

Wildlife Diversity Inventory of Cowan Swamp



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Region 2

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Most of Cowan Swamp is open wetland allowing for fishing and waterfowl hunting throughout the year.

Cowan Swamp wetland is located within the city limits of Cowan in Franklin County, Tennessee (Figure 1). The majority of this 50 acre wetland is covered by water, but small strips



Figure 1: Location of Cowan Swamp wetland in Franklin County, Tennessee

of forest are located along the southern and eastern boundaries. Large patches of standing dead timber are present within the wetland as a result of high water levels. Cowan Swamp is used primarily by waterfowl hunters and fisherman, although trapping opportunities and small game hunting are possible.

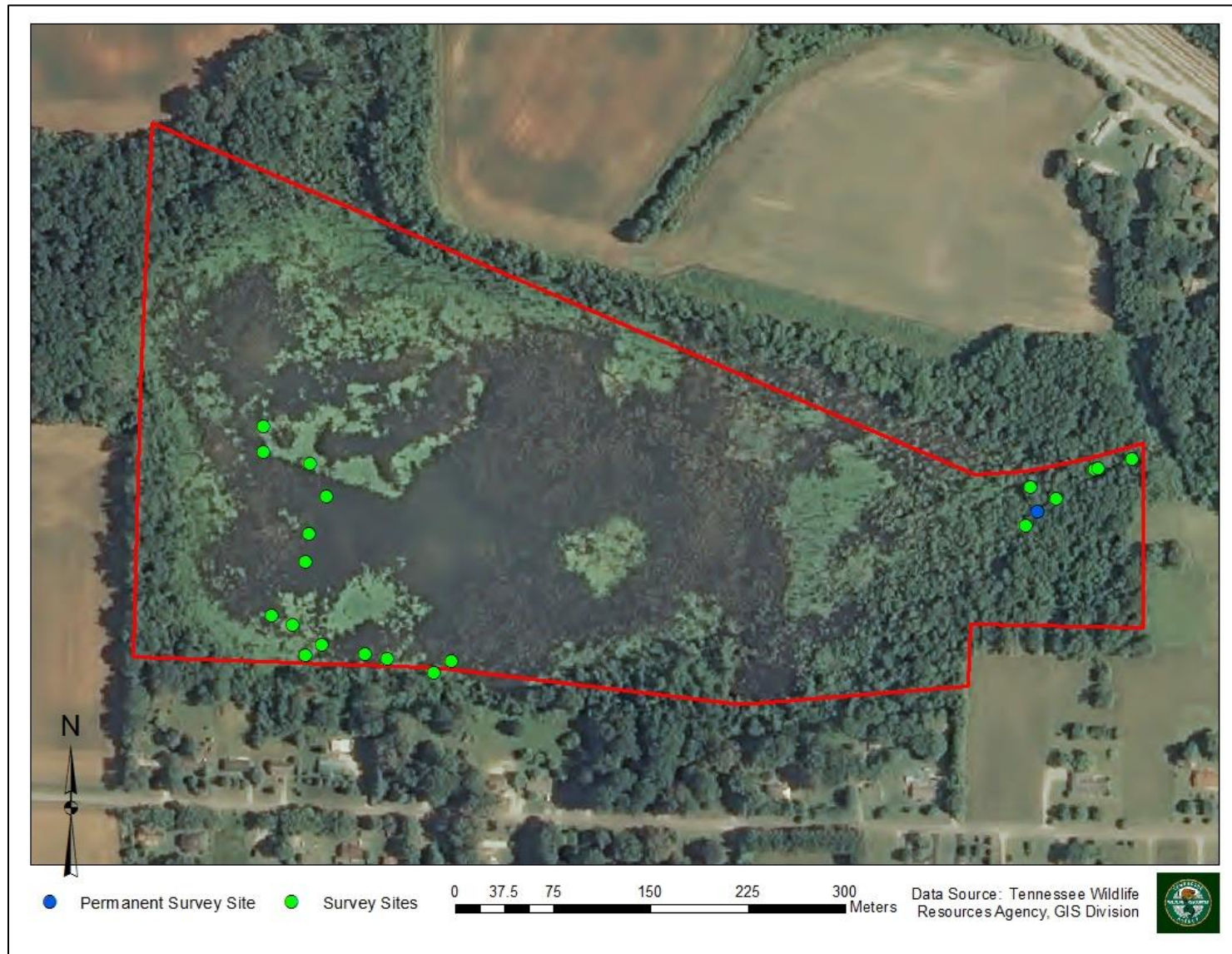
The wetland was acquired by the state of Tennessee as the result of high water levels caused by beavers. The properties of numerous private landowners', along the southern and eastern boundaries, were being flooded as the result of a dam constructed by beavers. TWRA began intensively trapping the wetland to remove the beavers, as well as remove the constructed dams. The flooding problems slowly alleviated and issues now caused by beavers are minimal.

Wildlife Diversity Surveys

Cowan Swamp was intensively trapped for turtles on numerous occasions. Unlike previous wildlife diversity surveys in which multiple permanent sites are constructed, the lack of suitable habitat prevented survey managers from establishing more than one permanent survey site (Figure 2). This survey site was located along an old beaver dam along the eastern boundary. This permanent site only contained a reptile box trap and drift fence to determine the diversity of snakes within the wetland.

During periods of drought and low water levels in the late fall and early winter, survey managers were able to survey small mammals. These efforts were made with Sherman live traps in areas that had previously been inundated by water earlier in the year. These same areas, during low water levels, were also used to place mist nets to capture bats.

Figure 2: Locations of Wildlife Diversity sites on Cowan Swamp wetland.



Numerous techniques were used to determine the diversity of turtles within the wetland. Up to 10 standard three ring hoop nets were placed within the water at various locations within Cowan Swamp. Turtle box traps, similar to Havahart live traps but larger, were used in areas in which water was too shallow for three-ring hoop nets and too deep for crab-pot style nets. Crab pot-style nets were used along the perimeter of the wetland where standing emergent vegetation allowed survey managers to observe the traps from a concealed location.

Over 250 captures were made during the Wildlife Diversity surveys of Cowan Swamp. No species of greatest conservation need were captured or observed (Table 1). The lack of GCN captures does not necessarily eliminate the presence of rare species from the wetland. Little habitat exists on the wetland suitable for terrestrial salamanders and non-volant mammals. Sufficient habitat exists for species, such as the Prothonotary Warbler (*Protonotaria citrea*). Nesting habitat preferred by this species likely exists within the stands of flooded timber or along the margins of the wetland.

The reptile box trap proved useful in capturing snakes moving along the beaver dam. Several Northern watersnakes (*Nerodia sipedon*) and garter snakes (*Thamnophis sirtalis*) were captured at the permanent site. Turtles dominated the capture totals for Cowan Swamp. The most frequently captured turtle was the Pond Slider (*Trachemys scripta*) (Figure 3). It is possible because Cowan Swamp drains into a small creek along the eastern boundary, the spiny softshell (*Apalone spinifera*) may exist here, although no captures or observations were made during the survey efforts. This is a species of greatest conservation need.



Figure 3: Pond Sliders were the most frequently captured turtle species within the wetland.

Future Management

Currently, management of Cowan Swamp wetland is limited and focused on maintaining the beaver population below nuisance levels. There is one small boating access area that is also

maintained. Although little management occurs here, lands managers should be cautious in removing or altering the current habitat. Changes to the current habitat may impact the thriving turtle population. It is believed the private lands surrounding Cowan Swamp allow for optimal nesting habitat for these species. Private lands to the west are actively farmed and likely allow for nest construction and egg development. The locations of primary nesting sites for Pond Sliders are unknown, nor are rates of nest predation by known predators.

Table 1: Species captured during the Wildlife Diversity Survey of Cowan Swamp Wetland.

Common Name	Scientific Name	No. Captured
Frogs and Toads		
Eastern Narrow-mouthed Toad	<i>Gastrophryne carolinensis</i>	2
American Bullfrog	<i>Lithobates catesbeianus</i>	27
Green Frog	<i>Lithobates clamitans</i>	25
Pickerel Frog	<i>Lithobates palustris</i>	5
Southern Leopard Frog	<i>Lithobates sphenoccephalus</i>	44
Turtles		
Eastern Snapping Turtle	<i>Chelydra serpentina</i>	7
Eastern Mud Turtle	<i>Kinosternon subrubrum</i>	11
Pond Slider	<i>Trachemys scripta</i>	88
Skinks and Lizards		
Broad-headed Skink	<i>Plestiodon laticeps</i>	2
Snakes		
Eastern Racer	<i>Coluber constrictor</i>	7
Northern Watersnake	<i>Nerodia sipedon</i>	12
Eastern Gartersnake	<i>Thamnophis sirtalis</i>	16
Non-volant Mammals		
White-footed Mouse	<i>Peromyscus leucopus</i>	2
Eastern Gray Squirrel	<i>Sciurus carolinensis</i>	1
Hispid Cotton Rat	<i>Sigmodon hispidus</i>	1
Volant Mammals		
Tri-colored bat	<i>Perimyotis subflavus</i>	3
Total		253