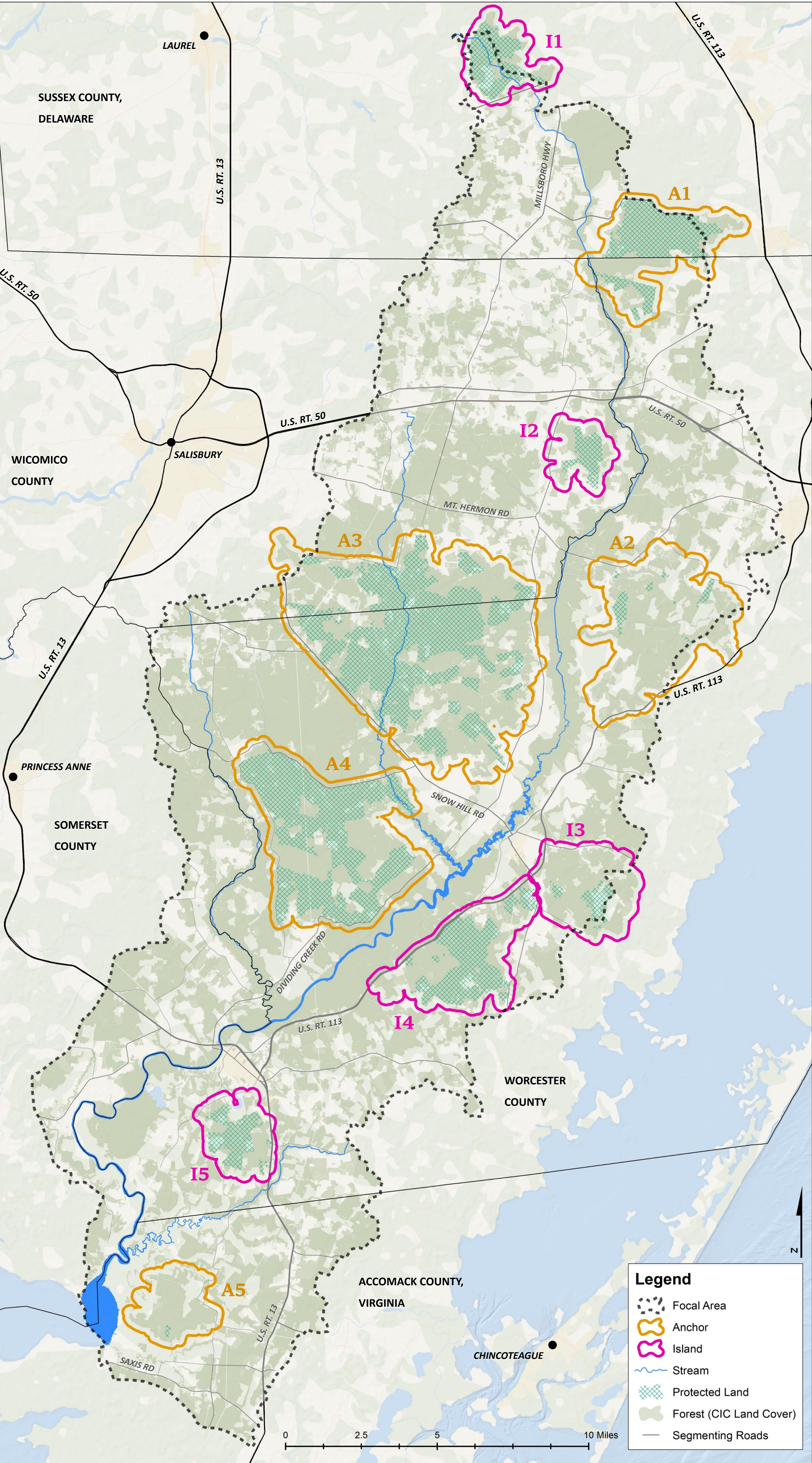


# Wildlife Habitat Connectivity

## Landscape-scale GIS Analysis



The Pocomoke River watershed is an incredibly unique landscape on the Eastern Shore. From low-lying cypress swamps to pine barrens on inland sand dunes, this part of the Shore is rich with ecological importance and biodiversity. The region is already a target for many conservation-minded groups. In order to keep building a network of healthy working forests, engaging private landowners will be an important strategy.

A bird's eye view of the watershed quickly reveals the patchiness of the landscape. Human activity, in such forms as development and agriculture, created this patchwork. Both private and public entities have the power to choose future activities that prioritize retaining and expanding connections between habitat blocks of any size.

### Goals

1. Assess landscape characteristics across the Pocomoke River watershed.
2. Identify large habitat patches of significance or interest.
3. Find opportunities to connect habitat patches and riparian corridors. Identify target areas and parcels that maximize potential benefits from afforestation plantings.

### 30%

Percentage of the watershed's total acreage that is **protected** (approximately 99,600 acres) by public ownership or private land easement.

### 57%

Percentage of the watershed's total acreage that is **forested** (approximately 189,240 acres). This is significant considering the strength of the agricultural industry on the Shore.

### Corridors

Although not always fully buffered, riparian corridors typically offer linear, branching habitat that may be key to creating a webbed mosaic of habitat across a landscape. Four **streams** were incorporated into this analysis: the Pocomoke River and three main tributaries, Nassawango Creek, Dividing Creek, and Pitts Creek.

The percentages of viable habitat within three riparian buffer widths are included here. The smallest buffer, 330 ft, represents the critical zone — the amount of riparian buffer that maximizes ecosystem benefits (as noted in the Sustainable Forest Management Plan for Chesapeake Forest Lands).

| Buffer   | % Forest | % Habitat |
|----------|----------|-----------|
| 330 ft   | 72%      | 85%       |
| 660 ft   | 71%      | 83%       |
| 1,320 ft | 67%      | 77%       |

Segmentation of corridor habitat was assessed using road data. Of the almost 950 miles of roads that pass through the watershed, only 4% are in the critical riparian zone. Although that sounds great, remember that all 950 of those miles exist within and drain into the watershed by some way!

### Anchors & Islands

Roadway functional classification data was used to bound the anchors and islands. These datasets (courtesy of the MD State Highway Administration, VA Department of Transportation, and DE Department of Transportation) assign designations to individual roads based on use frequency. Local roads were considered as not segmenting habitat. Forested areas crossing major and minor collectors as well as major and minor arteries were considered segmented by road.

On the map, segmenting roads are in **gray**. The line weight distinguishes use frequency: a thicker line depicts a road with a heavier traffic pattern.

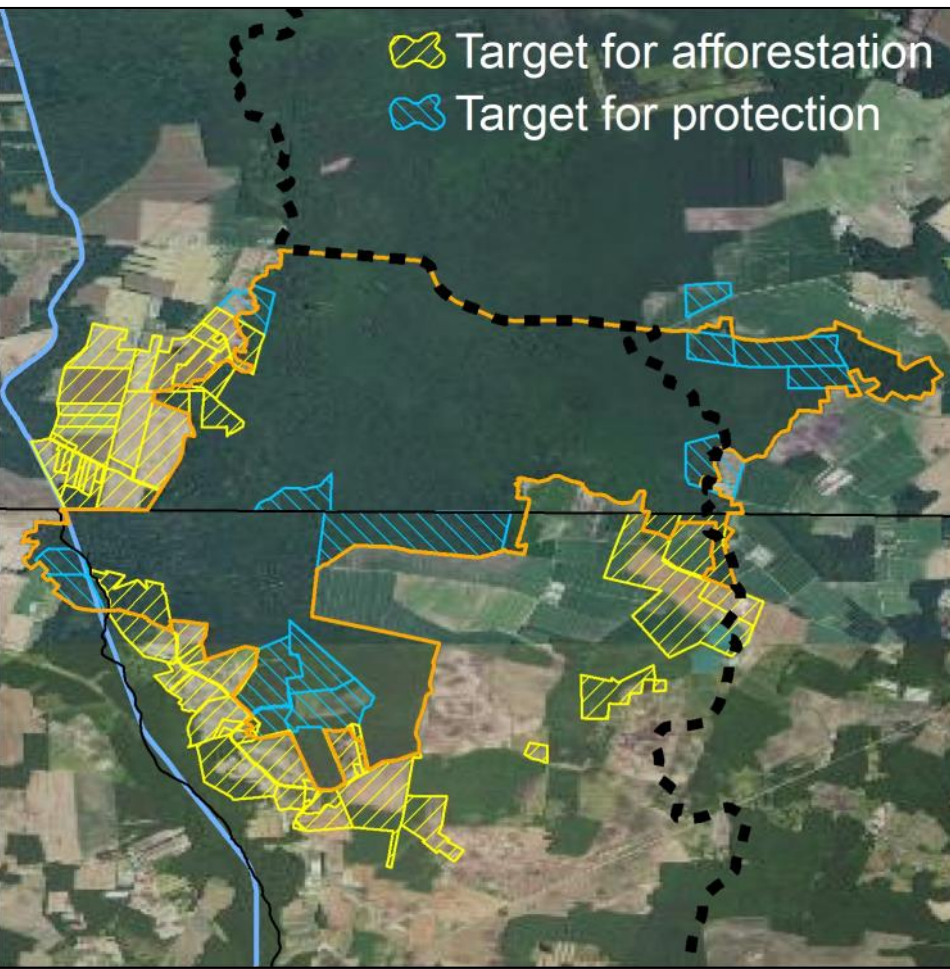
### Key Takeaways

Attempting to define the boundaries of individual patches and assess connectivity between them presented challenges:

- Nature does not know what lines exist on maps. What looks like a clear divide between forest and farm field one day can quickly become a thriving early successional edge habitat.
- This analysis did not identify a species, or group of species, to focus on. Connectivity may look different for avian versus semi-aquatic critters, for example, even ones that exist within the same ecosystem. Flora likely has different considerations as well.

An expanded analysis might incorporate utility line right-of-ways and abandoned railroad beds as viable corridor habitat. These common landscape features are moderately maintained, creating conditions ideal for many native, disturbance dependent, early successional plants.

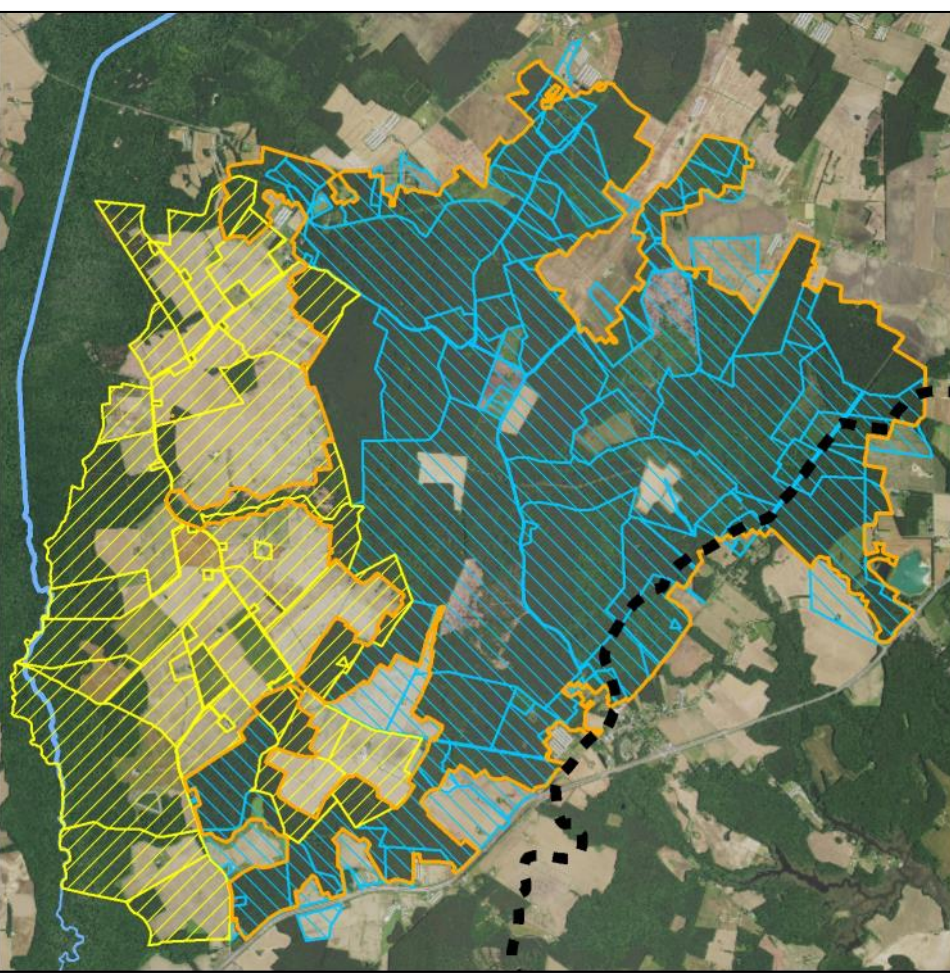
An **anchor** is defined as a large patch of habitat that is generally undivided by major roadways and has a strong direct connection to one of the main corridors.



#### Anchor 1 (A1)

Acreage: 5,325.11  
Forest: 96%  
Total habitat: 99%  
Protected land: 77.5%

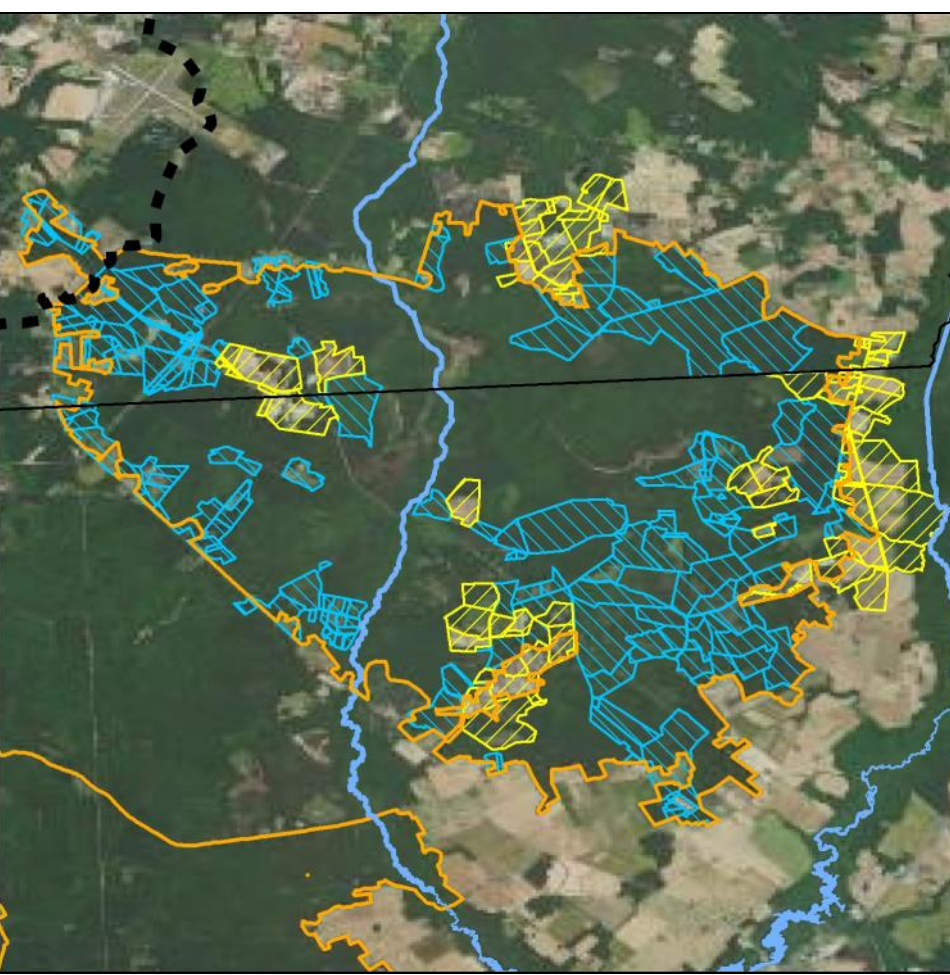
Target for afforestation:  
MD — 1,227.10 acres, 26 parcels  
DE — 718.75 acres, 22 parcels  
Target for protection:  
MD — 538.33 acres, 6 parcels  
DE — 348.95 acres, 6 parcels



#### Anchor 2 (A2)

Acreage: 8,249.63  
Forest: 84.5%  
Total habitat: 96%  
Protected land: 7%

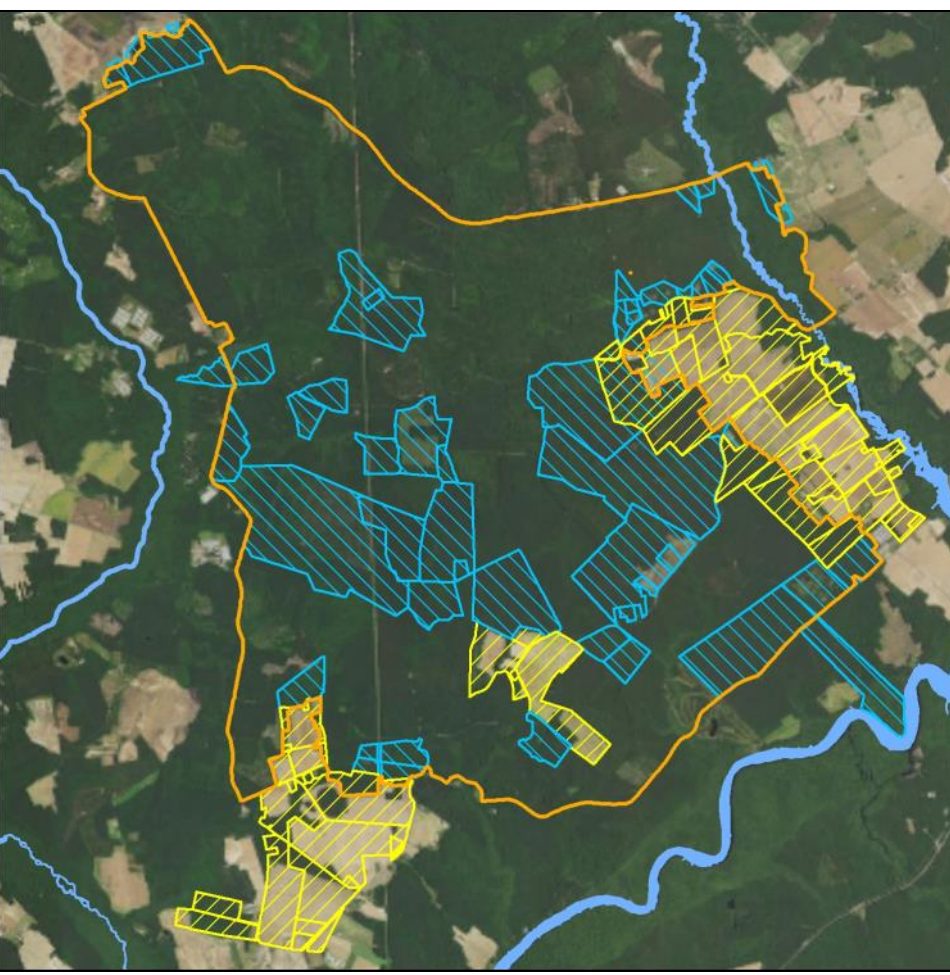
Target for afforestation:  
MD — 4,736.14 acres, 25 parcels  
Target for protection:  
MD — 7,246.40 acres, 62 parcels



#### Anchor 3 (A3)

Acreage: 25,823.69  
Forest: 89.5%  
Total habitat: 94%  
Protected land: 52%

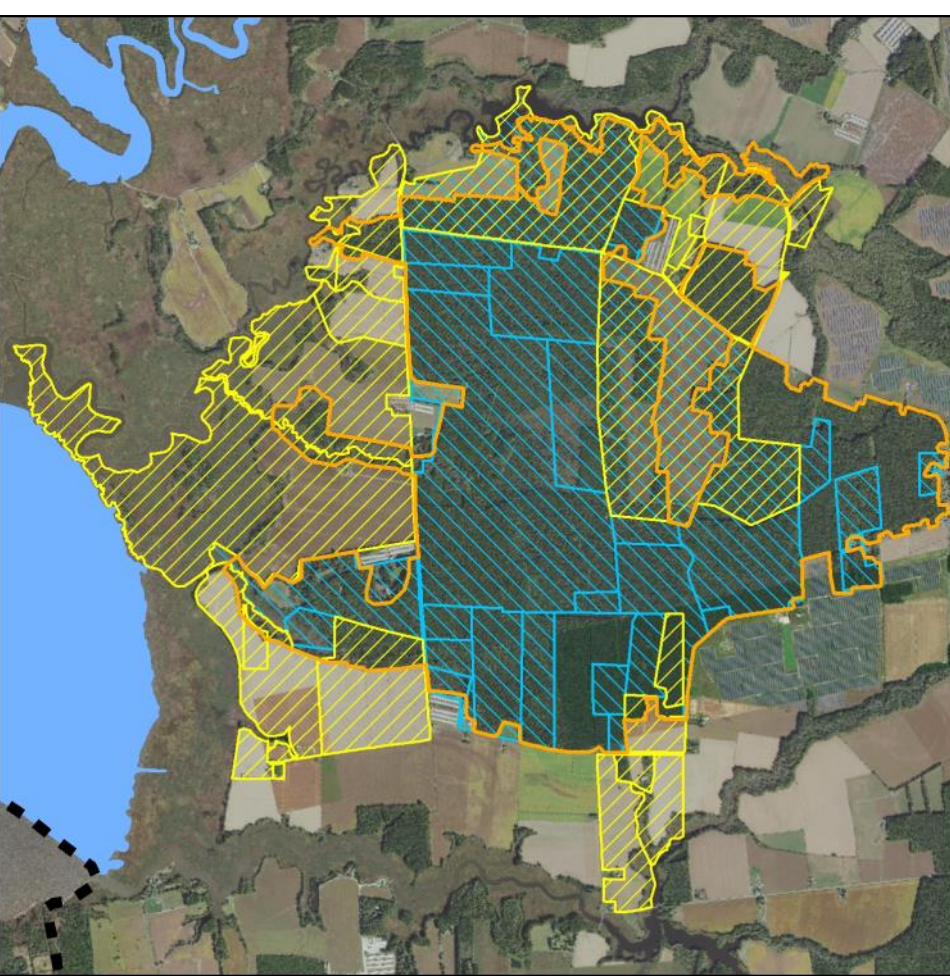
Target for afforestation:  
MD — 3,786.86 acres, 56 parcels  
Target for protection:  
MD — 9,050.93 acres, 157 parcels



#### Anchor 4 (A4)

Acreage: 13,311.87  
Forest: 92.5%  
Total habitat: 96.5%  
Protected land: 65.5%

Target for afforestation:  
MD — 2,825.84 acres, 33 parcels  
Target for protection:  
MD — 4,225.83 acres, 49 parcels

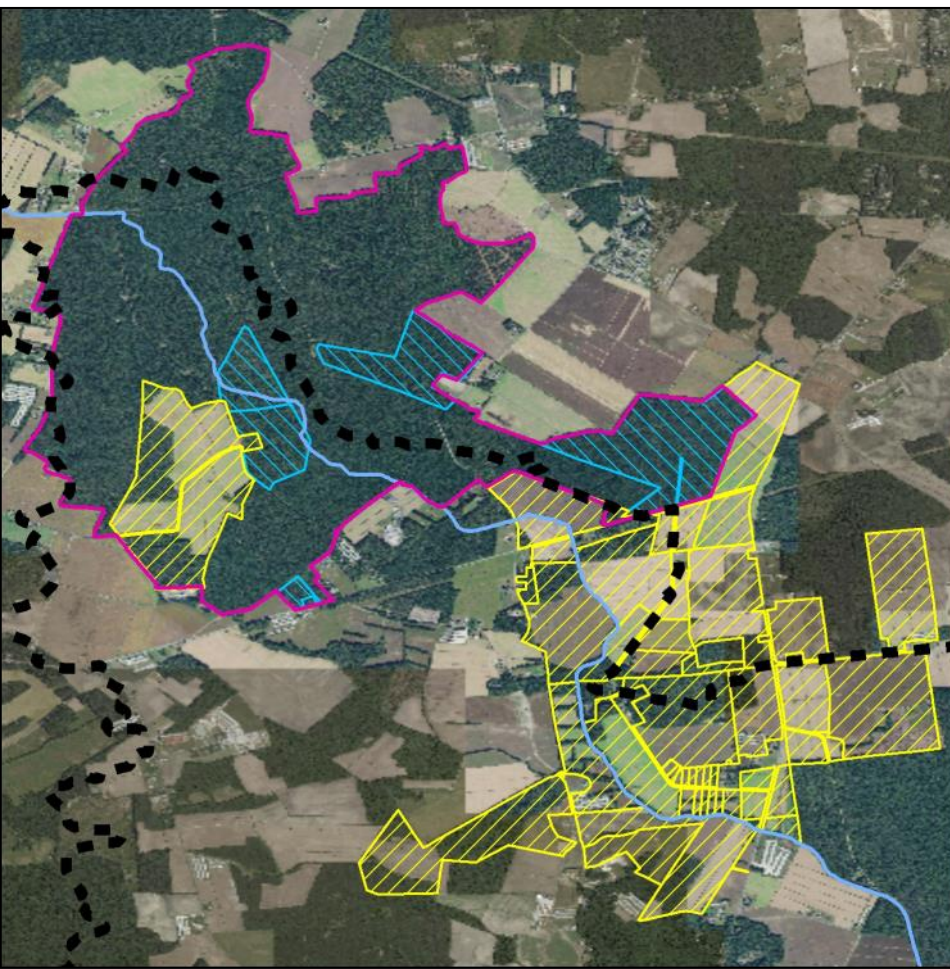


#### Anchor 5 (A5)

Acreage: 2,214.80  
Forest: 70%  
Total habitat: 98%  
Protected land: 1.5%

Target for afforestation:  
VA — 1,958.25 acres, 20 parcels  
Target for protection:  
VA — 1,884.29 acres, 26 parcels

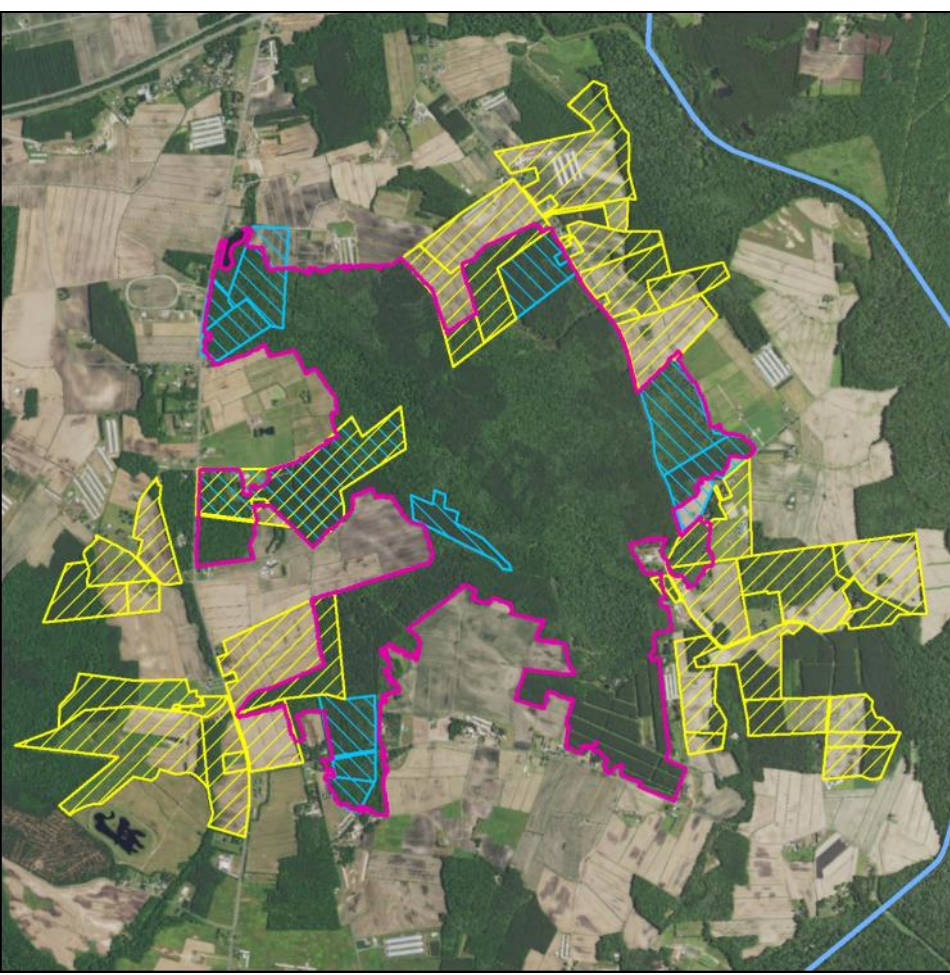
An **island** is defined as a smaller, but substantial, habitat patch that is disconnected from other habitat patches and the corridors.



#### Island 1 (I1)

Acreage: 2,478.81  
Forest: 91%  
Total habitat: 93%  
Protected land: 80.5%

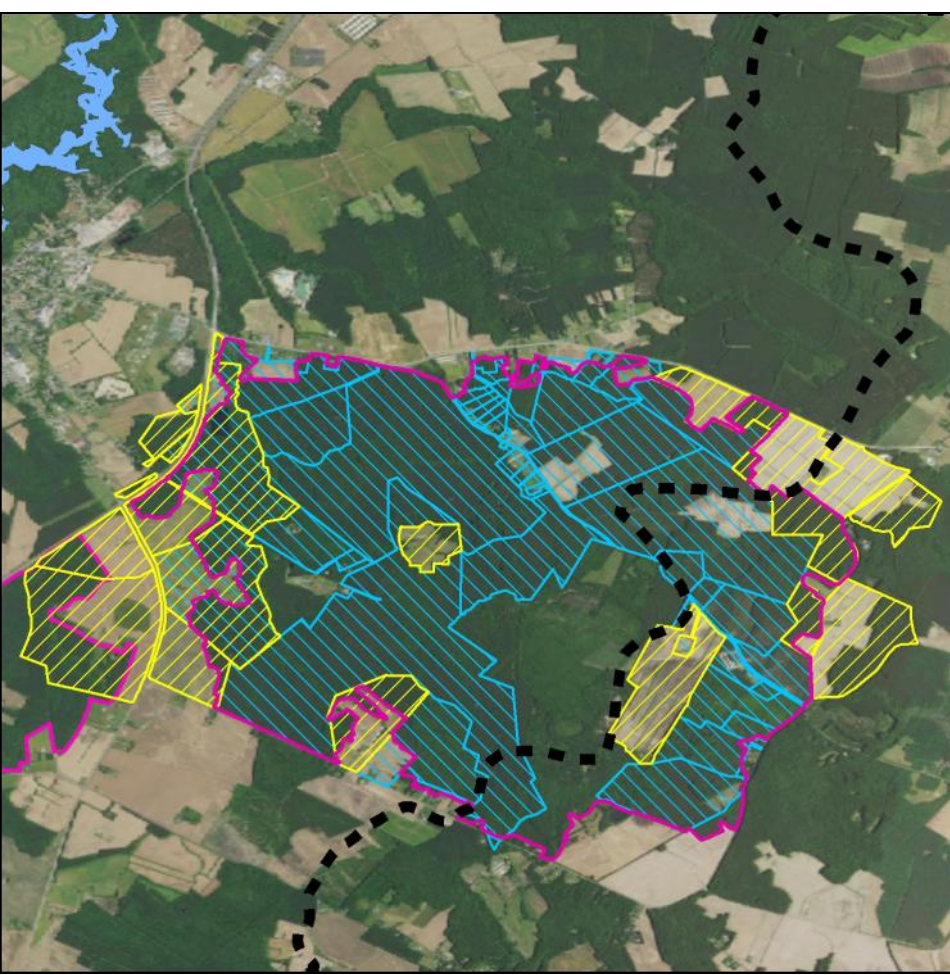
Target for afforestation:  
DE — 1,818.69 acres, 38 parcels  
Target for protection:  
DE — 371.52 acres, 5 parcels



#### Island 2 (I2)

Acreage: 1,447.09  
Forest: 93%  
Total habitat: 99.5%  
Protected land: 57%

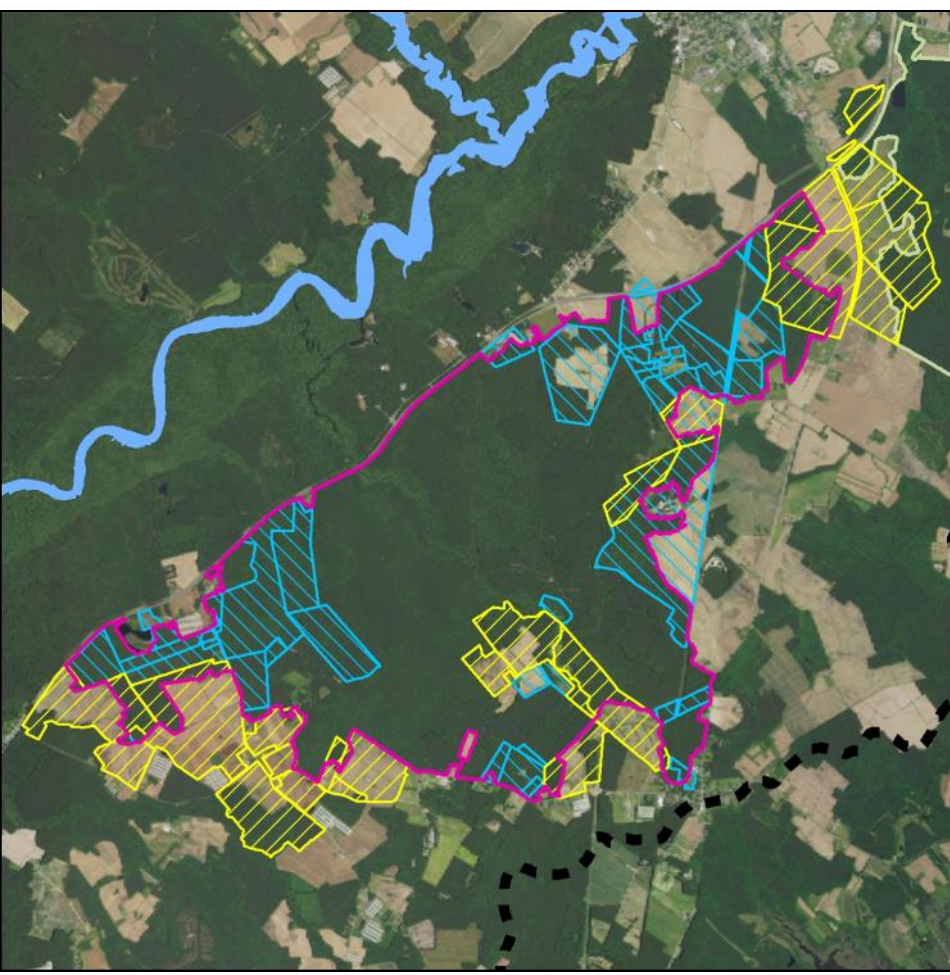
Target for afforestation:  
MD — 1,102.71 acres, 29 parcels  
Target for protection:  
MD — 333.96 acres, 10 parcels



#### Island 3 (I3)

Acreage: 4,415.59  
Forest: 85.5%  
Total habitat: 91%  
Protected land: 13.5%

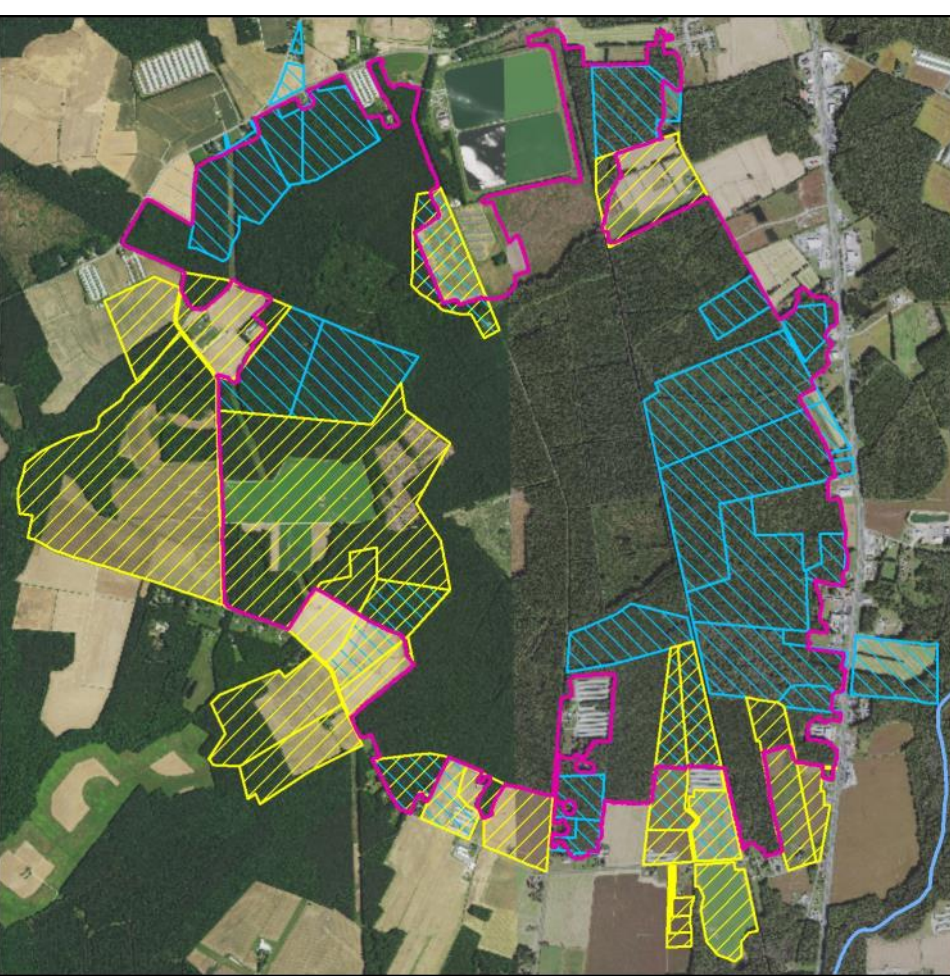
Target for afforestation:  
MD — 1,773.65 acres, 13 parcels  
Target for protection:  
MD — 3,390.83 acres, 40 parcels



#### Island 4 (I4)

Acreage: 5,907.09  
Forest: 93%  
Total habitat: 95%  
Protected land: 59%

Target for afforestation:  
MD — 2,203.47 acres, 20 parcels  
Target for protection:  
MD — 1,872.21 acres, 34 parcels



#### Island 5 (I5)

Acreage: 2,383.01  
Forest: 87%  
Total habitat: 95%  
Protected land: 56%

Target for afforestation:  
MD — 1,105.42 acres, 22 parcels  
Target for protection:  
MD — 904.40 acres, 22 parcels