A Survey for Federally Listed Plant Species, Invasive Exotic Plant Species, and High Quality Natural Communities on the Telogia and Beazley Tracts, Apalachicola National Forest, Florida

by

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INTRODUCTION

Between January and September 2012 botanists with the Florida Natural Areas Inventory (FNAI) conducted field surveys on six compartments in the Beazley and Telogia Tracts in the Apalachicola District of Apalachicola National Forest (ANF) to identify locations for Federally listed plant species, and invasive exotic plant species, and sensitive areas of high quality natural communities, prior to a planned timber sale. FNAI maintains a database on rare species and natural communities in Florida and this database was consulted for occurrences of state and Federal listed species on or near the two tracts as a starting point for the survey. In addition, a map of historical natural communities on the ANF, which FNAI was in the process of developing for the U.S. Forest Service from interpretation of 1937 and 1952 aerial photography, was used to identify potential areas to survey.

METHODS

The FNAI database has occurrences of four Federally listed plant species on the ANF: Harper's beauty (*Harperocallis flava*), Godfrey's butterwort (*Pinguicula ionantha*), white birds-in-a-nest (*Macbridea alba*), and Florida skullcap (*Scutellaria floridana*). Harper's beauty is listed as endangered and the other three as threatened. None of these species had occurrences on either of the two tracts in the FNAI database prior to this survey but several were nearby on adjacent Compartments. Potential habitat to search for these Federally listed species was determined from current aerial photography of the Tracts, as well as from the historical natural community map, and the likeliest areas to search were circled on field maps. Surveys were timed to coincide with times when these Federally listed species were best identified. Exotics were recorded as encountered during the survey and searched for along boundary roads and disturbed areas, where they were likely to occur. Natural community points were taken for good quality natural communities (intact ecotones, wiregrass groundcover, and high species diversity). These points were used in combination with interpretation of current aerial photography to outline sensitive areas composed of good quality ground cover and intact natural ecotones between communities.

GPS location and data on rare plants, natural communities, and invasive exotic plant species were recorded with a Trimble Nomad datalogger with 3m accuracy. Also recorded were GPS position points showing the track followed in the survey. The FNAI natural community classification (FNAI 2010) was used for recording field data. The historical natural community map also uses this classification, except it collapses all forested wetland communities into one category and all flatwoods communities into one as well.

RESULTS

Telogia Tract

Description. The Telogia Tract of about 6700 acres is located in the northeast section of the Apalachicola District of Apalachicola National Forest and is bounded by SR 65 on the west, National Forest boundaries on the north and east, and Yellow Creek, a tributary of Telogia Creek, on the south (Figure 1). It encompasses compartments 1, 2, and 9 which are divided by Forest Road (FR) 128 curving south from the north boundary road (FR 103) and then west in a big semicircle to join SR 65 on the west. Compartments 1 and 9, on the outside of the semi-circle, are dissected by the headwaters of tributaries of Telogia Creek (Cooper Branch and Big Branch) and tributaries of Yellow Creek (Western Branch), respectively. Historically, the divides between these drainages supported isolated patches of sandhill as well as flatwoods vegetation. Most of the flatwoods in compartments 1 and 9 have been converted to pine plantation. Compartment 2 on the inside of the semi circle is low and flat and was historically largely composed of flatwoods and forested wetland vegetation with small fringes of wet prairie. A relatively large portion of these flatwoods remain in natural condition. Compartments 1 and 9 were last burned in February 2010 and Compartment 2 in July 2010.

Rare plants. No occurrences of Federally listed, and one occurrence of a state-listed, plant species were found on the Telogia Tract during this survey. One occurrence of Godfrey's butterwort in the FNAI database was near the western boundary of compartment 2 and a survey for this species was done in February during its flowering period, targeting the species' habitat, namely the ecotone between wet prairies and dome swamps that are dominated by pond cypress (*Taxodium ascendens*). This habitat was not extensive historically on this Tract (Figure 1) and very little currently remains in open condition (Figure 2). There is a small amount of potential wet prairie habitat at the extreme southwest corner of Compartment 9 which was not surveyed due to lack of road access.

One occurrence of scare-weed (*Baptisia simplicifolia*), state-listed as threatened, was noted on the western border of the Tract and widely scattered plants were also observed throughout those areas of mesic flatwoods in the Tract that had wiregrass ground cover. The FNAI database maps two occurrences of pinewoods bluestem (*Andropogon arctatus*), state-listed as threatened, in sandhill community on the eastern edge of the Tract. This species was not seen in the survey because it is best identified in late fall following a burn.

Invasive exotics. Japanese climbing fern (*Lygodium japonicum*) was the only invasive exotic species noted except for one occurrence of mimosa (*Albizia julibrissin*) on a boundary road. Japanese climbing fern was encountered as single plants or scattered patches primarily along both the major numbered roads, particularly near wetlands. The highest concentration was along FR 103 on the north boundary of the National Forest, bordering a rural residential area. Another concentration was found where FR 128 crossed Big Branch in Compartment 1 and Western Branch in Compartment 2. A source of infestation was the population of climbing fern along the

railroad tracks bordering Compartment 2. The single occurrence of mimosa was found at the junction of FR 103 and FR 128 on the north boundary

Sensitive areas. Seven sensitive areas were identified on the Telogia Tract (Figure 2; see shapefiles USFS_Misc_Pts_2012 and USFS_NC_Pts_2012 for descriptions of each) encompassing mostly mesic flatwoods plus one wet prairie/wet flatwoods area and one mesic flatwoods/sandhill area. Sensitive Area 15 was the largest open area with wiregrass (*Aristida stricta* var. *beyrichiana*) on the Tract and was composed of wet prairie with pitcher plants (*Sarracenia flava*) and a diversity of other species near the wetlands and wet flatwoods with wiregrass understory on the slightly higher areas. Sensitive Areas 14, 16, 17, 19, and 20 were good quality mesic flatwoods with well spaced, mature longleaf pines and an understory of wiregrass and saw palmetto (*Serenoa repens*). From current aerial photography it appears additional examples of good quality mesic flatwoods can be found in the west-central portion of Compartment 2. Sensitive Area 18 had high quality sandhill as well as mesic flatwoods. Most sandhill communities on the Tract had a dense understory of turkey oak (*Quercus laevis*), a legacy of too infrequent fires in the past.

Beazley Tract

Description. The Beazley Tract of about 4900 acres is located on the west-central border of the Apalachicola District of ANF near the floodplain of the Apalachicola River and includes Compartments 25, 26, and 27 (Figure 3). It is delimited on the north and west by National Forest boundaries, on the south by FR 183, CR 379, and FR 113 and on the east by FR 173. Gregory Mill Creek, a tributary of the Apalachicola River, traverses it from northeast to southwest. The central portion east of CR 379 in Compartments 26 and 27 was historically a large wet prairie with flatwoods on the edges (Figure 3). Much of the wet prairie is now in pine plantation, but some large areas remain (Figure 4). The portion west of CR 379 in Compartment 25 was historically and still is mostly composed of the upland pine community. Much of what was historically flatwoods on this Compartment is now in pine plantation. A small portion of the Apalachicola River floodplain is included in the northwest corner of this compartment with mature floodplain swamp and alluvial forest communities. Compartments 25 and 27 last burned in June 2009; Compartment 25 in August 2010.

Rare plants. No occurrences of the four Federally-listed species were on the Beazley Tract in the FNAI database at the start of this survey, but adjacent compartments had occurrences of Godfrey's butterwort, white birds-in-a-nest, and Florida skullcap. While this survey was ongoing, two new occurrences of Florida skullcap were found in a recently burned compartment just east of Compartment 27, causing surveys for this species on the Beazley Tract to be intensified. Surveys for the three Federally-listed species were conducted during their flowering periods in March, April and May, on sites that appeared open on current aerial photographs within the historical area of the wet prairie in Compartments 26 and 27. No occurrences of white

birds-in-a-nest were found. Two occurrences of Godfrey's butterwort and two of Florida skullcap were found on Compartments 26 and 27. In Compartment 27, 21 plants of Godfrey's butterwort were found within the edge of the cypress swamp lightly shaded by a canopy of myrtle-leaved holly *(Ilex cassine* var. *myrtifolia*) and in dense wiregrass bordering the swamp. In Compartment 26, 10 plants of this species found in dense wiregrass bordering a swampy drainage forming the headwaters of Gregory Mill Creek. In Compartment 26 the occurrence of Florida skullcap consisted of 9 vegetative and one flowering plant in dense wiregrass in the wetter portions of a wet prairie; in Compartment 26, 17 vegetative plants were found in the same type of habitat. There is good potential for more populations of Florida skullcap in Compartments 26 and 27 than were found in this survey. This species flowers profusely after a fire and is much more easily spotted then. White birds-in-a-nest also would be more visible following a fire.

Six state-listed plant species were found on the Beazley Tract in the course of the survey, two in the upland pine community on compartment 25, mock pennyroyal (*Hedeoma graveolens*) and narrow-leaved phoebanthus (*Phoebanthus tenuifolia*); two in wet prairie in Compartment 27, Chapman's crownbeard (*Verbesina chapmanii*) and Apalachicola dragon-head (*Physostegia godfreyi*); one (scare-weed) in mesic flatwoods in Compartment 27, and one, greenfly orchid (*Epidendrum conopseum*),. in a dome swamp in Compartment 27. Bog tupelo (*Nyssa ursina*) which is tracked by FNAI but is not state-listed, was also found in wet prairies in Compartments 26 and 27. It can be noted that Chapman's crownbeard and scare-weed were observed in many more places than recorded and in some places were locally common.

Invasive exotics. Japanese climbing fern (*Lygodium japonicum*) was the only invasive exotic species noted in the Beazley Tract, except for one occurrence of chinaberry (*Melia azedarach*) at junction of a forest road and CR 379. Most climbing fern occurrences were single plants or scattered clumps. Dense patches were noted however in Compartment 25 in the portion of Apalachicola River floodplain in the northwest corner and along a border with a residential area in the southwest corner. In the northwest section the densest parts are not in the river floodplain but along the woods road leading to it and on the bluffs above it. Along CR 379 it is growing in the bahia grass (*Paspalum notatum*) along the roadside right-of-way. The grass is being mowed which may serve to disperse the fern to other areas.

Sensitive Areas. Thirteen sensitive areas were delineated in the Beazley Tract (Figure 4; see shapefiles USFS_Misc_Pts_2012 and USFS_NC_Pts_2012 for descriptions of each). In compartments 26 and 27, sensitive areas 1, 2, 3, 5, 6, 8, 11, and 12 consisted of wet prairie with intact ecotones to dome swamp, as well as to mesic flatwoods with longleaf pine canopy and wiregrass ground layer. Sensitive area 4 in compartment 27 is a diverse wet prairie surrounded by pine plantation and sensitive area 9 in Compartment 26 is a longleaf pine/wiregrass flatwoods with diverse ground layer which may extend north and west of the area observed. Sensitive area 7 in Compartment 25 is a mature floodplain swamp with very large trees of Ogeechee tupelo (*Nyssa ogeche*), water tupelo (*Nyssa aquatica*), water hickory (*Carya aquatica*) and bald cypress

(*Taxodium distichum*). Sensitive area 10 is an upland pine community of longleaf pine and wiregrass, with scattered red oak (Quercus falcata) and black gum (Nyssa sylvatica) in the subcanopy and coppicing sweetgum (*Liquidambar styraciflua*) in the understory. Density of sweetgum probably increased in the absence of frequent fire and is now being reduced. Continued prescribed fire in this upland pine area will help reduce the woody understory. This western edge of the forest is the only extensive area of upland pine on the ANF, and probably derives from ancient alluvial clay deposits from the river floodplain. This area is likely similar to the upland pine community in the rest of the compartment and to the south along the east side of the river.

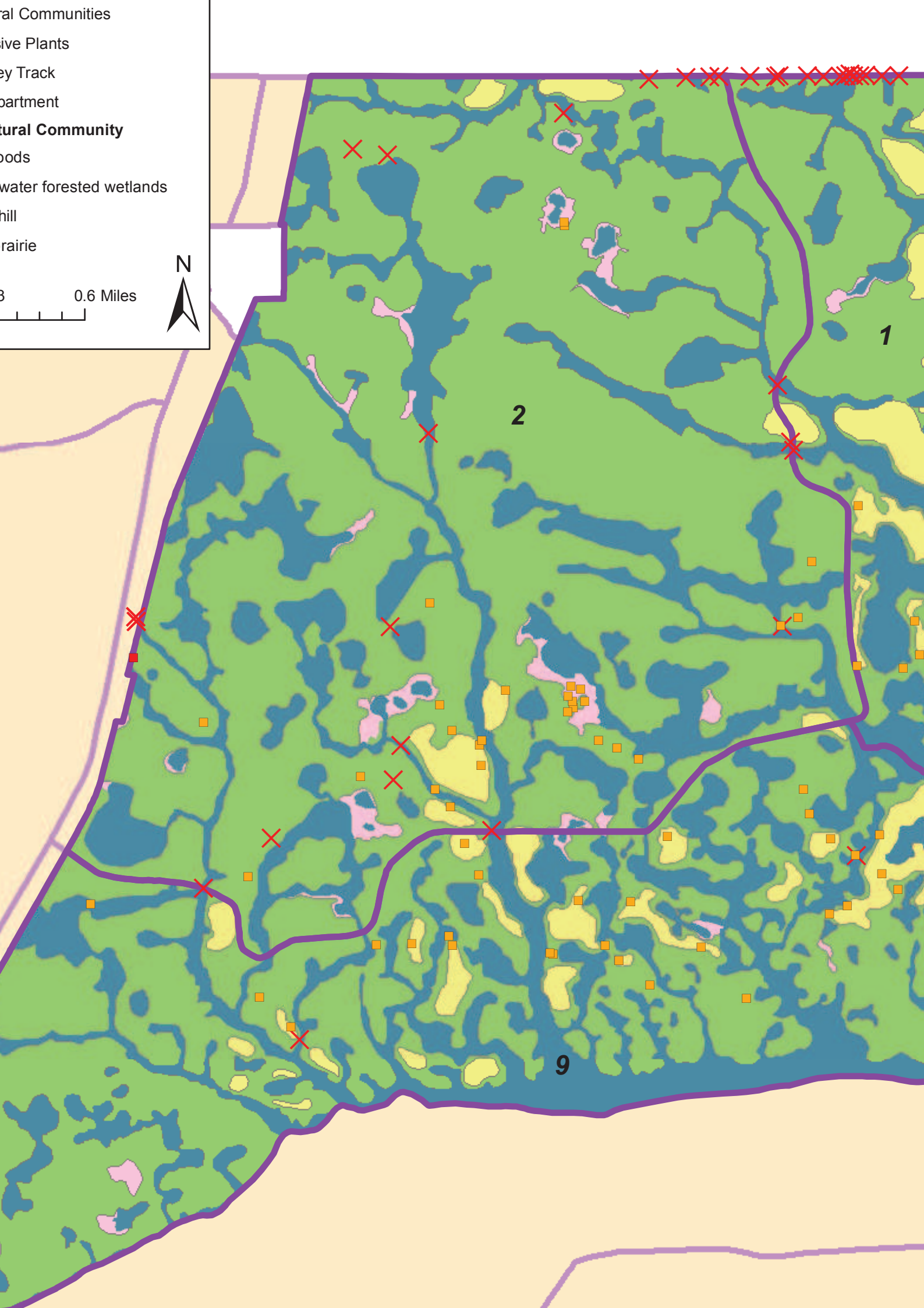
DISCUSSION AND RECOMMENDATIONS

Prior to any timbering activities, FNAI recommends that prescribed fire be applied and another thorough survey for the federally-listed plant species be conducted, especially focusing on the sensitive areas identified during this survey. The potential for much more extensive populations of Florida skullcap in the Beazley Tract is high. . There is also a fairly high potential for locating white birds-in-a-nest on the Beazley Tract. Florida skullcap has also been found in pine plantations bordering wet prairies in previous surveys (e.g. Compartment 72 in 2009), and this habitat should also be searched following a prescribed fire.

The sensitive areas identified during this survey should be carefully considered when planning silvicultural activities in these tracts. These areas represent high quality, intact natural communities and should be avoided when using heavy equipment. Additionally, continued prescribed fire application in these sensitive areas will help maintain their high quality.

REFERENCES

FNAI 2010. Guide to the natural communities of Florida: 2010 edition. Florida Natural Areas Inventory, Tallahassee, FL.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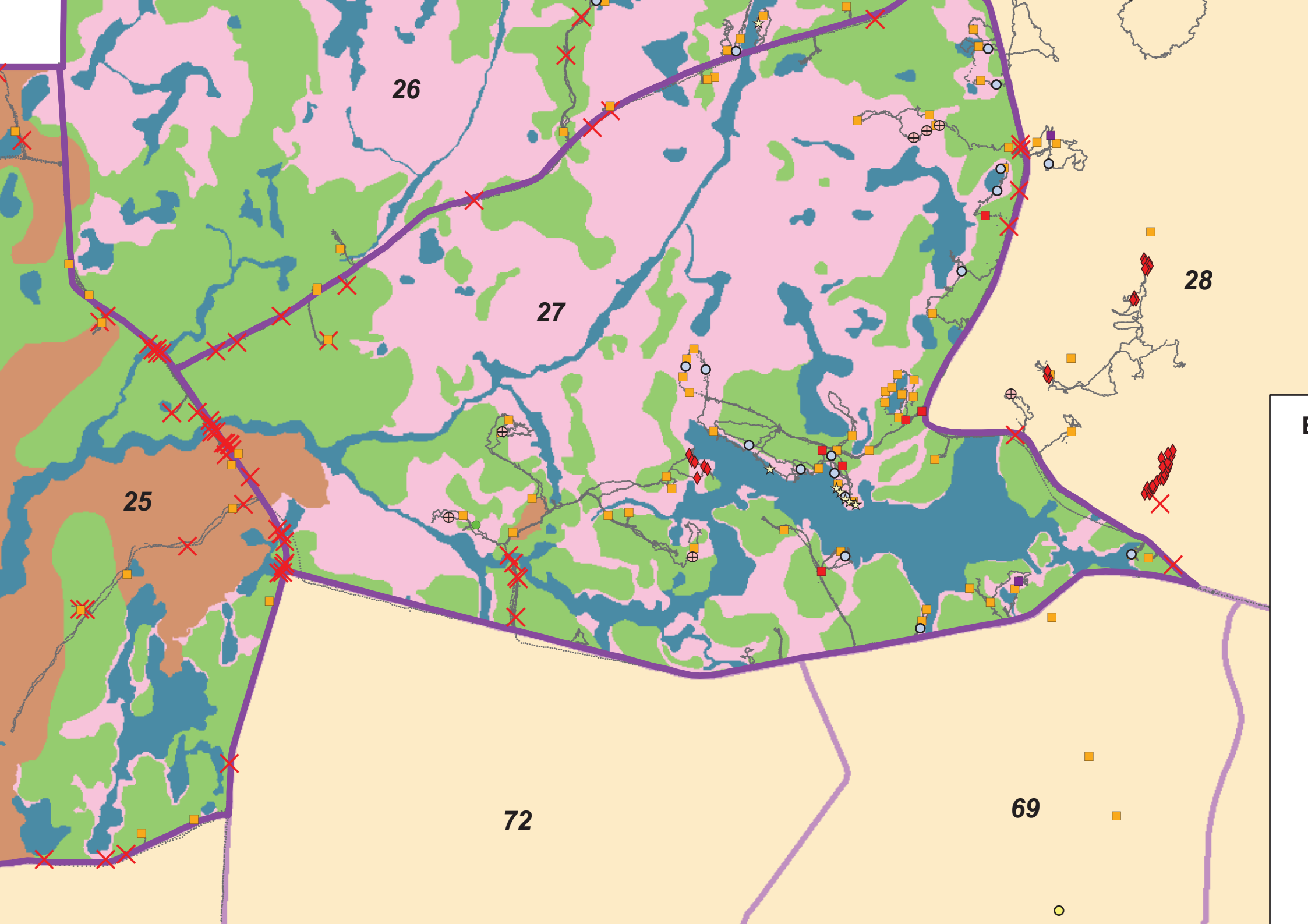
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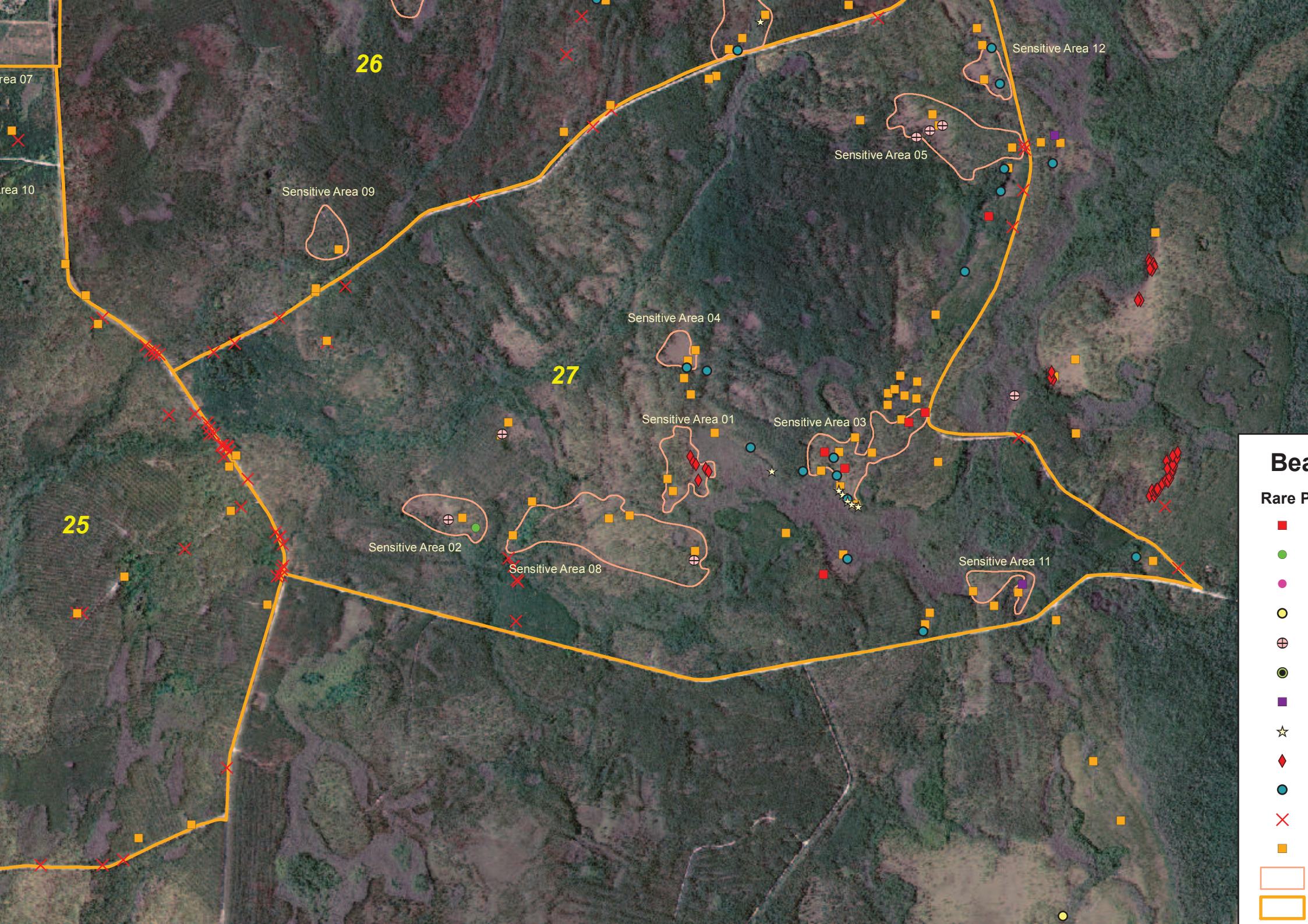
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