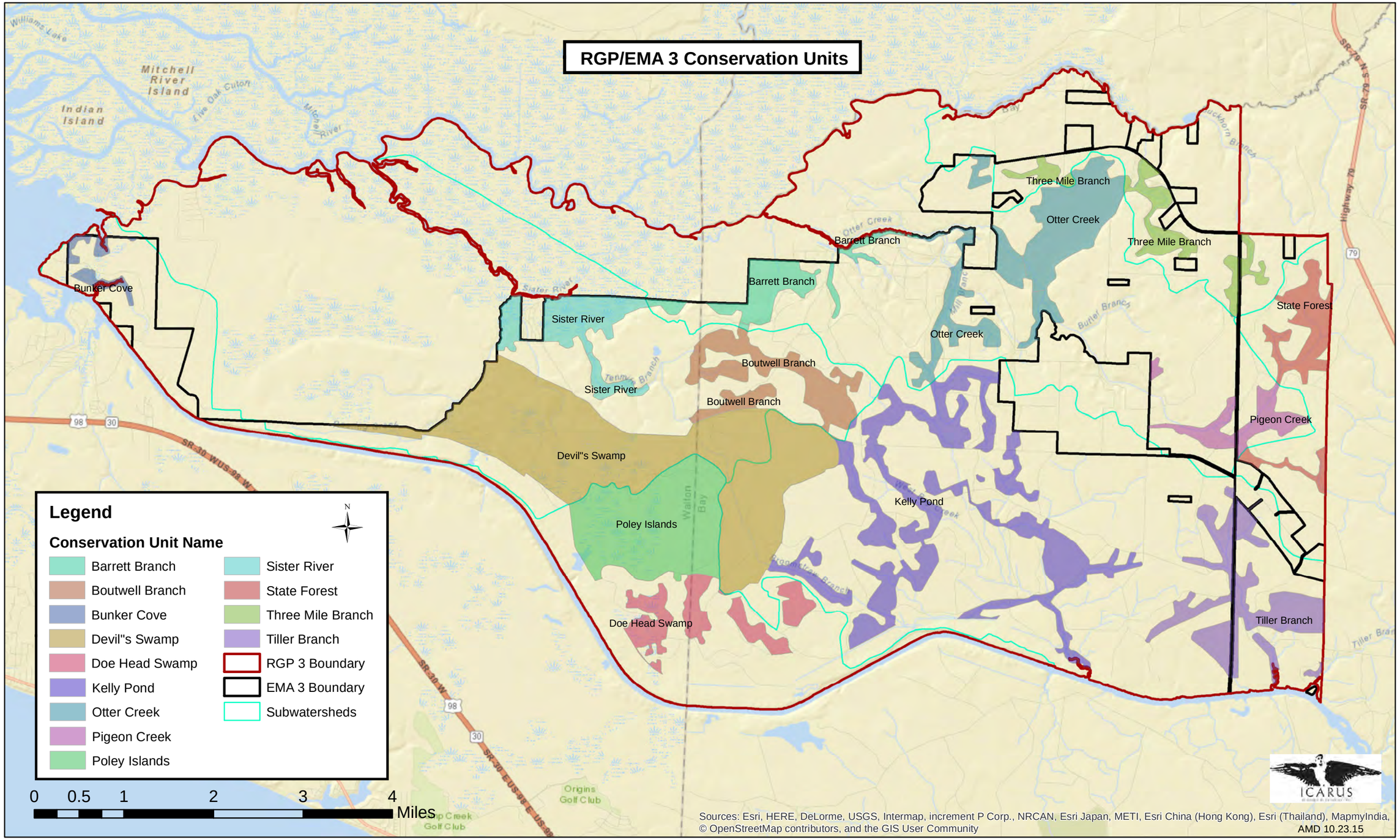
function.

This CU has been identified by FNAI as a significant surface water priority level 2- 4 (FNAI, 2009) primarily due to the support it provides to bay and coastal surface waters. West Bay is a Class II Waterbody conditionally approved for shellfish harvesting, that supports extensive Tidal Marsh and seagrass beds. Preserving the lands surrounding the Tiller Branch will help to maintain the brackish shallow water estuaries.

IV. ESSENTIAL FISH HABITAT AND MARINE RESOURCES

Land areas within the ICW – West Bay subwatershed drain into Baygall sloughs and Basin Swamps that flow into tidal creeks, such as, Tiller Branch and eventually West 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 is classified as Essential Fish Habitat by NOAA and National Marine Fisheries Service for 5 species of Shark, Red Drum, 43 species of reef fish, 4 species of Shrimp and Coastal Migratory Pelagic fishes. Conservation of the Tiller Branch CU provides additional water quality protection to West Bay, maintaining this Essential Fish Habitat. As mentioned above, preserving this CU will contribute to water quality protection and will help maintain the downstream aquatic resources.

RGP/EMA 3 Conservation Units



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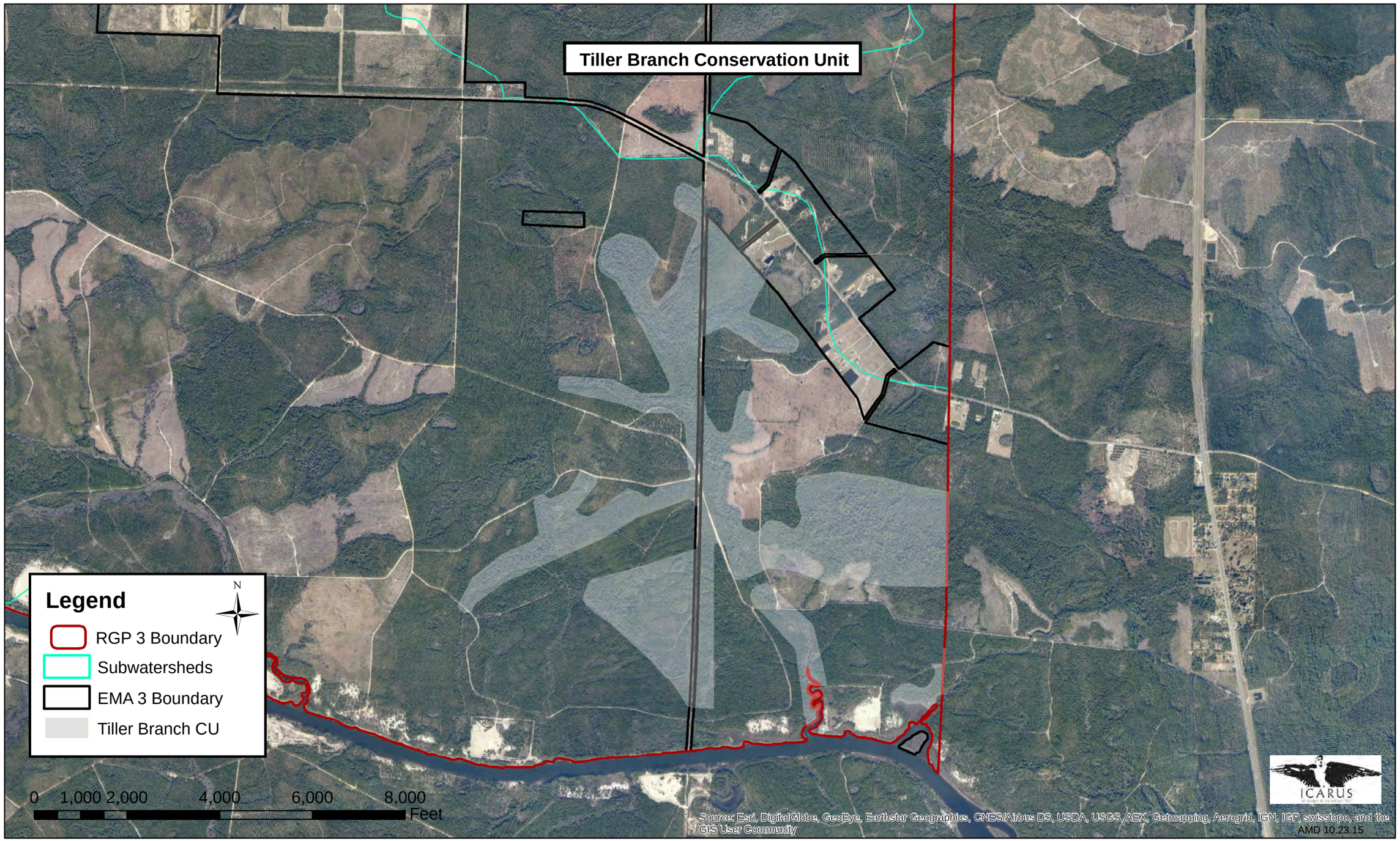
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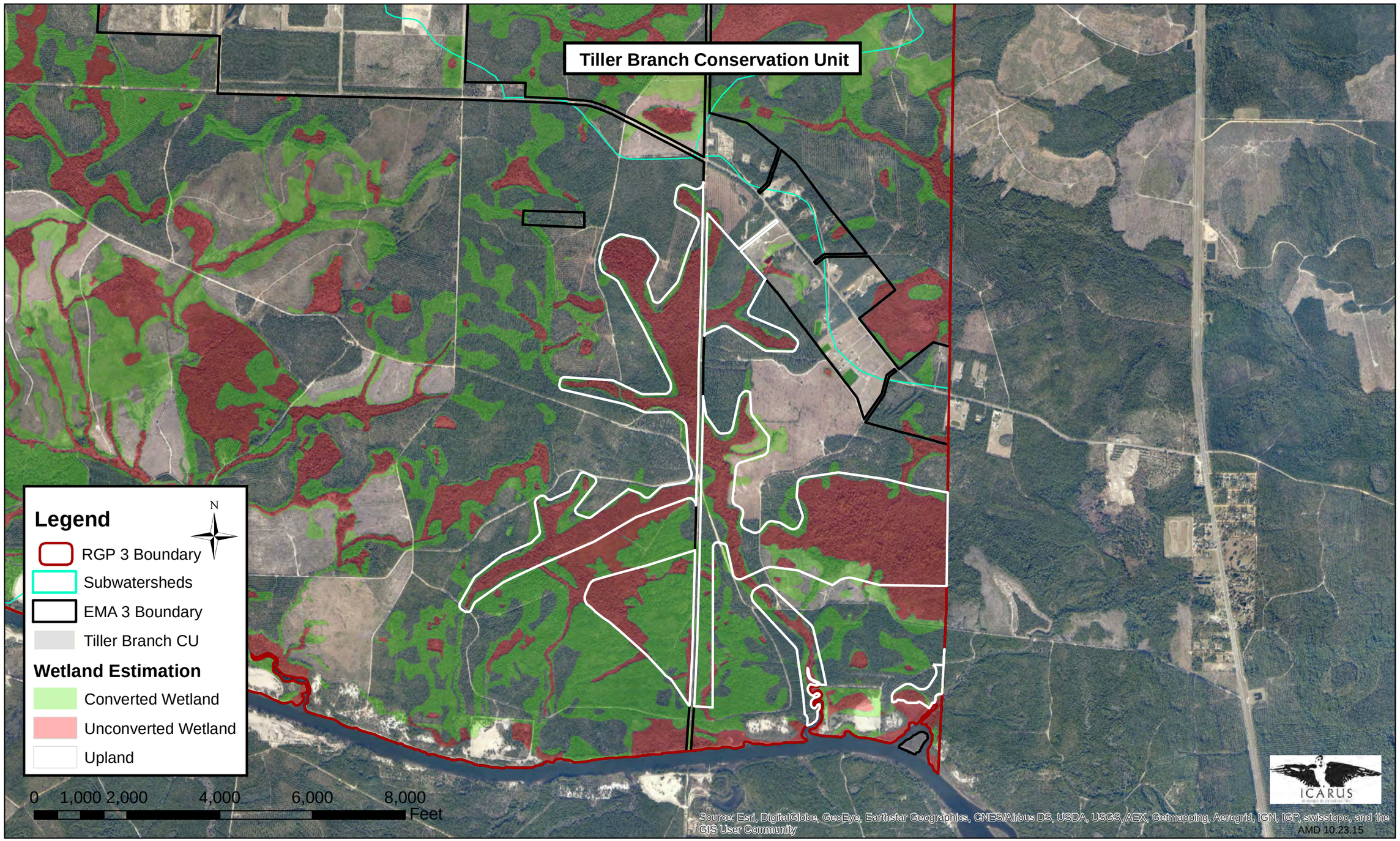
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	Xyris longisepala	Karst pond yellow-eyed-grass		LE
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