Representation of North Carolina Land Cover Types on U.S. Fish and Wildlife Service National Wildlife Refuges

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Introduction:
In North Carolina, where less than 10% of the land is publicly managed (Figure 1), the National Wildlife Refuges (NWR) make an important contribution to the protection of many of our state’s vegetation types. In this analysis we used the North Carolina Gap Analysis datasets to focus on three questions about the role of NWR lands in North Carolina’s conservation network.

What vegetation types are represented on the NWRs in the North Carolina?
In North Carolina there are approximately 352,538 acres of NWR land. That acreage represents 1.1% of the land in the state and approximately 27% of the Status 1 and 2 lands. Thirty-six natural land cover types were mapped on one or more of the eleven NWRs (Table 1). For which cover types do National Wildlife Refuges provide the majority of the protected acreage for five vegetation types in North Carolina (Table 2)?

The natural cover classes that are best represented on the NWRs include Maritime Pinelands (Unit #121), Pond-Cypress Gum Swamps (Unit #78), Coastal Plain Fresh Water Emergent (Unit #380), Tidal Marsh (Unit #3), and Peatland Atlantic White Cedar (Unit #41). For these cover classes over 20% of the statewide acreage occurs on NWR lands.

Table 1. Acres of the Land Cover Classes Representing Natural Vegetation Types Mapped on Each of the National Wildlife Refuges in North Carolina.

Table 2. Cover Class Acreage by Manager and GAP Status

Which cover types are under-represented statewide?
To address this question we have identified the natural vegetation types with < 1% and those with < 5% of the statewide acreage on Status 1 and 2 lands (Figure 4). Four natural cover types had less than 1% of their acreage on Status 1 and 2 lands and fourteen had less than 5% protected. These under-represented cover types generally fall into five categories.

Conclusions:
NWR lands contribute primarily to the conservation of Coastal Plain cover types because of their distribution in the state. Pee Dee National Wildlife Refuge being the exception.

NWR lands are primarily responsible for the protection of five of the states natural vegetation types.

At a threshold of 5%, eighteen cover classes would be considered under-represented in the state, with the majority of the acreage for those classes concentrated in the Piedmont and Sandhills (Inner Coastal Plain).