

**Wildlife Diversity Inventory of
Maple Springs Wildlife Management Area**



Josh Campbell, Wildlife Diversity Coordinator

Tennessee Wildlife Resources Agency

Region 2

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A small section of open, flooded grassland on Maple Springs Wildlife Management Area attracts waterfowl to the area.

Maple Springs Wildlife Management Area (WMA) is located in northeast Coffee County. Although Maple Springs WMA is small, approximately 100 acres, there are a number of differing habitats that include grasslands, forests, and wetlands. Private lands surround the WMA and two of the boundaries are Maple Springs Road and Rigney Road (Figure 1). Both big game and small game hunting occur on the WMA. Big game hunting is limited to the small forest patches occurring on the WMA. Rabbit hunting is the primary use of the WMA.

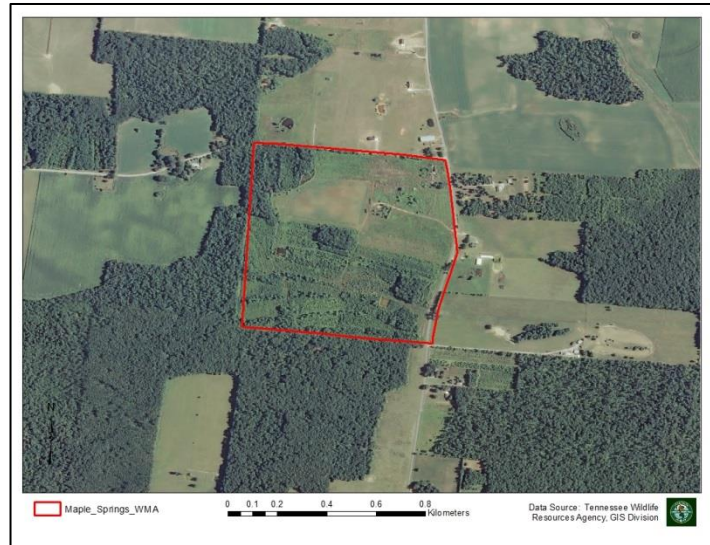


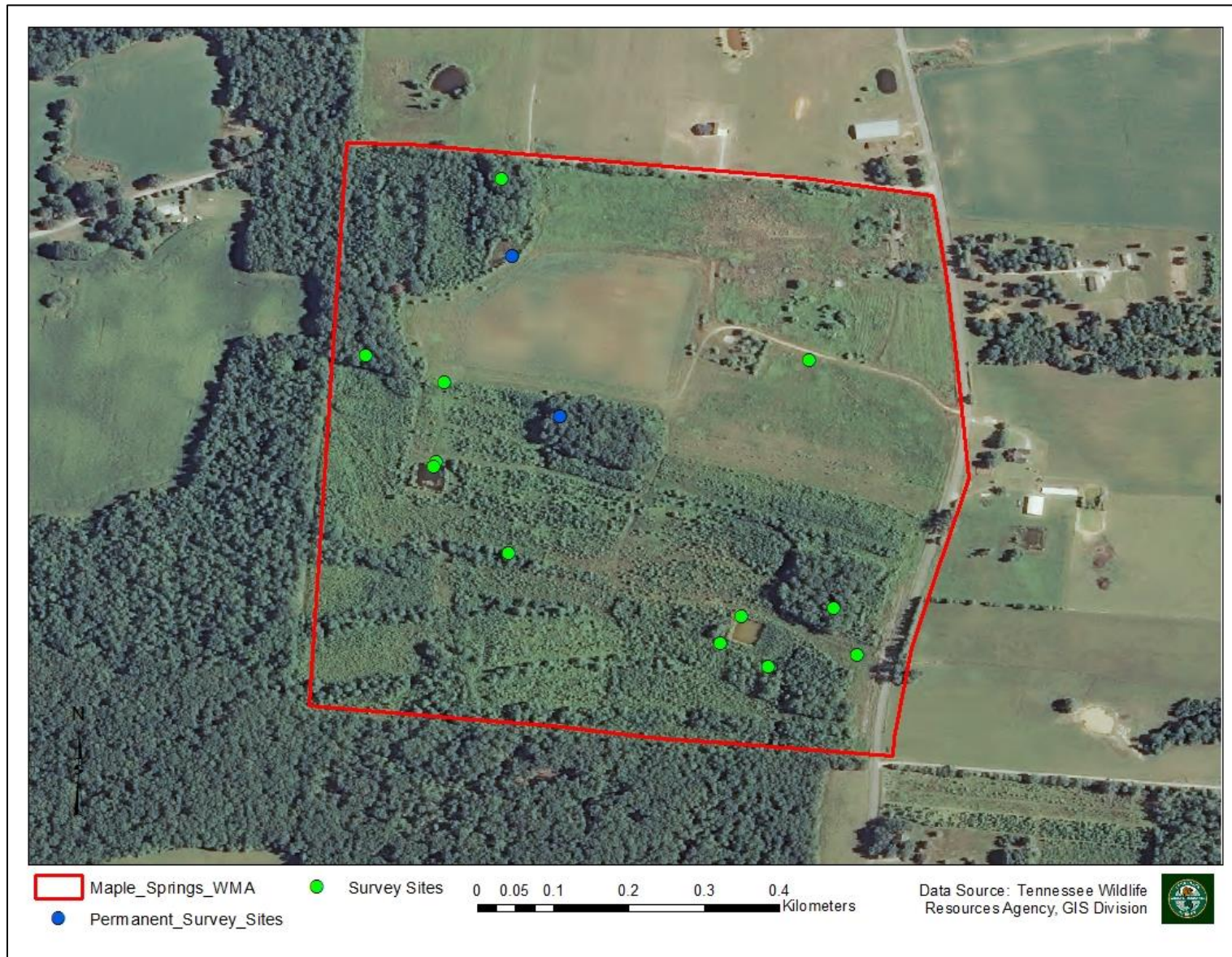
Figure 1: Location of Maple Springs WMA.

Once a working farm, the WMA has several ponds and ephemeral wetlands. The forests are mesophytic and there are remnants of Eastern Highland Rim Prairie and Barrens across the WMA. Succession is evident in the old fields. Shortly after acquiring the property, the Tennessee Wildlife Resources Agency planted several hundred trees, of various hardwood species, in a field adjoining one of the small patches of forests.

Wildlife Diversity Surveys

Two permanent sites were constructed in the winter of 2006, each representative of two of the habitats on the WMA, woodlot and ephemeral wetland (Figure 2). Grassland habitats were surveyed with Sherman traps for small mammals. The permanent site in the woodlot contained pitfalls and a drift fence and both wooden and metal coverboards. The ephemeral wetland only contained pitfalls and a drift fence which completely encircled the site. During the surveys, it was assumed all animals encountering the fence were captured. These pitfalls, once opened, were run until the first rain to ensure amphibian migrations were assessed.

Figure 2: Wildlife Diversity survey sites on Maple Springs WMA.



Forty-six species of nongame wildlife were captured during the inventory of Maple Springs WMA. Six species of Greatest Conservation Need were captured and include: Four-



Figure 3: A Golden Mouse captured on Maple Springs WMA.

inhabiting the grasslands on the WMA.

toed Salamander (*Hemidactylium scutatum*), Eastern Box Turtle (*Terrapene carolina*), Golden Mouse (*Onchrotomys nuttalli*), Masked Shrew (*Sorex cinereus*), Southeastern Shrew (*Sorex longirostris*), and Meadow Jumping Mouse (*Zapus hudsonius*) (Table 1). The majority of the 4,180 captures came from the ephemeral wetland, most of which were amphibians. There was

considerable diversity of non-volant mammals

The size of Maple Springs WMA likely impacts the diversity nongame wildlife and the number of species of Greatest Conservation Need present. Although the diversity is less than that of other WMAs, the ephemeral wetland supports high levels of diversity of wildlife throughout the year, illustrating the importance of these features on the landscape. There are numerous ponds located on the WMA, likely created when the land was actively farmed. The ephemeral wetland surveyed was the only one on the WMA that dried completely during the survey efforts. The lack of fish allows for successful breeding of amphibians. All species of Greatest Conservation Need were captured at the ephemeral wetland except captures of the Golden Mouse which were made at a second location on the WMA.

The forested site produced few captures with all techniques. Pitfalls at this site were run concurrently with those at the ephemeral wetland. The lack of captures may likely be due to the lack of this habitat on the WMA and connectivity to surrounding forests. This site was a small, isolated island located within the center of the WMA surrounded by grassland and early successional habitat. This likely reduces the amount of immigration and emigration of amphibians to this site.

Table 1: Species captured during the wildlife diversity survey of Maple Springs WMA.

Common Name	Scientific Name	No. Captured
Birds		
American Goldfinch	<i>Carduelis tristis</i>	1
Frogs and Toads		
American Toad	<i>Anaxyrus americanus</i>	6
Fowler's Toad	<i>Anaxyrus fowleri</i>	1
Eastern Narrow-mouthed Toad	<i>Gastrophryne carolinensis</i>	2,393
Cope's Gray Treefrog	<i>Hyla chrysoscelis</i>	30
American Bullfrog	<i>Lithobates catesbeianus</i>	37
Green Frog	<i>Lithobates clamitans</i>	516
Pickerel Frog	<i>Lithobates palustris</i>	77
Southern Leopard Frog	<i>Lithobates sphenoccephalus</i>	512
Northern Spring Peeper	<i>Pseudacris crucifer</i>	33
Upland Chorus Frog	<i>Pseudacris feriarum</i>	24
Salamanders		
Spotted Salamander	<i>Ambystoma maculatum</i>	146
Marbled Salamander	<i>Ambystoma opacum</i>	5
Mole Salamander	<i>Ambystoma talpoideum</i>	113
Four-toed Salamander	<i>Hemidactylium scutatum</i>	2
Eastern Newt	<i>Notophthalmus viridescens</i>	61
Turtles		
Eastern Snapping Turtle	<i>Chelydra serpentina</i>	34
Eastern Mud Turtle	<i>Kinosternon subrubrum</i>	7
Eastern Box Turtle	<i>Terrapene carolina</i>	1
Pond Slider	<i>Trachemys scripta</i>	2
Skinks and Lizards		
Common Five-lined Skink	<i>Plestiodon fasciatus</i>	1
Broad-headed Skink	<i>Plestiodon laticeps</i>	2
Northern Fence Lizard	<i>Sceloporus undulatus</i>	1

Snakes		
Ring-necked Snake	<i>Diapophis punctatus</i>	1
Northern Rough Greensnake	<i>Opheodrys aestivus</i>	1
Ratsnake	<i>Pantherophis alleghaniensis</i>	1
Dekay's Brownsnake	<i>Storeria dekayi</i>	6
Red-bellied Snake	<i>Storeria occipitomaculata</i>	1
Eastern Ribbonsnake	<i>Thamnophis sauritus</i>	5
Eastern Gartersnake	<i>Thamnophis sirtalis</i>	2
Non-volant Mammals		
Northern Short-tailed Shrew	<i>Blarina brevicauda</i>	9
Least Shrew	<i>Cryptotis parva</i>	18
Prairie Vole	<i>Microtus ochrogaster</i>	8
Woodland Vole	<i>Microtus pinetorium</i>	5
House Mouse	<i>Mus musculus</i>	1
Golden Mouse	<i>Onchrotomys nuttalli</i>	3
Cotton Mouse	<i>Peromyscus gossypinus</i>	1
White-footed Mouse	<i>Peromyscus leucopus</i>	50
Deer mouse	<i>Peromyscus maniculatus</i>	28
Eastern Harvest Mouse	<i>Reithrodontomys humulis</i>	1
Eastern Mole	<i>Scalopus aquaticus</i>	1
Hispid Cotton Rat	<i>Sigmodon hispidus</i>	10
Masked Shrew	<i>Sorex cinereus</i>	1
Southeastern Shrew	<i>Sorex longirostris</i>	6
Meadow Jumping Mouse	<i>Zapus hudsonius</i>	10
Volant Mammals		
Eastern red bat	<i>Lasiurus borealis</i>	3
Evening bat	<i>Nycticeius humeralis</i>	4
Tri-colored bat	<i>Perimyotis subflavus</i>	2
	Total	4,183

Yellow denotes species of greatest conservation need.

Future Management

In past years, management of Maple Springs WMA has been limited to the planting of a dove field, use of prescribed fire, and maintaining flood control structures. In recent years, the planting of the dove field has been eliminated due to cost and potential conflict with adjoining landowners. Currently, prescribed fire is used to maintain grasslands for small game hunting.

Lands managers, biologists and Wildlife Diversity Personnel are developing a management plan that will address management of the habitats and diversity on Maple Springs WMA.