

VHS Annual HerpBlitz at Mattaponi Wildlife Management Area, June 22-24, 2012

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Introduction

The Virginia Herpetological Society (VHS) annually selects sites within the Commonwealth and surveys them for herpetofaunal species. The VHS usually selects sites that are within localities lacking any and/or recent official records of native and naturalized reptiles and amphibians. Survey site selection also occurs when a landowner (private or public) requests to have a survey done on their property. Through these surveys, The VHS is able to observe and document distributional, behavioral, morphological, and physiological data. Relative abundance of species may also be assessed during these surveys.

From 22 June through 24 June 2012, The VHS held its Annual HerpBlitz survey at the Virginia Department of Game & Inland Fisheries' (VDGIF) Mattaponi Wildlife Management Area (Mattaponi WMA), in Caroline County, approximately 2 kilometers (1.3 miles) west northwest of the Town of Bowling Green. This property is in the northwestern corner of the Upper Coastal Plain physiographic region. It is a contiguous tract of flat to gently rolling land, with a few slopes that are somewhat steep and considered atypical of the surrounding topography, consisting of 1,029 hectares (2,542 acres). It contains a diversity of habitats, including mature upland hardwood and mixed forests, managed loblolly pine forests, wetlands (including lakes formed from old oxbows from old river channels, as well as vernal pools in some of the wooded areas), riparian areas along the Mattaponi River, the river itself, some recent clearcut areas, and an open area of gravel. The Mattaponi River runs through the northern portion of this property and along the southeastern border of the property. The South River runs along the southernmost and southwestern border of this property. This property also lies partially within the buffer area around Fort A.P. Hill. Consequently, the U.S. Department of Defense contributed funds from its Army Compatible Use Buffer Program to help The VDGIF purchase the land for use as a WMA. Fort A.P. Hill will be able to use 202 hectares (500 acres) of the area to establish one of the Army's first wetlands mitigation banks. Ducks Unlimited also contributed towards the funding of this land acquisition, due to the wetlands and wetland restoration opportunities available on this property.

Study Sites

Site 1: Southwest, on Saturday, 6/23/2012 (south of Paige Road, west of main/southern entrance area w/kiosk)

1a: At road, near entrance: 38°03'33.90"N, 77°23'21.70"W,

1b: At oxbow lake: 38°02'58.70"N, 77°23'30.20"W,

1c: At power line: 38°03'04.90"N, 77°23'41.60"W, and

1d: Along path in pine and open areas: 38°03'16.30"N, 77°23'47.80"W.

This area was accessed via an old logging road that leads west from the kiosk/parking area of the southern entrance into the WMA. Just west of the kiosk area, the road leads through mostly managed loblolly pine forest, with some open areas and vernal pools. One large vernal pool near the road was habitat for many amphibians. Moving further south on this road led to portions of wetlands surrounded by mixed forest, an open power line, and portions of an

old oxbow lake area with marshy and swampy habitats. There were many blueberry bushes along the edge of the forest and oxbow lake areas. Species include oak, tulip poplar, hickory, American holly, beech, sweetgum, and Virginia pine. The understory is open and contains mostly blueberry bushes.

Site 2: Southeast, on Saturday, 6/23/2012 (south of Paige Road, east of main/southern entrance area w/kiosk)

2a: At logging road next to river and hardwoods: 38°03'03.50"N, 77°22'57.30"W,

2b: Swamp, beaverdam, edge of oxbow lake: 38°02'51.80"N, 77°22'52.40"W,

2c: Hardwood forest, north of oxbow lake: 38°02'45.10"N, 77°23'14.20"W,

2d: Hardwood forest next to oxbow lake/wetland at power line: 38°03'09.40"N, 77°23'31.90"W,

2e: Along oxbow, floodplain, with hardwoods: 38°03'10.80"N, 77°23'41.90"W.

This area was accessed via an old logging road (gravel trail/road) that leads east from the kiosk/parking area of the southern entrance into the WMA. Just east of the kiosk area, the road leads through an area of early succession forest, timbered in recent years, then through an open area for the power line right-of-way. Moving further south on this road led to portions of mixed forest next to the Mattaponi River, more open areas, and portions of old oxbow lakes with marshy and swampy habitats, as well as some vernal pool habitats in some of the wooded areas. Tree species include oaks, tulip poplar, hickories, maples, American holly, beech, sweetgum, and Virginia pine. Understory included American holly and greenbrier.

Site 3: Northwest, on Saturday, 6/23/2012 (north of Paige Road, westernmost entrance into the WMA and west of private farm that is surrounded mostly by WMA property) (38°04'15.36"N, 77°24'07.38"W)

A gravel logging road leads along and through mostly mixed hardwood and some pine forest in an upland area. There are small openings in the forested areas along the road, and towards the end of this section of road there is a large open area with edge habitat between the open area and forest. The forested areas near this edge include very wet and swampy habitats.

Site 4: Middle northern area, on Saturday, 6/23/2012 (north of Paige Road, an entrance just to the east of the Mattaponi River)

4a: At pond/old gravel pit and cut over area: 38°03'48.7"N, 77°23'21"W

4b: Along old section of Paige Road, including old bridge over the Mattaponi River and road along mostly hardwood forest, just west of the river: 38°03'37.5"N, 77°23'14.88"W.

This section of the WMA is accessed just east of the Mattaponi River and its junction with Paige Road. This access road is normally locked to the public. The road travels along a cut over area, with some mixed hardwoods to the west along part of this section of road. The road ends at a pond that is an old gravel pit. The pond had blooming spatterdock in it. Along the edge habitat and beginning to grow in the cleared area were loblolly pine and Virginia pine. Approximately halfway along the road that leads to the pond, there was a junction with a road that led to the west, an old paved road that was formerly a section of Paige Road, including an old bridge over the Mattaponi River. This section of road and river were surrounded mostly by mixed hardwood forest. This forest included oaks, beech, American holly, sassafras, tulip poplar, red maple, highbush blueberry, blackberry, river birch, and native azalea.

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Site 5: Northeast on Saturday, 6/23/2012 (north of Paige Road, the easternmost entrance into the WMA, with a kiosk and parking area)

5a: Along logging road in pine woods: 38°04'07.2"N, 77°22'59.33"W,

5b: Near logging road in pine woods, near clear cut and stream: 38°04'02.65"N, 77°23'06.67"W,

5c: At marsh with pine woods, near clear cut: 38°04'04.08"N, 77°23'16.84"W,

5d: Near logging road at area that borders pine woods, clear cut and wetlands: 38°04'24.00"N, 77°22'58.59"W,

5e: Northernmost portion of logging road in this section, bordered by some pine and mixed woods and clear cut area: 38°04'33.43"N, 77°23'08.94"W.

This section of the WMA has a public access, just west of the railroad (which is to the east of the border of the property), with a gravel road and parking area with a kiosk. As one travels north along this access road, the habitat is mostly pine woods that have been managed for harvest and currently has lots of understory along with mature pine trees. Side roads off this access road travel west into areas that have been clear cut and areas of wetlands, streams, and some old oxbow lakes. Plant species in this section include: Virginia pine, loblolly pine, tulip poplar, sweetgum, American holly, blackberry, highbush blueberry, sassafras, wintergreen, ferns, running cedar, birch, ironwood, wild grape, pawpaw, blackjack oak, sycamore, maple, willow oak, and poison ivy.

Site 6: Southern side of WMA, on Friday, 6/22/2012 (along access road through southern half of WMA)

6a: Along road next to river, next to woods along river and clear cut area on other side of road: 38°03'06.90"N, 77°23'02.30"W,

6b: Along road next to oxbow lakes, where stream from lake crosses road, and the woods surrounding road are mostly pine with some mixed hardwoods: 38°02'34.40"N, 77°23'05.30"W, and

6c: Along road at beaver dam between two oxbow lakes, just west of power line right-of-way: 38°03'06.80"N, 77°23'44.20"W.

See descriptions of Sites 1 and 2.

Site 7: Southern side of WMA, on Sunday, 6/24/2012 (along access road through southern half of WMA)

7a: Near road next to corner of oxbow lake, mixed hardwoods and pine along lake and open area just to the north: 38°02'53.10"N, 77°22'53.22"W, and

7b: Along road at beaver dam between two oxbow lakes, just west of power line right-of-way: 38°03'06.80"N, 77°23'44.20"W.

See descriptions of Sites 1 and 2.

Site 8: Northwest, on Sunday, 6/24/2012 (north of Paige Road, westernmost entrance into the WMA and west of private farm that is surrounded mostly by WMA property) (38°04'15.36"N, 77°24'07.38"W)

See description of Site 3.

Site 9: Northwest at Oxbow Lake, on Sunday, 6/24/2012 (north of Paige Road, travel down access road into WMA as it goes around the back of the private farm property, to the east of this

property, and beside an oxbow lake/wetland) (38°03'52.0"N, 77°24'06.9"W)
 Past Site 3, a gravel logging road leads to wooded and early succession areas and an oxbow lake. The lake has some mixed wooded (including oaks and pine) buffer next to the area of early succession habitat, which includes a lot of blackberry. The lake has emergent aquatic vegetation along its edges, and vines of dodder were prevalent amongst this vegetation.

Materials and Methods

On 23-24 June, 2012, the VHS surveyed the herpetofaunal species within Mattaponi WMA. Some of the VHS officers also surveyed on 22 June 2012. The survey resulted in the documentation of 26 herpetofaunal species. A total of 41 participants, mostly VHS members and some guests, assisted with this survey. There were 35 participants on Saturday and 14 on Sunday (6 of the Sunday participants were not present on Saturday). A wide range of collecting techniques were utilized during the survey weekend including hand capture, visual encounter, some road cruising, listening for vocalizing anurans, flipping debris, exploring in and under logs and bark, dip netting in aquatic habitats, and setting crayfish traps and baited hoop turtle traps in aquatic habitats. Digital voucher photos were taken of many of the species. Each group leader recorded all data on data sheets. On 23 June, four groups surveyed five areas (one group looked at two areas). On 24 June, two leaders from the previous day led two groups through two areas. All groups consisted of ten participants or less. See Table 1 for a breakdown of survey effort per study site. Data collected included a site description, species identification, microhabitat, number of animals, any interesting or unusual behaviors of phenotypes, and/or observations of disease or parasitism. The VHS obtains a Scientific Collection Permit biennially from VDGIF in order to conduct all survey events (Permit #44734 for 2012-2013). This permit requires the VHS to annually report all species location data. The data from these reports is entered into VDGIF's statewide wildlife species location databases and systems, primarily the SppObs (Species Observations) Database, which feeds other databases and systems at the VDGIF that are used for research, conservation, and education. Thus, VHS survey activities assist in keeping herpetofaunal data updated for the Commonwealth.

Table 1: The amount of survey effort per research site.

	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9
Number of hoop net sets	2	2		2					
Crayfish traps	2	2		2					
Number of surveyors	7	9	7	8	9	2	4	10	12
Hours surveyed	5	5	2	3	5	1.5	1.5	2	2
Person hours of survey effort	35	45	14	24	45	3	6	20	24

Results

Over the course of the survey period 26 species were documented (10 anurans, 1 salamander, 5 turtles, 4 lizards, and 6 snakes) with a total of 343 animals captured and identified. Other animals, or parts thereof, were observed but not identified with certainty down to species. This includes an unknown skink species at Site 1a that was under a log on a dirt mound by a field; another unknown skink, an unknown juvenile of the genus *Plestiodon* on a log under bark at Site 2b eluded capture; another unknown *Plestiodon* adult female with eleven eggs at Site 2c

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was left undisturbed given the condition; 22 eggs that were possibly laid by *Coluber constrictor constrictor* at Site 2a; and an unknown small tadpole of an anuran species captured in a dip net at Site 9. Table 2 summarizes the 26 species identified and the number of animals observed at different sites (represented by a total of 343 specimens). There were no new county records of species occurring in Caroline County, but four of the species documented only had one record or only had unvouchered records in Caroline County prior to this survey. Hand capture, dip nets, and direct observation led to the largest number of observations. Six baited hoop turtle traps and wire bell traps (crayfish traps) yielded no turtles or other herpetofaunal specimens in aquatic environments. An annotated checklist follows.

Table 2. Summary of the number of animals observed at each site. (* denotes species that were documented only once and/or by unvouchered records prior to this survey.)

Sites/Species	1	2	3	4	5	6	7	8	9
Amphibians									
<i>Acris crepitans</i>	3	49		25	2		25	1	25
<i>Anaxyrus a. americanus</i>					3				
<i>Anaxyrus fowleri</i>			1	1	1				
<i>Hyla chrysoscelis</i>	1			2	1				
<i>Hyla cinerea</i> *							5		
<i>Lithobates catesbeianus</i>		2		1	1		12	1	2
<i>Lithobates clamitans</i>	5	45		1	1		20	2	12
<i>Lithobates sphenoccephalus utricularius</i>	2	1			4				
<i>Lithobates virgatipes</i>	1	13		1			5	1	
<i>Notophthalmus v. viridescens</i>	10			2					
<i>Pseudacris crucifer</i>		1	4					6	
Reptiles									
<i>Agkistrodon contortrix mokasen</i>	1								
<i>Aspidoscelis s. sexlineata</i> *					1				
<i>Carphophis amoenus amoenus</i>	1	2		1					
<i>Chrysemys picta picta</i>	1			1	1	1	1	1	
<i>Coluber constrictor constrictor</i>					1				
<i>Kinosternon s. subrubrum</i> *	1	1							
<i>Nerodia sipedon sipedon</i>		1							
<i>Pantherophis alleghaniensis</i>	1		1	1					
<i>Plestiodon fasciatus</i>				1	1				
<i>Pseudemys rubriventris</i>						2			
<i>Sceloporus undulatus</i>		2	2	1	3				
<i>Scincella lateralis</i>				1					
<i>Sternotherus odoratus</i>		1		1					
<i>Storeria dekayi dekayi</i> *	1								
<i>Terrapene carolina carolina</i>	2	3	1			1			
Total Number of animals by site	30	121	9	40	20	4	68	12	39

Annotated Checklist

Amphibians

1. *Acris crepitans* (Eastern Cricket Frog) – [1b, 2b, 2c, 2d, 4a, 5c, 7a, 8, 9]

Eastern Cricket Frogs were found in a variety of habits including stream edges, in streams, in oxbow lakes and ponds, in leaf litter, and at the edge of the Mattaponi River. Many males were heard chorusing from lakes/ponds, making this the species that yielded the most numerous specimens during this survey event.

2. *Anaxyrus americanus americanus* (Eastern American Toad) – [5a, 5b, 5d]

Adults were observed, captured, and released in edge habitats, along the edges of trails and woods.

3. *Anaxyrus fowleri* (Fowler's Toad) – [3, 4a, 5d]

Adults of this species were found in open areas or edge areas, either along trails at the edge of woods, or in open areas near mixed woods.

4. *Hyla chrysoscelis* (Cope's Gray Treefrog) – [1c, 4b, 5e]

Adult males were heard calling in a variety of forest habitats: pines, mixed hardwoods, and hardwoods.

5. *Hyla cinerea* (Green Treefrog) – [7a]

Adult males were heard calling near an oxbow lake.

6. *Lithobates catesbeianus* (American Bullfrog) – [2b, 4a, 5c, 7a, 8, 9]

At most sites, adult males of this species were heard calling. At Site 4a, a subadult was captured and released next to a gravel pit pond. At Site 9, an adult male was heard calling, and a tadpole was captured in a dip net and released at an oxbow lake.

7. *Lithobates clamitans* (Green Frog) – [1b, 1c, 2b, 2e, 4a, 5c, 7a, 8, 9]

At most sites, adult males of this species were heard calling. At Sites 1b and 1c, juveniles were captured and released at an oxbow lake and a swamp. At Site 8, a metamorph subadult was captured and released at a ditch.

8. *Lithobates sphenoccephalus utricularius* (Southern Leopard Frog) – [1b, 2d, 5b, 5c]

Adult males were heard calling at most sites, in or near oxbow lakes and in a marsh. At Site 5b, one adult was seen hopping along the gravel trail/road.

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9. *Lithobates virgatipes* (Carpenter Frog) – [1c, 2b, 2d, 4a, 7a, 8]

Adult males were heard calling at most sites, in or near oxbow lakes and in a marsh. Adults were seen and photographed at site 7a, as well.

10. *Notophthalmus viridescens viridescens* (Red-spotted Newt) – [1d, 4a]

Ten larvae were found at Site 1d in an excavated hole. At Site 4a, two small, recently metamorphed red eft were found under bark by the water of the gravel pit pond.

11. *Pseudacris crucifer* (Spring Peeper) – [2e, 3, 8]

Metamorphs of this species were found on forest floor/grass/leaf litter habitats at all sites.

Reptiles

1. *Agkistrodon contortrix mokasen* (Northern Copperhead) – [1b]

One adult was observed and photographed as it sat coiled approximately seven meters from the edge of an oxbow lake.

2. *Aspidoscelis sexlineata sexlineata* (Eastern Six-lined Racerunner) – [5d]

One adult was observed along the edge of a trail, near mixed hardwoods, as it was foraging.

3. *Carphophis amoenus amoenus* (Eastern Wormsnake) – [1c, 2c, 2d, 4b]

Adults were found in or under logs and/or bark at all sites. The one found at Site 4b was under a log that was in/near the floodplain of the Mattaponi River in hardwoods, and was getting ready to shed.

4. *Chrysemys picta picta* (Eastern Painted Turtle) – [1b, 4a, 5c, 6c, 7b, 8]

For Sites 6 and 7b, this was the same area on different days, and at the same location, adult females were observed laying (or attempting to lay) eggs in a beaver scent mound (small pile of mud, grass, sticks, and/or stones where beavers deposit secretions of castoreum from their scent glands to mark their territory) on the bank of the swampy area between two oxbow lakes near the gravel road. Another adult female was observed at Site 4a laying (or attempting to lay) eggs on a dirt mound in the cut over area just north of the gravel pit pond. Adults were found basking at Sites 1b and 5c. At 1b, the turtle was found in upland pine woods in a sunny spot on top of pine straw/needles on the ground. At 5c, the turtle was observed on a log in a small lake. At Site 8, a dead adult was found, just the shell, near a swamp.

5. *Coluber constrictor constrictor* (Northern Black Racer) – [5e]

An adult was found in edge habitat, between forest and tall grass.

6. *Kinosternon subrubrum subrubrum* (Eastern Mud Turtle) – [1a, 2e]

At Site 1a, an adult was found and captured when crossing the road (Paige Road) near the WMA entrance. At Site 2e, an adult was found in a creek.

7. *Nerodia sipedon sipedon* (Northern Watersnake) – [2c]

An adult that was approximately 60 cm (24 inches) in length was found on the forest floor away from the water.

8. *Pantherophis alleghaniensis* (Eastern Ratsnake) – [1a, 3, 4a]

At Site 1a, a juvenile was captured and released when it was found crossing the road (Paige Road). A large adult, approximately four feet in length, was found at Site 3 on an upland hardwood forest floor. At Site 4a, a recently shed skin of an adult of this species was found under a piece of tin in the cut over area just north of the gravel pit pond.

9. *Plestiodon fasciatus* (Common Five-lined Skink) – [4b, 5b]

At Site 4b, a juvenile to almost subadult of this species was found, eventually captured, and released on the bridge over the Mattaponi River, which used to be part of old Paige Road. It was found basking and then began fleeing. At Site 5b, an adult was found on a pine tree being quite active.

10. *Pseudemys rubriventris* (Northern Red-bellied Cooter) – [6b]

Two large adult females were found along the gravel road in woods, not far from an oxbow lake and stream. This was just after a late-day, soaking rain storm.

11. *Sceloporus undulatus* (Eastern Fence Lizard) – [2a, 3, 4a, 5a, 5b, 5c]

Adults were found at all sites. At Site 2a, the specimen was identified as an adult male, found in a hardwood forest. At Site 3, one was found on a log along the gravel trail/road next to the hardwood forest, while the other was a large female that was found and caught when she was on the side of a tree trunk along the edge of the hardwoods by the gravel trail/road. The female was covered in dried mud and appeared to have recently laid eggs (her belly was large but loose). At site 4a, an adult was observed basking, and then fleeing, on a burnt log in the cut over area just north of the gravel pit pond. At Site 5a, another adult female was found under logs next to the base of a tree. She was very lethargic and gravid, likely getting ready to lay eggs. At Sites 5b and 5c, adults were found on the side of a pine tree and on a log, respectively.

12. *Scincella lateralis* (Little Brown Skink) – [4a]

An adult was found, captured, and released when it was resting under an old piece of tin on the ground of the cut over area that was just north of the gravel pit pond.

13. *Sternotherus odoratus* (Eastern Musk Turtle) – [2b, 4b]

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Only shells of deceased adults were found at both sites (one at each site). At Site 2b, the shell was found beside an oxbow lake. At Site 4b, the shell was found in the cut over area just east of the Mattaponi River at the old bridge. This shell appeared to be burned.

14. *Storeria dekayi dekayi* (Northern Brownsnake) – [1c]

Only one subadult was found during this survey. It was in a log under bark near the power line.

15. *Terrapene carolina carolina* (Eastern Box Turtle) – [1c, 2b, 2c, 2e, 3, 6a]

A total of seven Eastern Box Turtles were observed during the weekend. At Site 1c, two adult males were found, both appeared to be basking. One was on pine straw/needles in the pine woods, the other was in grass on the trail/road with bright yellow on the head and legs and did not attempt to hide. At Site 2b, only the shell of a deceased young turtle was found. At Site 2c, an adult male was found eating a mushroom. At Site 2e, a young turtle was found along the hardwood floodplain of an oxbow lake. At Site 3, a young or subadult was found on the hardwood forest floor. At Site 6a, an adult male was found after a late-day, soaking rainstorm in a puddle or water-filled rut in the gravel trail/road. This part of the road was near the Mattaponi River and hardwoods.

Discussion

This was one of the first events of its kind to be held on VDGIF's recently acquired property, the Mattaponi WMA. The property boasts a diversity of habitats, with potential for habitat enhancements. Though this survey resulted in many species and specimens being documented, there was a noticeable lack in salamander species. The red-spotted newt (*Notophthalmus viridescens viridescens*) was the only salamander documented during this survey. The lack of salamanders was most likely due to the time of year this event took place. In this part of the Commonwealth, late June is often, as it was in the case of this event, too warm for most salamander activity. This year in particular became rather hot and lacking in rain starting around early to mid June. July, August, and into early September are usually too hot and dry to have successful surveys for salamander species in this portion of the Commonwealth. There were also habitat disturbances, such as timbering activity, on this property prior to VDGIF's acquisition of it. The disturbance in forested habitats likely does not currently support a large number of salamander species or individuals. There are also a few large stands of planted pine trees from previous pine plantation management. This habitat may limit the diversity of species, particularly in its state in many parts of the property, where the pine forest has gained a high density of understory. VDGIF staff plan to perform prescribed burns to these areas in the near future in order to improve the habitat.

The VHS and VDGIF would like to revisit this property for a herpetofaunal survey in a few years, likely at a different time of year, to see if herpetofaunal diversity may increase and may be better documented. In a few years, prescribed burns performed on this property will likely yield improved/enhanced habitats that may support more diversity and higher abundances of herpetofaunal species.

Although salamanders were not well documented during this survey, the large oxbow lake and wetland habitats, as well as riverine habitats along the Mattaponi River, provided ample

documentation of many anuran species. Amongst the most highly recorded species were the eastern cricket frog (*Acris crepitans*) and green frog (*Lithobates clamitans*). One interesting species that was documented during this survey, which was also a treat for many participants to see and/or hear, was the carpenter frog (*Lithobates virgatipes*). This species is usually found only in extreme southeastern Virginia, but is also previously known in Caroline County within Fort A. P. Hill Military Reservation. Additionally, there have been a small number of records in other parts of Caroline County and in neighboring King William and Hanover Counties. Documenting a large population during the survey at Mattaponi WMA, adds to the already well documented populations within nearby Fort A. P. Hill. In Virginia, this species shows an unusual Coastal Plain distribution, in some of the most southeastern portions of Virginia's lower Coastal Plain, and then in the most northwestern portions of Virginia's upper Coastal Plain. There is an unusual gap between these populations where this species has not been documented.

A few species of turtles were observed during Friday evening of the event (22 June), immediately following a thunderstorm with heavy rain. Two large northern red-bellied cooters (*Pseudemys rubriventris*) were spotted along one of the logging roads, both females presumed to be out to find a place to lay eggs in the ground that was softened by the rain. An adult male eastern box turtle (*Terrapene carolina carolina*) was found in a different area of the same logging road, soaking in a rain-filled rut in the road. Also, another area of the road that passed along a beaver swamp produced a female eastern painted turtle (*Chrysemys picta picta*) in the process of laying or attempting to lay eggs in the bank between the road and the swamp. Turtle traps were set Friday evening and checked on Saturday, but were unsuccessful in capturing more turtles. Other turtle specimens were found during survey activities on Saturday and Sunday. Adult female eastern painted turtles were observed on at least two more occasions that weekend either laying or attempting to lay eggs. Apparently, conditions were good for turtle egg-laying, but not for trapping turtles in aquatic habitats. Buhlmann, Tuberville, and Gibbons (2008) mention that turtles may go without feeding in response to changing seasons. Perhaps the recent rise in temperatures triggered this type of non-feeding response in the turtles of this property, and thus their lack of feeding behavior kept them from entering the traps.

The numbers and diversity of snakes was not high during this event. Perhaps the conditions were not optimal for finding snake species. More night surveying may have yielded better numbers for snake species and individuals, given the high temperatures experienced during the days of this event. Some snake species aestivate during the hottest and driest portions of summer.

For this survey, the VHS was able to confirm observations of four species that previously only had one and/or unvouchered official records in Caroline County. These species include: the green treefrog (*Hyla cinerea*), eastern six-lined racerunner (*Aspidozelis sexlineata sexlineata*), eastern mud turtle (*Kinosternon subrubrum subrubrum*), and northern brownsnake (*Storeria dekayi dekayi*). The eastern six-lined racerunner is often difficult to find, but given this species prefers days when temperatures rise fast and early in the day, this event provided good conditions to find a specimen.

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Acknowledgments

The Virginia Herpetological Society would like to thank the following people for volunteering to help in surveying Mattaponi Wildlife Management Area: Craig Abbott; Caitlyn Allen; Trisha Beasley; Jill Card; Daniel Chandler; Ryan and Scott Collister; Ryan Dent; Bill Feeney; Robert, Rosemary, and Dominic Frezza; Kelly Geer; Karl Huber; Brian and Mitchell Kim; Larry Mendoza; Matt Neff; Dave Nichols; John Orr; David Perry; Keith Ramirez; Ben Raturman; Chandler Renaud; Matthew and Wade Riess; Steve Roble; Paul Sattler; Taylor Sheffield; Caroline Seitz; Emily and Kory Steele; Sydney Thompson; Dave Van Gelder; Patrick Walmsley; Susan Watson; and John, Charise, and Amy White. We would also like to thank Ron Hughes and Mike Dye from the Virginia Department of Game & Inland Fisheries who were instrumental in setting up this event, even though they were unable to attend during the survey.