SURVIVAL, MOVEMENTS, AND HABITAT SELECTION OF INTRODUCED JUVENILE ALLIGATOR SNAPPING TURTLES (*MACROCHELYS TEMMINCKII*) IN THE WOLF RIVER DRAINAGE, FAYETTE COUNTY, TENNESSEE

A Thesis

Presented for the Master of Science Degree

Austin Peay State University

Joshua T. Ream

December, 2008

TO THE GRADUATE COUNCIL:

I am submitting herewith a thesis written by Joshua Taylor Ream entitled "Survival, Movements and Habitat Selection of Introduced Juvenile Alligator Snapping Turtles (*Macrochelys temminckii*) in the Wolf River Drainage, Fayette County, Tennessee." I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in biology.

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DEDICATION

This thesis is dedicated to all of those who have believed in me and who have supported my educational pursuits, especially my family and friends. Without the emotional and financial support of so many individuals my many accomplishments would not have been possible. This contribution to science is just one of many ways that I hope to give back to mankind.

AKNOWLEDGMENTS

There are many individuals and entities that deserve my sincere gratitude in helping to make this project possible. Foremost I would like to acknowledge my major professor Dr. A. Floyd Scott who has been an incredible adviser offering endless hours of support and guidance. His exceptional dedication to science and education is unsurpassed and I can only aspire to contribute to society in as many ways as he.

To the Tennessee Wildlife Resources Agency I am especially thankful for making this project possible through funding and other avenues of support. The agency is genuinely devoted to establishing viable populations of many threatened species throughout the state and they are dedicated to improving reintroduction programs that are already underway. In particular I would like to thank the Region I Non-Game Coordinator Jim Hamlington for his consistent support of this reintroduction initiative. I would also like to thank the managers and technicians of the Wolf River Wildlife Management Area including Don Miller, Pete Creech, Stephen Henderson, Wes Winton and Brian Kellum for without their assistance and friendship this project would have suffered greatly.

Without hesitation I offer my appreciation to Austin Peay State University's Center of Excellence for Field Biology which has played an integral role in this research. The center has continually contributed of its monetary, material, and human resources throughout this project. Additionally, the center has supported the dissemination of our results at a number of local, regional, and international scientific meetings including the 6^{th} World Congress of Herpetology held in Manaus, Brazil. Interim Director, Dr. Steven

Hamilton, who is also on my advisory committee, deserves particular attention for his stalwart support of our research since day one.

Lastly, eternal gratitude is offered to my field assistants for without them our data could not have been obtained. Eric Johansen and Christopher O'Bryan deserve the utmost thanks for two years of grueling field work under strenuous, extreme, and sometimes dangerous conditions. These devoted individuals not only spent two years at my side in the field, but they also spent two summers of their college careers living in a shed with limited human interaction. I would also like to thank my other assistants and colleagues for their support, especially Benjamin Beas, Nathalie Smith, Nathan Parker, Seth McCormick and Dr. Dwayne Estes.

ABSTRACT

We used marked-recapture and radiotelemetry to monitor non-native juvenile Alligator Snapping Turtles, *Macrochelys temminckii*, following release at the Wolf River Wildlife Management Area, Fayette County, Tennessee. This species, endemic to the Southeastern United States, is North America's largest freshwater turtle and considered of conservation concern in Tennessee and throughout much of its historical range. Beginning in 2000, the Tennessee Wildlife Resources Agency (TWRA) released more than 400 individuals, mostly juveniles, into all of the major Mississippi River drainages within the state. Our study aimed to augment the efforts of the TWRA by monitoring the post-release movements and habitat selection of introduced juveniles in two types of palustrine habitats (a cypress/tupelo dominated slough and the main river channel). Between May 2007 and July 2008, 84 individually marked turtles (20 fitted with radio transmitters and 64 without transmitters) were tracked and trapped for on a daily basis during summer and monthly to semi-monthly during winter. Results revealed non-random use of habitat, with turtles strongly associating with the water's edge, shallow depths, cover objects, moderate to high canopy cover, and aquatic vegetation. These habitat preferences were determined to be more consistent with the slough habitat. Movement was limited over the summer months and occurred more frequently during May and June than in July and August. Substantial movement occurred in the days directly following release, especially in the river channel where the majority of movement was against the direction of water flow. Some individuals captured were suspected to be from a previous release and were among those animals captured most frequently, indicating survival success and the establishment of a home range. Global Information System technology was utilized to represent our findings both spatially and temporally, providing a baseline database for future sampling efforts. This work was supported by the Tennessee Wildlife Resources Agency and Austin Peay State University's Center of Excellence for Field Biology.

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CHAPTER I

INTRODUCTION

The Alligator Snapping Turtle, *Macrochelys temminckii,* is the largest freshwater turtle in the New World (Pritchard, 2006). Despite its large size and dramatic appearance, this species is seen infrequently in the wild by humans (Drummond and Gordon, 1979) and is unknown by many living within its native range (Pritchard, 2006). Due to its rarity, secretive nature, and tendency to remain on the bottom of aquatic habitats, *M. temminckii* is considered extremely difficult to study in the wild (Elsey, 2006).

Intense harvest over several decades has severely depleted many if not most populations of Alligator Snapping Turtles and has thus altered their demographic structure (Maltese, 2005). Today, this species is listed by most states within its range as vulnerable, threatened, or endangered (Reed et al., 2002) and is protected federally under Appendix III of a treaty administered by the Commission on International Trade of Endangered Species of Wild Flora and Fauna (CITES).

Conservation efforts to reestablish viable populations of Alligator Snapping Turtles are often hindered by the lack of scientific data for this species. Important information on survivorship, recruitment and habitat use remains scarce (Reed et al., 2002). Additionally, population data are limited (Elsey, 2006) and no long-term demographic studies have been published (Reed et al., 2002). For these reasons it is often difficult to determine the efficacy of reintroduction programs.

The goal of this study was to evaluate the movements, habitat selection and survivorship of recently reintroduced populations of Alligator Snapping Turtles in southwestern Tennessee and to assist the Tennessee Wildlife Resources Agency (TWRA) in establishing effective protocols for the implementation and improvement of this reintroduction program. Trapping events, marked recapture surveys and radio-telemetry equipment were utilized to obtain population and movement data as well as to collect pertinent information on the life history and ecology of this species.

CHAPTER II

LITERATURE REVIEW

Nomenclature

Originally described in 1835 under the name *Chelonura temminckii* (Harlan, 1835) the Alligator Snapping Turtle has undergone a number of taxonomic revisions since that time. Adoption of its current classification (Reptilia: Testudines: Chelydridae: *Macrochelys temminckii*) was enacted in 2000 by the Society for the Study of Amphibians and Reptiles (Reed and Gibbons, 2003). In the vernacular, this turtle is often referred to as the Loggerhead or River Loggerhead (Pritchard, 2006).

Description

The Alligator Snapping Turtle is easily differentiated from most other species in its range and exhibits a number of unique anatomical and physiological characteristics that can be utilized for proper identification. Among these, the size of mature adults is likely the easiest distinguishing feature as they typically weigh between 11.8 and 79.8 kg (Kath, 2005). The only other freshwater turtle within the Alligator Snapping Turtle's range that compares in size is the Common Snapping Turtle, *Chelydra serpentina*, its closest relative and only other extant member of the family Chelydridae). The largest adult of this latter species captured in the wild was only 30.8 kg (Pritchard, 2006). Other notable characteristics and distinguishing features are discussed below.

The carapace of the Alligator Snapping Turtle is approximately two-thirds as wide as it is long; it is extremely rough, dark brown or gray in color and without markings (Pritchard, 2006). Coloration is augmented by dense filamentous algal growth that provides excellent camouflage within its environment (Drummond and Gordon, 1979). Anterior margins of the carapace are smooth while the posterior is strongly serrated and the sides are relatively straight (Kath, 2005). It exhibits three strong, longitudinal dorsal keels and an extra row of scutes (supramarginals) located between the costals and the marginals (Pritchard, 2006). The carapace of the Common Snapping Turtle is rounder in form and smoother in texture, especially in older individuals that tend to lose their dorsal keels (Pritchard, 2006). Common Snapping Turtles do not possess supramarginal scutes.

The head of the Alligator Snapping Turtle contains a distinctly pointed snout, large lateral orbits, extremely powerful jaws and a prominent hook at the tip of the upper jaw (Kath, 2005). Coloration of the skin both on the head and elsewhere is dark brown to gray above and lighter below though numerous dark blotches may be present on the head (Kath, 2005). The head is set deeper and is anteriorly narrower than those of the Common Snapping Turtle and the eyes are surrounded by a star-like arrangement of fleshy papillae (Pritchard, 2006). Furthermore, the species displays a number of dermal projections, called tubercles, on the sides of the head, chin and neck. Similar tubercles can also be found in three rows on the muscular tail which is often as long as the carapace (Kath, 2005).

Unique to the Alligator Snapping Turtle is the lingual appendage, a pink worm-like process attached near the center of the tongue via a muscular base that allows movement to attract prey (Kath, 2005). Though the sit-and-wait technique is also a familiar strategy of the Common Snapping Turtle, the Alligator Snapping Turtle tends to clamp down on nearby prey while the Common Snapping Turtle lunges forward, sometimes so forcefully as to leap clear of the substrate (Pritchard, 2006).

Little sexual dimorphism occurs in the Alligator Snapping Turtle but gender can sometimes be determined by size in that mature males are considerably larger than females (Kath, 2005). Males also exhibit longer pre-cloacal lengths of the tail and, although not obvious in smaller individuals, the vent is often more posterior to the rim of the carapace (Kath, 2005). In a study of 200 wild-caught Alligator Snapping Turtles, the sex ratio was found to be 1:1 (Boundy and Kennedy, 2006).

Distribution

The distribution of the Alligator Snapping Turtle is restricted to the Southeastern and Midwestern United States. The historically recognized range encompasses 14 states and includes the Mississippi River, its tributaries, and several other Gulf of Mexico drainage basins from eastern Texas to northern Florida (Maltese, 2005). Populations in Illinois, Indiana, Kansas, Kentucky, Oklahoma and Tennessee are considered small or extirpated (Reed et al., 2002). The northern extent of the range is in Illinois based on a record that came from Union County in 1989 (Kath, 2005). Figure 1 is taken from Pritchard (2006) and depicts the most recent distributional information (excluding reintroduced specimens) for states other than Tennessee. Scott and Redmond (2008) provide an up to date map (Fig. 2) showing the distribution in Tennessee.

Fossil records indicate that the species once ranged as far west as Meade County, Kansas, as far north as South Dakota and as far south a Hillsborough County, Florida

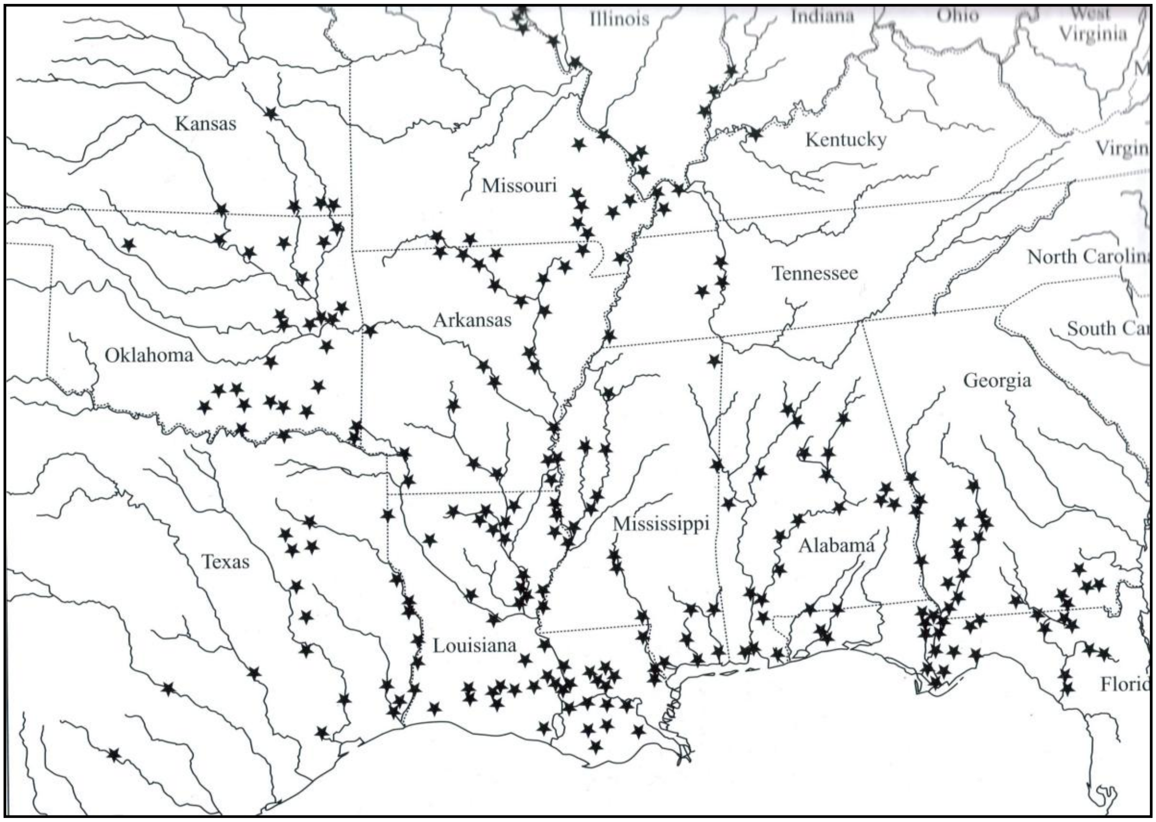

Figure 1. Range-wide distribution of the Alligator Snapping Turtle (Pritchard, 2006).

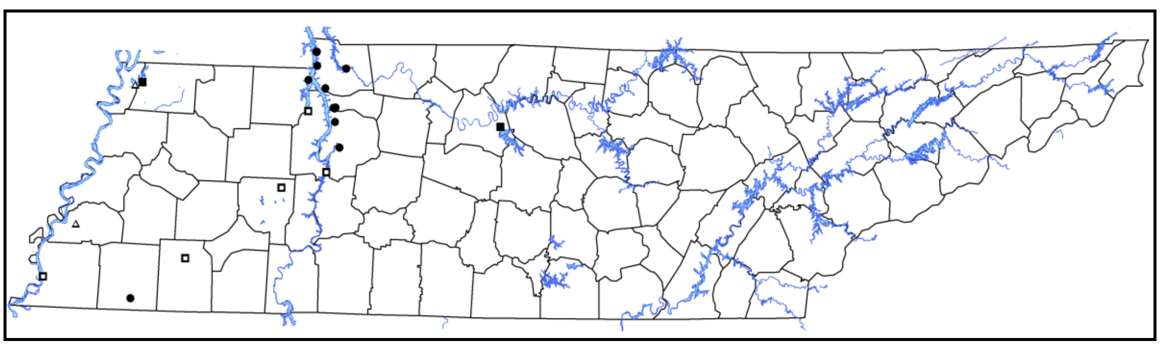

Figure 2. Distribution of the Alligator Snapping Turtle in Tennessee. (Scott and Redmond, 2008). For a key to map symbols go to Internet site http://apsu.edu/reptatlas/frames_file.htm.

(Pritchard, 2006). The Alligator Snapping Turtle presumably originated in the Mississippi basin and has been extirpated and reestablished in the main channel throughout various geological periods (Roman et al., 1999). The suggested cause of these extirpation events is that frigid glacial runoff during the most recent ice-ages was too cold for the species and that it may have reduced suitable habitat to a few southern tributaries (Kath, 2005). Today, river impoundments are likely the major factor affecting dispersal between healthy and depleted populations throughout the range (Kath, 2005). Unlike the Common Snapping Turtle which inhabits much of North America, the Alligator Snapping Turtle does not disperse terrestrially and is severely restricted by aquatic barriers in its environment (Reed et al., 2002). This lack of migratory ability has caused the current population to develop three highly divergent genetic groups (Roman et al., 1999), each of which is considered an Evolutionary Significant Unit (ESU).

Habitat

Alligator Snapping Turtles inhabit a number of fluvial habitats in freshwater river systems including lakes, canals, oxbows, swamps, ponds and bayous (Maltese, 2005), especially those in the vicinity of deeper running water (Drummond and Gordon, 1979). Juveniles have been noted in creeks and smaller streams (Drummond and Gordon, 1979). Individuals rarely if ever bask and only females leave the water to lay their eggs (Riedle et al., 2006) making them among the most aquatic of freshwater testudines (Reed et al., 2002).

Bald cypress forests are among the favored habitats of this species. In a telemetry study of 12 wild-caught subadult Alligator Snapping Turtles over 12 months, the majority of locations obtained (99.1% of fixes) were in bald cypress habitat as opposed to the open channel (Harrel et al., 1996). Males have been shown to occupy open water microhabitat more often than females (Harrel et al., 1996). Other researchers confirm that adults and subadults of both sexes use cypress-lined rivers frequently (Reed et al., 2002).

Almost all available literature on Alligator Snapping Turtle habitat includes mention of the association of “core sites” which include overhanging trees/shrubs, dead submerged trees and stumps, and beaver dens. Beaver dams and dens may provide underwater air pockets as well as cover from the sun during the hottest parts of the day (Riedle et al., 2006). A telemetry study by Riedle et al. (2006) of 19 turtles over 13 months found that all specimens were always associated with some sort of structure and a high percentage of overhead canopy cover. Another telemetry study by Harrel et al. (1996) showed 73.8% association with core sites (56% of males, 79.7% of females). This study also identified the type and percent occurrence of some of these sites: 39.5% log(s), 9.2% buttonbush, 8.8 % stump(s), 8% branches (Harrel et al., 1996). Core sites are generally occupied for 3 days to several months and it remains unknown why Alligator Snapping Turtles move between core sites and what determines the duration of stay at each (Riedle et al., 2006).

Alligator Snapping Turtles are suggested to prefer increased cover because they are "ambush predators" (Harrel et al., 1996). In addition to the protection that they provide, core sites may serve this purpose. Another use of core sites may be the provision of climbing aids in obtaining air since Alligator Snapping Turtles are bottom walkers and are relatively poor swimmers compared to other aquatic turtles (Harrel et al., 1996). Unlike many aquatic species, Alligator Snapping Turtles can not remain submerged for long periods and typically surface to breath every 40-50 minutes when the air temperature is between 70 and 75^{o}C (Allen and Neil, 1950). Additional research is needed to validate these findings.

Feeding Mechanism and Diet

The unique lingual appendage of the Alligator Snapping Turtle used for prey attraction is unknown in all other species of reptiles (Drummond and Gordon, 1979). Juvenile Alligator Snapping Turtles feed heavily upon fish attracted by this "lure" while larger individuals probably gradually abandon dependency upon this appendage even though it is present throughout their life (Pritchard, 2006). Only in juveniles does the lure have sharply contrasting, easily visible coloration (Pritchard, 2006). Alligator Snapping Turtles can also seize smaller turtles, crustaceans and mollusks that come within striking distance (Punzo and Alton, 2002). The jaws of adult Alligator Snapping Turtles show considerable adaptation to a molluscivorous diet due to their breadth, shortness, blunt crushing force and strength (Pritchard, 2006).

Luring activity is often initiated by visual and chemosensory cues of nearby prey items (Punzo and Alton, 2002). Gular pumping, used to sample the surrounding water, has been noted to be more frequent in the presence of prey cues (Punzo and Alton, 2002). Tubercles on the head and neck may also serve as detectors of water movement by fish in close proximity (Pritchard, 2006). Once a prey item is detected, turtles enter the luring phase of feeding characterized by opening of the mouth to a wide angle (about 70^{o}), accompanied by wriggling of the lure (Drummond and Gordon, 1979). In a controlled study this was never initiated randomly but almost always occurred when fish swam near the turtle's head (Drummond and Gordon, 1979). Re-orientation of the head in the direction of the prey occurred much more frequently while luring than before luring. Attack was initiated when the fish entered the turtle's open mouth. Observations of luring in the wild are extremely rare (Pritchard, 2006).

The Alligator Snapping Turtle is best described as both an omnivore and an opportunistic scavenger. In a study by Elsey (2006), 109 gastrointestinal tracts (GIs) of individuals caught by commercial trappers in Arkansas and Louisiana were examined for their contents. Fish were the most common prey item at all sites and occurred in 79.82% of all GIs examined with carp, gar, and catfish being the most prevalent species. Two additional studies (Sloan et al., 1996; Dobie, 1971) found fish occurrence to be 56.9% and 59.4% respectively. Elsey (2006) found crayfish to be the second-most common prey item at 51.38%, followed by mollusks, turtles, insects, mammals, birds, and snakes. Alligator Snapping Turtles also seem to be fond of sirens, amphiumas, and banded water snakes (Pritchard, 2006). Vegetation was seen by Elsey (2006) in 108 of the 109 GIs and included acorns, sticks, leaves, seeds, roots, and vines. One stomach alone contained 662.07 g of vegetation. Dobie (1971) found plant material in all 32 samples and Sloan et al. (1996) reported acorns to be the most abundant food item by weight and volume. The species' generalist diet and ability to adapt to a variety of prey items is advantageous from an evolutionary prospective.

Sexual Maturity and Reproduction

Age of first reproduction of the Alligator Snapping Turtle in the wild is largely unknown and numerous conflicting reports exist. Dobie (1971) reported sexual maturity at 11-13 years of age for both sexes based on dissection of reproductive tracts and counts of the scute annuli. In contrast, laproscopic exams of Louisiana specimens performed by Harrel et al. (1996) found no reproductive females under 15 y of age and no reproductive males less than 17 y of age. In this study, adult males were classified as all individuals with a skull length of at least 11.5 cm and carapace length of at least 37 cm and adult females as all individuals with a skull length of at least 11.2 cm and carapace length of at least 33.0 cm (Harrel et al., 1996). It is likely that Dobie (1971) underestimated age of maturity as scute annuli may not be reliable indicators of growth at older ages (Reed et al. 2002). Concordia Turtle Farm in Louisiana reports captively raised individuals reaching maturity at 5-6 years of age though these claims have not been substantiated (Kath 2005).

Adult male Alligator Snappers appear to be capable of sperm production year round (Reed et al., 2002) since active spermatozoa have been found in their testes throughout much of the year (Dobie, 1971). This suggests that copulation and fertilization can take place at any time and that females are able to retain sperm until they ovulate in the spring (Pritchard, 2006). Sperm storage is widespread in the order Testudines and several cases of captive turtles laying fertile eggs some years after the last possible mating have been reported (Pritchard, 2006). This would be of a great advantage to the Alligator Snapping Turtle since encounters between individuals tend to be rare. Studies have shown the species to be extremely solitary and there has been limited observation of aggregation or interaction (Harrel et al., 1996). Captive breeding reports indicate that the majority of copulatory events take place between February and October though geographic variation is poorly understood (Reed et al., 2002).

Females are known to ovulate in the spring and to oviposit between May and July (Reed et al., 2002). They appear to breed annually but may skip a year if they have poor foraging success (Reed et al., 2002). The nesting season is short and becomes slightly later at more northerly latitudes (Pritchard, 2006). Nest sites usually consist of sandy mounds or knolls near water (Kath, 2005) and on high well-drained sites (Pritchard, 2006). Females have been observed nesting up to 72 m from water but the average is 12.2 m (Reed et al., 2002). The typical mature female produces a single clutch annually containing from 8 to 52 eggs (Maltese, 2005). Clutch size is positively correlated with female body size although variation exists among populations (Kath, 2005). Despite their larger size, Alligator Snapping Turtles have lower average reproductive output than

Common Snapping Turtles (Reed et al., 2002), which have a longer breeding season, greater maximum clutch size, and are likely capable of producing more than one clutch in a season (Pritchard, 2006).

Demographics and Survivability

Only limited population data exists for Alligator Snapping Turtles (Elsey, 2006) and no long-term studies of survivorship and demography of any population have been published (Reed et al., 2002). Sporadic short-term data does exist, however, and long-term studies are likely to result as the species gains considerable attention from the scientific community. Previous surveys have found depleted populations throughout the historical range (Reed et al., 2002) and professional trappers before the ban on commercial harvest often reported declines below commercial viability (Pritchard, 2006).

Alligator Snappers exhibit a type III survivorship curve that includes high juvenile mortality and high adult survivorship under natural conditions absent of anthropomorphic activity (Reed et al., 2002). Among turtles captured by Sloan et al. (1996) in Louisiana, the average age of adult males was 25.24 yr and of females 22.23 yr. They have been known to live longer than 70 yr in captivity (Reed et al., 2002) and can likely exceed this substantially in the wild. According to Reed et al. (2002), reducing adult survivorship from 98% (an already conservative estimate) to 97.75% will result in the population size being halved in 410 yr. Furthermore, reduction to 96% adult survivorship (equivalent to removing two adult females from a population of 200 adults) will halve the population in only 50 yr (Reed et al., 2002).

Nest survivorship is far less than that of adults and is estimated at 5% or less (Reed et al., 2002). In a study of artificial turtle nests containing quail eggs as decoys, 22% of all nests were either depleted or disturbed within 7 d of placement (Marchand et al., 2002). Reed et al. (2002) estimates survivorship in Alligator Snapping Turtle nests at 20%, also a very conservative estimate, and that an increase of 5% nest survivorship would still require 145 yr for the population to double. They also suggest that it would take a nest survivorship rate of more than 40% to double the population in less than 5 yr. At the top of their list of the most important predators of turtles in North America is the raccoon, which if reduced in number, they feel will almost certainly result in an increase of nest survival rates among turtles in general. Recent increases in turtle nest mortality are likely due to the collapse of fur markets resulting in greater populations of various predators in the southeastern United States (Reed et al., 2002).

Movement

Movement is thought to be limited in the Alligator Snapping Turtle because they are considered sedentary by nature and seldom swim for any distance; instead "creeping" along the bottom of their aquatic habitats is accepted as their main mode of locomotion (Sloan and Taylor, 1987). Riedle et al. (2006) lists basking, feeding, reproduction and seeking favorable hiding places as the four recognized reasons for most turtle movement. In contrast, Alligator Snappers rarely if ever bask (Riedle et al., 2006), often display sit-and-wait feeding, are suspected to breed on chance encounters (Pritchard, 2006) and tend to remain at core-sites for extended periods (Riedle et al., 2006). Additionally, terrestrial movement appears to be undertaken only by nesting females and juveniles moving from the nest to the water (Reed et al., 2002).

Though long movements of Alligator Snapping Turtles seem to be few and far between, they have been known to occur. One Oklahoma specimen was noted to have moved 27-30 km over 3 yr (Riedle et al., 2006). Photoperiod and temperature are suspected as major influences on the movement patterns of Alligator Snapping Turtles. Harrel et al. (1996) noted a drastic increase in movement during April (mean water temperature of 19.1^{o}C) especially for males, and a sharp decline of male movement in August. Riedle et al. (2006) reported twice as many movements in June as in July (n = 19). Adults are capable of moving more than 1 km per day.

As discussed previously, captive Alligator Snappers are known to reject food at or below 18^{o}C and become inactive at or below 10^{o}C. They spend winter months in hibernacula that include undercut riverbanks and deep holes in bayous and lakes (Kath 2005). There appears to be no difference between the sexes in over-wintering habitats (Harrel et al., 1996), and Riedle et al. (2006) found that all studied individuals (n = 19) remained at a single core site during this time.

CHAPTER III

STUDY AREA

Location and Size

This study was conducted in Fayette County, Tennessee (Fig. 3) within the Wolf River watershed (Fig. 4). The sites used were located in the Wolf River Wildlife Management Area (Fig. 5 & 6) which is co-owned and operated by the Tennessee Wildlife Resources Agency and the Tennessee Department of Environment and Conservation. The management area comprises 2,612 ha (6,456 ac) and is located south of state route 57 between the town of La Grange and the Mississippi State Line. The portion of the Wolf River within the management area flowing from Yeager Drive Bridge to Bateman Road Bridge near Moscow, Tennessee is referred to as the Ghost River section and is approximately 16 km (10 mi) in length. This section of the river encompasses much of the study site proper and features a meandering river channel, a swamp forest where the river channel is braided, and an open lake.

Physiography, Topography, and Soils

The Wolf River Wildlife Management Area is located within the Coastal Plain Physiographic Province of Tennessee and is thought to have been submerged 40-70 million years ago by the Mississippi Embayment. It includes gentle sloping plateaus with flat to rolling topography formed by windblown loess material derived from retreating northern glaciers. The soils are mainly sands and clays that are highly leached, low in fertility and strongly acidic (Tennessee Exotic Pest Council, 2007). Three major soil types dominate the Wolf River WMA including TN008, TN010, and TN012 (Fig. 7).

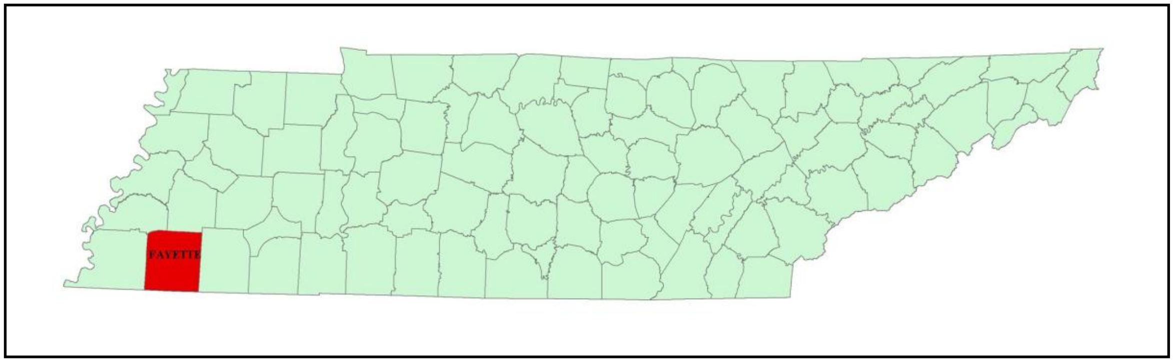

Figure 3. The state of Tennessee highlighting Fayette County.

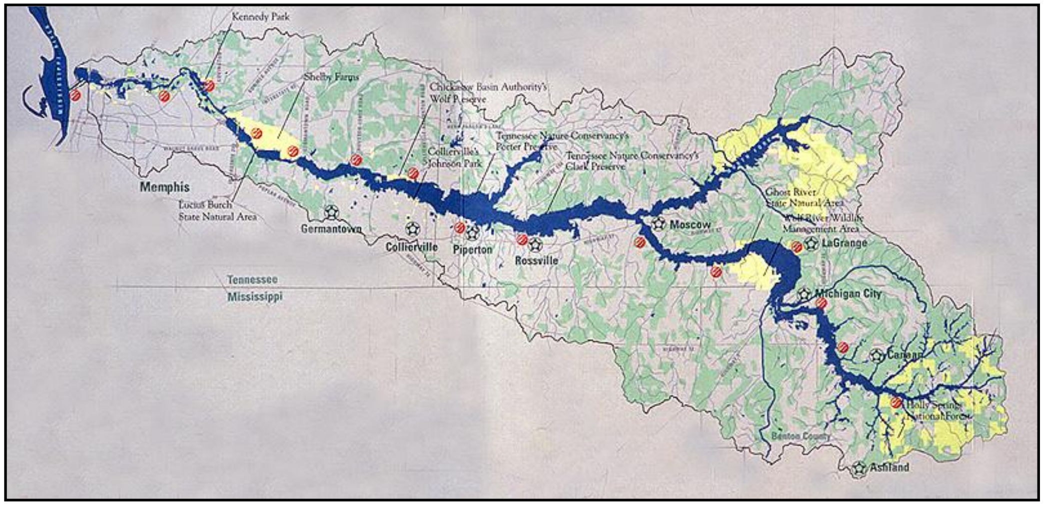

Figure 4. The Wolf River watershed (Wolf River Conservancy, 2008).

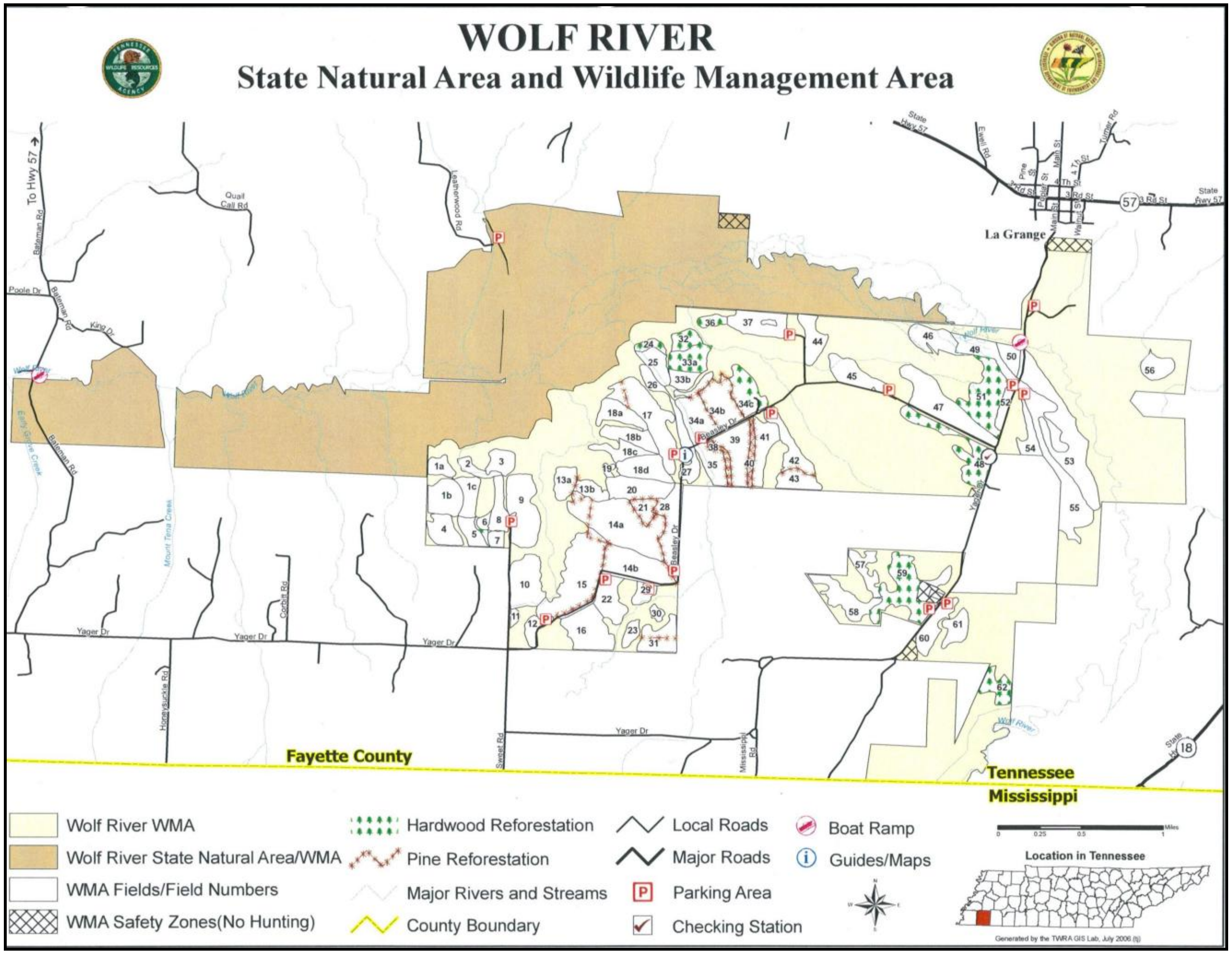

Figure 5. The Wolf River Wildlife Management Area (Tennessee Wildlife Resources Agency, 2008).

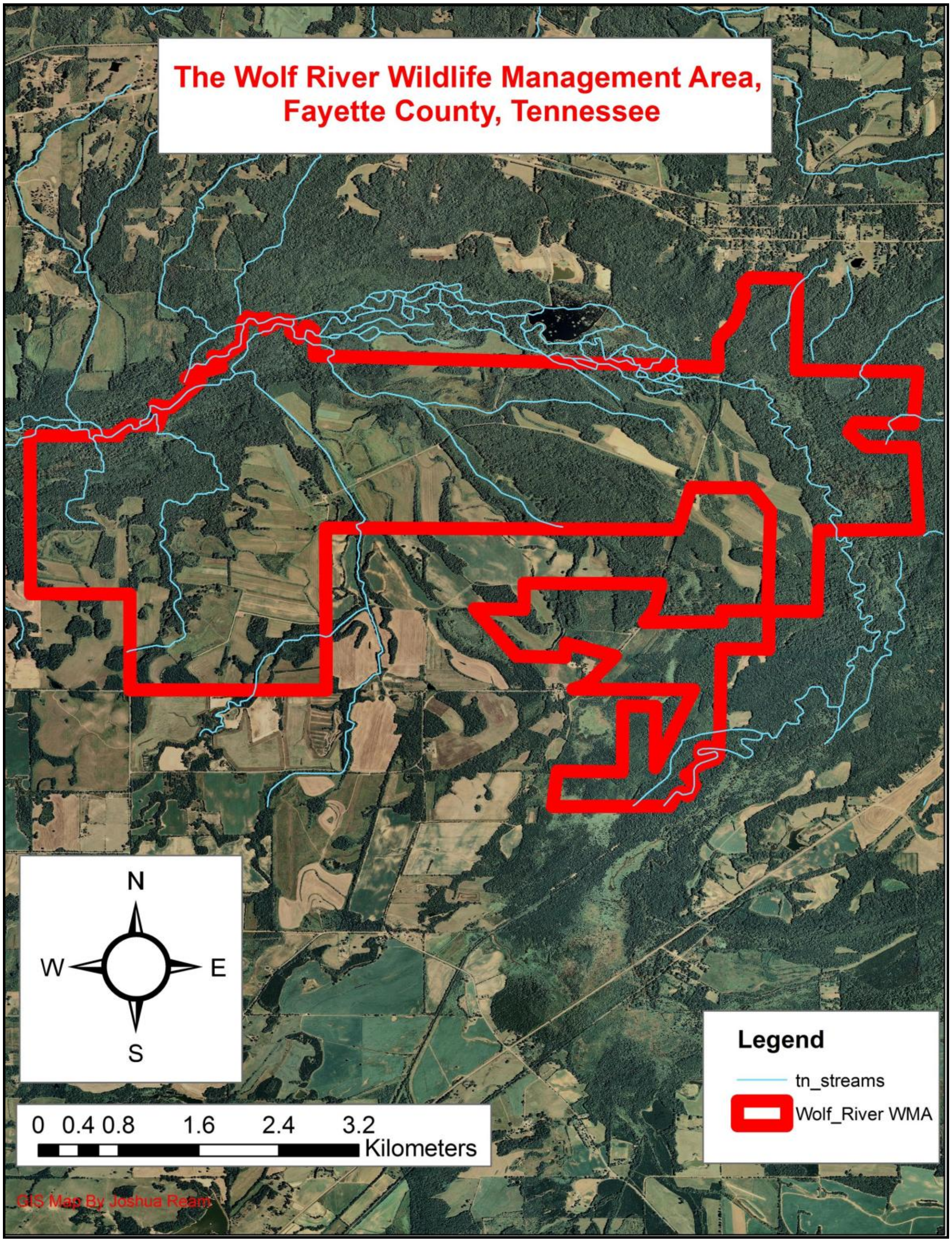

Figure 6. Color orthophotograph of the Wolf River Wildlife Management Area, Fayette County, Tennessee.

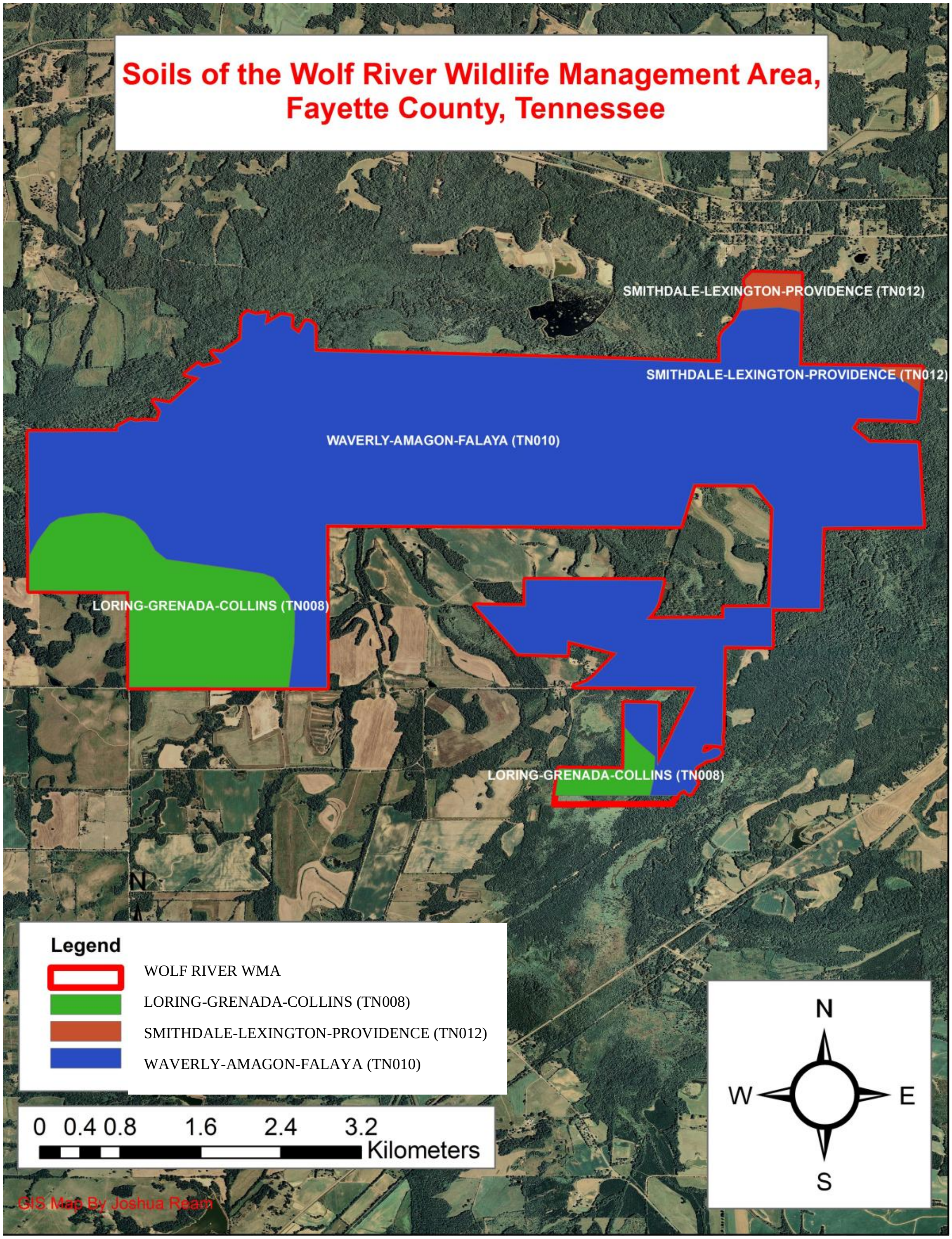

Figure 7. Major soil types and locations within the Wolf River Wildlife Management Area, Fayette County, Tennessee.

Vegetation

At the time of this study, the dominant vegetation type in this area predominantly included bottomland hardwood forest dominated by bald cypress (*Taxodium distichum* (L.) Rich.) and water tupelo (*Nyssa aquatic* L.). The area near our channel release site was dominated by bald cypress, water oak (*Quercus nigra* L.), American hornbeam (*Carpinus caroliniana* Walter) and northern catalpa (*Catalpa speciosa* (Warder) Warder ex Engelm) stands that line both banks. Many areas at this site also had thick patches of giant cane (*Arundinaria gigantean* (Walter) Muhl.), common blackberry (*Rubus argutus* Link), devil's walkingstick (*Aralia spinosa* L), and greenbrier (*Smilax spp.*) which overhang the bank. Little to no aquatic vegetation was present at this site, at least in the shallow waters near the bank.

Water tupelo and bald cypress dominated the Mineral Slough study site with the former being present in much greater abundance. Box elder (*Acer negundo* L.) and buttonbush (*Cephalanthus occidentalis* L.) were shrubs common in the understory of this wetland and herbaceous vascular plants abounded along the shore. Arrowhead (*Sagittaria spp.*), American bur-reed (*Sparganium americanum* Nutt.), and sedge species (*Carex spp.*) were common while common duckweed (*Lemna minor* L.) formed a thick mat over the swamp by mid-summer. Carolina mosquito fern (*Azolla caroliniana* Willd.) was also noted amongst the common duckweed in late summer and early fall. Common duckmeat (*Spirodela polyrrhiza* (L.) Schleid.) and watermeal (*Wolffia spp.*) were also expected to occur at this site but were not identified.

Weather and Climate

The Wolf River Wildlife Management Area is located in southwestern Tennessee where the climate is characterized by mild year-round temperatures and four distinct seasons. Annual snowfall is variable and accumulation is negligible in some years. Rainfall is also variable. In the first year of this project our study site experienced a severe drought while in the second year flooding events were frequent in late spring and early summer. Figures 8 and 9 show the average river gauge heights throughout this study. Figures 10 and 11 show the average river water temperature throughout this study as compared to 30-year averages.

Herpetofauna

The Wolf River Wildlife Management Area and its associated wetlands support a multitude of aquatic life. As a result of intensive trapping for the juvenile Alligator Snapping Turtles used in this study, a variety of non-target reptiles and amphibians were encountered (Appendix D). Intentional searching was occasionally undertaken to augment information on the area's resident herpetofauna. These observations resulted in five new species records for Fayette County: Copperhead, *Agkistrodon contortrix* (Ream and O'Bryan, 2008)*;* Red-bellied Mudsnake, *Farancia abacura* (Ream and Johansen, *in press*)*;* Mole Salamander, *Ambystoma talpoideum* (Ream and Johansen, 2008)*;* Bird-voiced Treefrog, *Hyla avivoca* (Ream, 2008); and the River Cooter *Pseudemys concinna*.

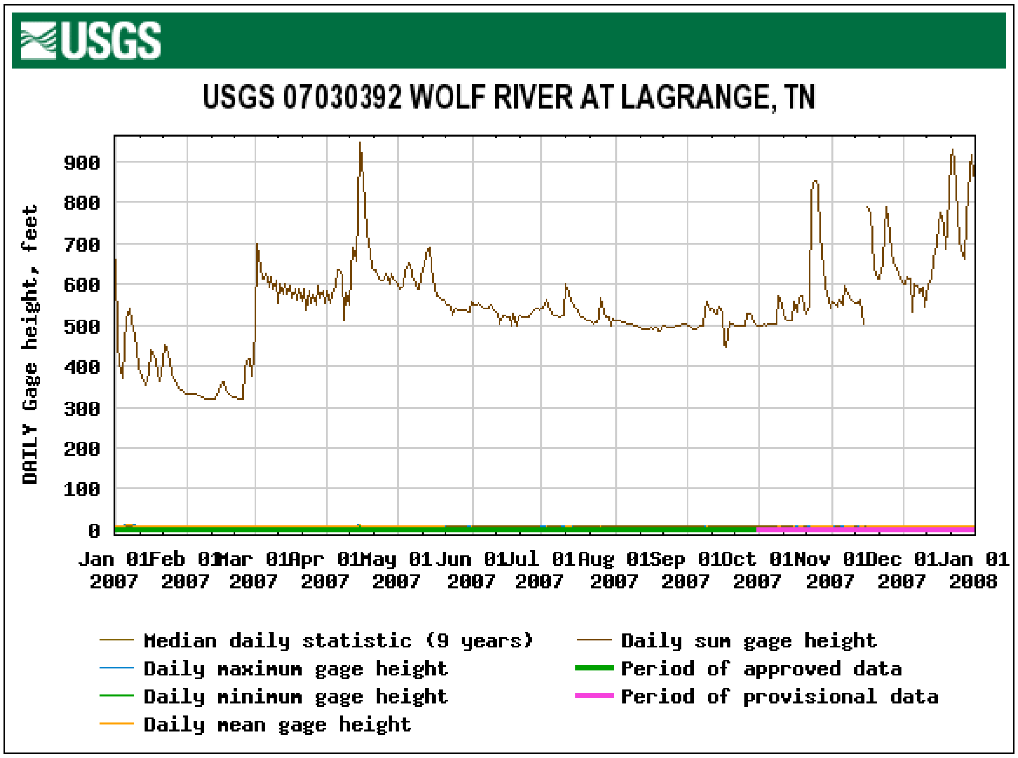

Figure 8. Height of the Wolf River at Yager Road, 2007 (U.S. Geological Survey, 2008).

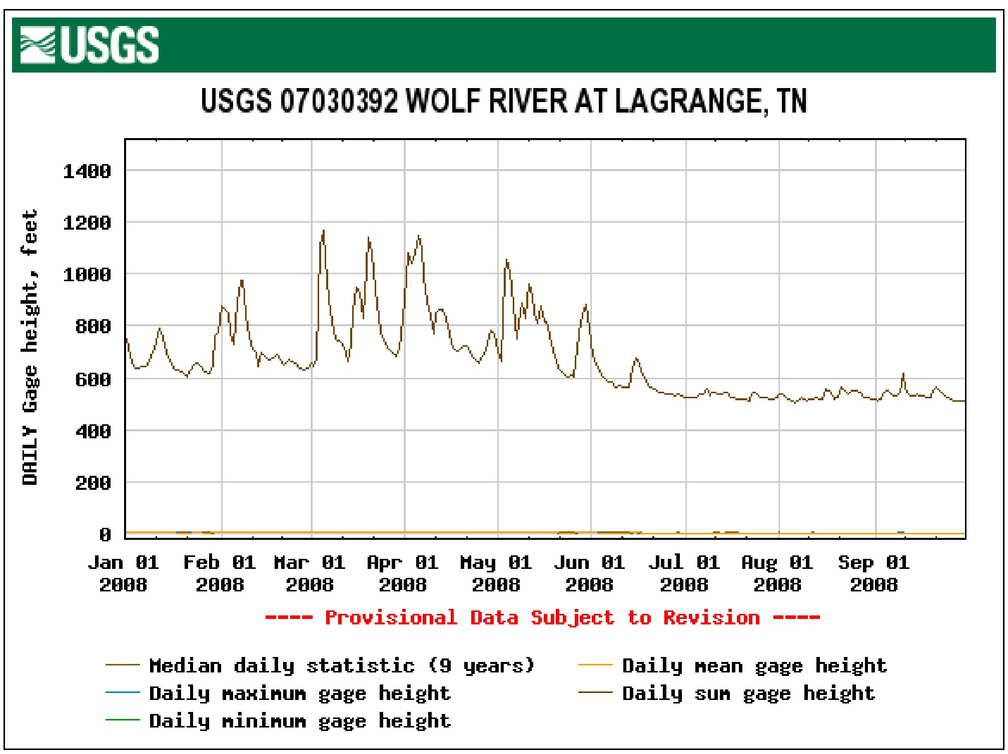

Figure 9. Height of the Wolf River at Yager Road, Jan-Sept 2008 (U.S. Geological Survey, 2008).

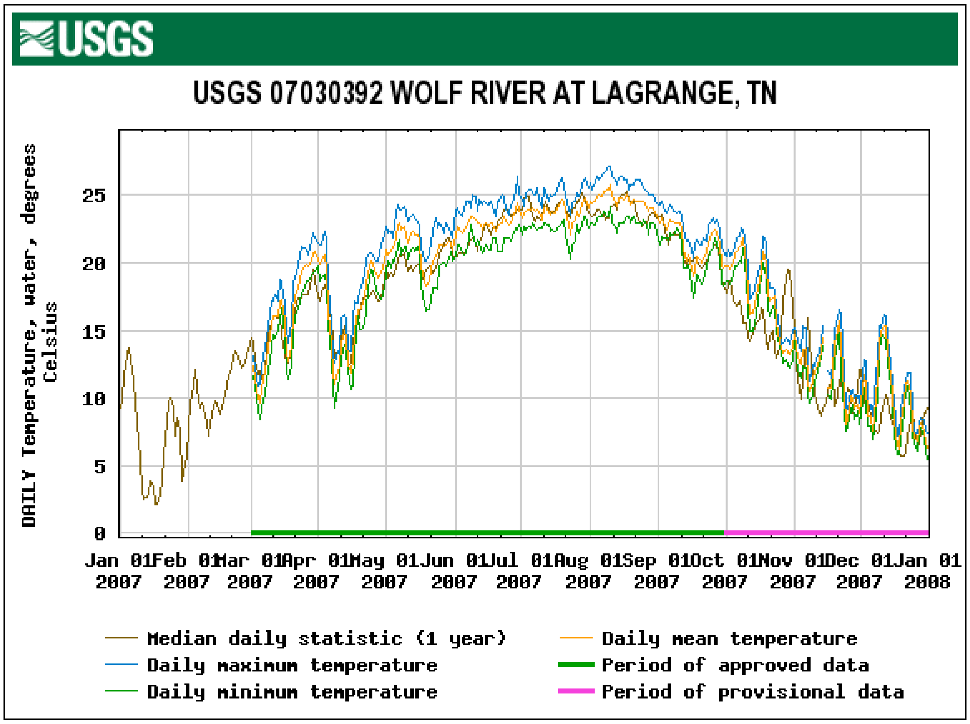

Figure 10. Wolf River water temperature at Yager Road, 2007 (U.S. Geological Survey, 2008).

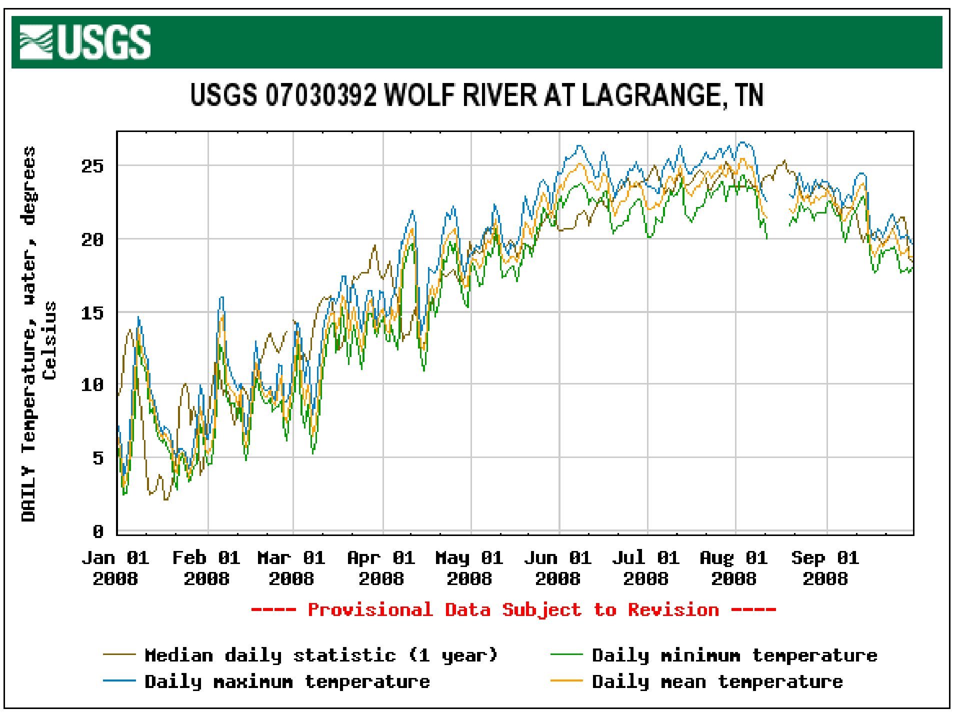

Figure 11. Wolf River water temperature at Yager Road, Jan-Sept 2008 (U.S. Geological Survey, 2008).

CHAPTER IV

METHODS AND MATERIALS

Sites of Sampling and Release

Two unique habitat types within the WMA were sampled. The first of these, the Mineral Slough (also called Minnow Slough) was a backwater cypress/tupelo dominated wetland encompassing nearly 45 ha (Fig. 12 & 13). This area lies north of Bateman Road and south of where the slough reconnects with the Wolf River. The second site was the Wolf River channel proper (Fig. 14 & 15). The area sampled here included a half-mile section of open water upriver from Yeager Road Bridge, the most upriver portion on the WMA. Each site differed from the other in terms of vegetation (both composition and density), substrate, cover, and resource availability.

Turtle Release

Three groups of juvenile Alligator Snapping Turtles including 84 individuals were released into the Wolf River and its associated wetlands during the course of this study. Table 1 provides descriptive statistics of morphological characters for these turtles. The first release occurred on 21 May 2007, the second was on 29 June 2007, and the last was on 29 April 2008. The first release included 64 individuals, with 32 turtles being released into each of the two habitats. Ten radio-tagged turtles (Fig. 16 & 17) were released during the second event, with five turtles being released into each of the two habitats. The period between the first and second release events allowed me to adequately gauge trap success and the time required for trapping activities. During the third release, the remaining ten turtles were fitted with radio transmitters and again five turtles were

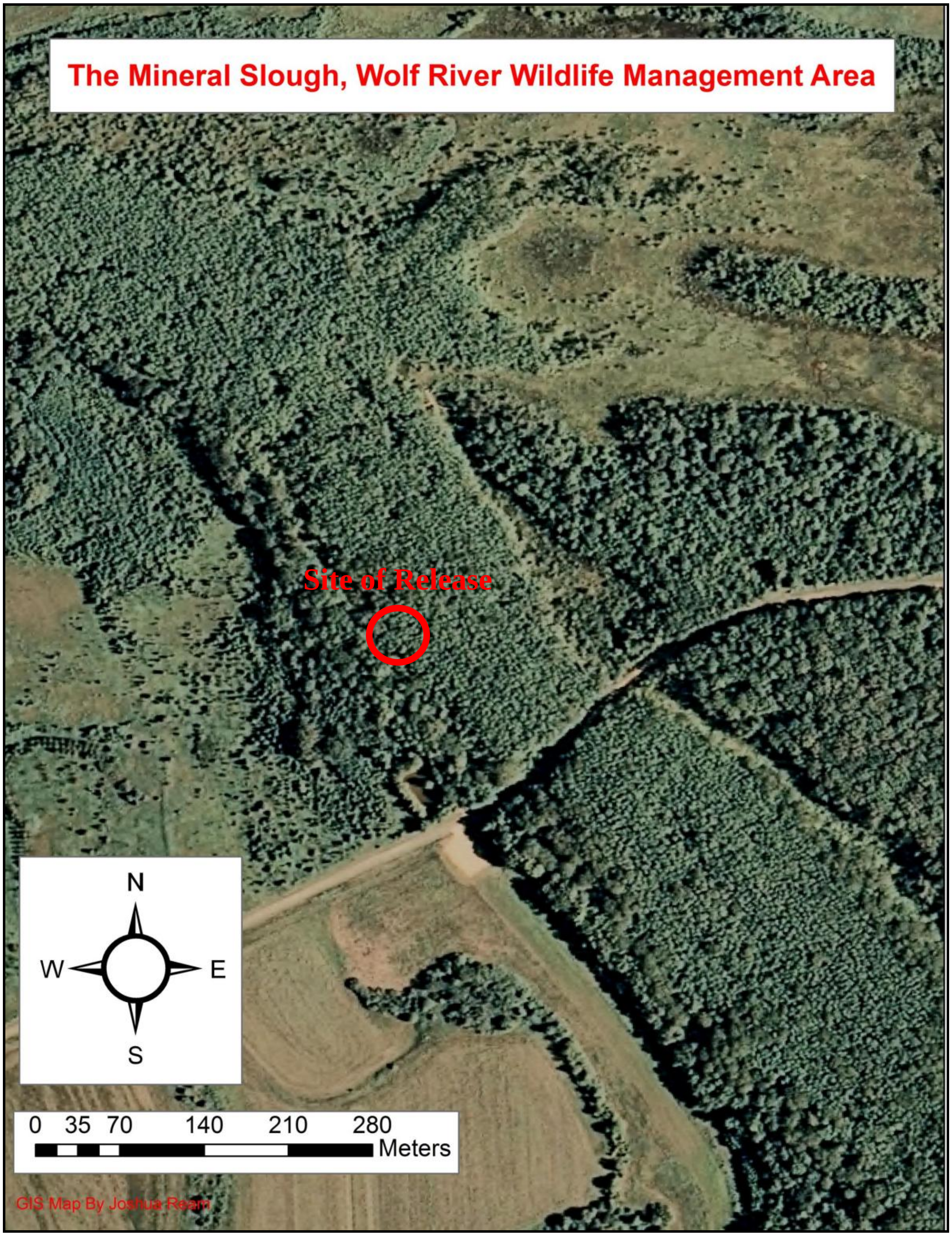

Figure 12. Orthophotograph of the Mineral Slough including site of turtle release, Wolf River Wildlife Management Area.

Figure 13. Photograph of the Mineral Slough at site of turtle release, Wolf River Wildlife Management Area.

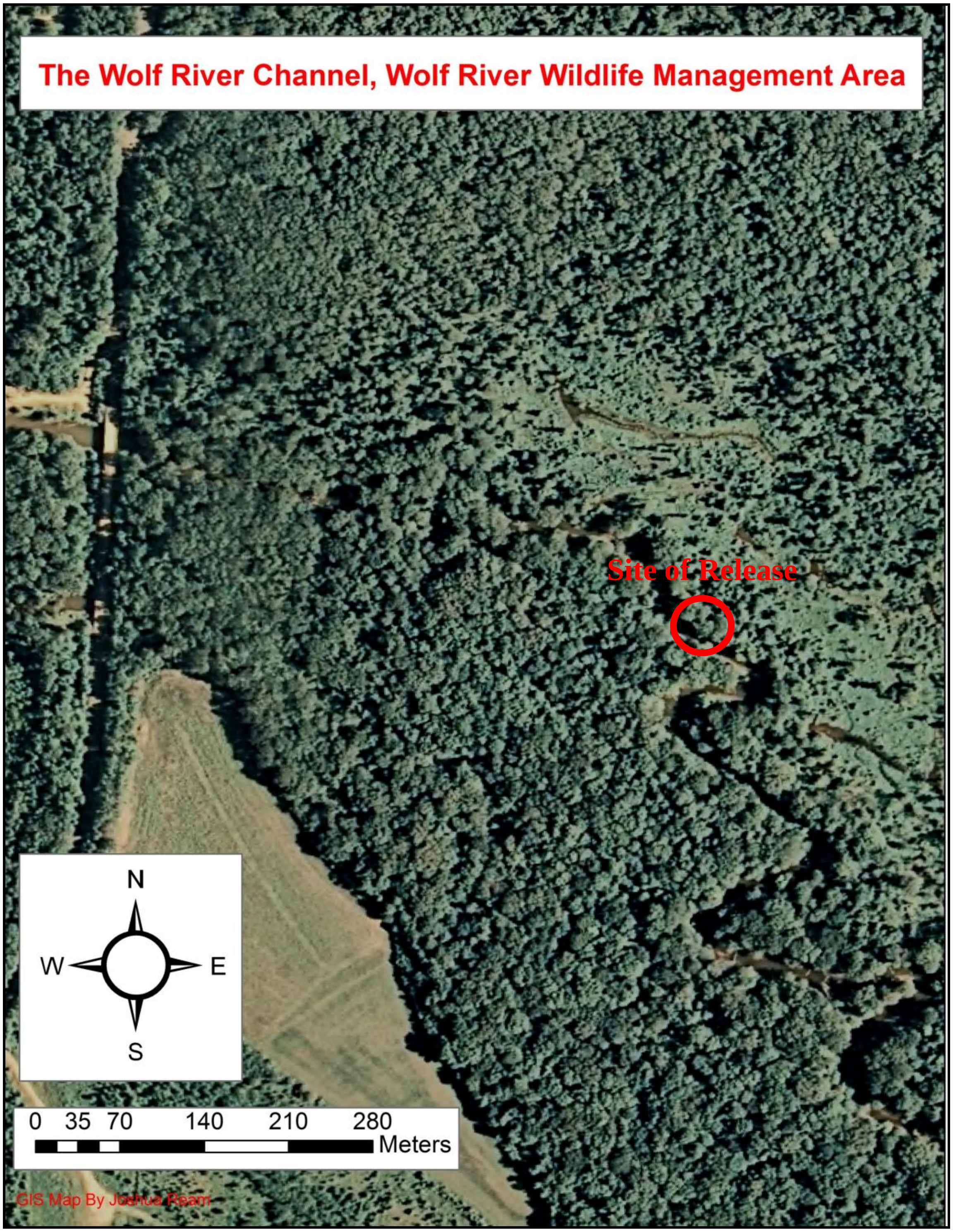

Figure 14. Orthophotograph of a section of the Wolf River including the site of turtle release, Wolf River Wildlife Management Area.

Figure 15. Photograph of a section of the Wolf River channel, Wolf River Wildlife Management Area, near site of turtle release.

Table 1. Descriptive statistics for measurements taken of morphological characters in the juvenile Alligator Snapping Turtles released in this study. Mass is reported in grams and all other variables reported in centimeters. CL=Carapace Length, CW=Carapace Width, PL=Plastron Length, PW=Plastron Width, SW=Skull Width, TT=Total Tail Length, TCL=Tail-Cloacal Length

Portion of Released Sample	**Mass**	**CL**	**CW**	**PL**	**PW**	**SW**	**TT**	**TCL**
Mineral Slough Subsample (n=42)								
AVERAGE:	74.2	6.4	5.7	4.8	5.0	1.9	6.7	1.2
MIN	23.0	4.3	3.9	3.3	3.4	1.6	4.4	0.7
MAX	152.0	8.1	7.4	6.3	6.5	2.6	8.7	1.8
SD	27.3	0.8	0.7	0.6	0.6	0.2	0.9	0.3
Variance	744.9	0.6	0.5	0.3	0.4	0.0	0.8	0.1
Wolf River Subsample (n=42)								
AVERAGE:	71.3	6.4	5.6	4.7	4.9	1.9	6.4	1.2
MIN	30.0	5.1	4.3	3.4	3.8	1.5	3.3	0.9
MAX	132.0	7.9	7.0	6.1	6.1	2.3	8.1	1.6
SD	22.6	0.7	0.6	0.5	0.5	0.2	1.0	0.2
Variance	510.5	0.5	0.3	0.3	0.2	0.0	1.1	0.0
Total Sample (n=84)								
AVERAGE:	72.8	6.4	5.7	4.8	4.9	1.9	6.5	1.2
MIN	23.0	4.3	3.9	3.3	3.4	1.5	3.3	0.7
MAX	152.0	8.1	7.4	6.3	6.5	2.6	8.7	1.8
SD	24.9	0.7	0.6	0.6	0.5	0.2	1.0	0.2
Variance	622.2	0.5	0.4	0.3	0.3	0.0	0.9	0.0

Figure 16. Photograph of an Alligator Snapping Turtle with attached ATS radio transmitter.

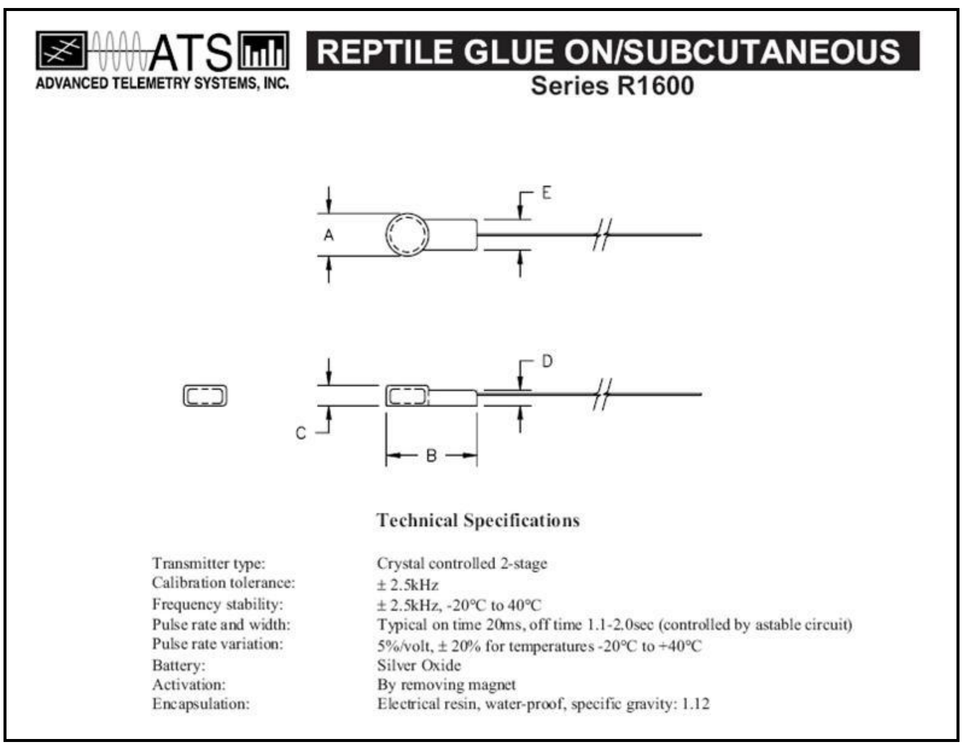

Figure 17. Transmitter design and specifications (Advanced Telemetry Services, 2007).

released into each of the two habitats. The third release, which occurred during the second year of the project, allowed for an examination of similarities and differences in initial movement between years and ensured that the battery life of at least some of the radio-transmitters would last throughout the project.

Trapping

Intensive trapping in both release sites took place throughout the course of this study in an effort to effectively sample the turtle populations present (released and native). A number of trap types were used including 3- and 4-ring mesh hoop traps, homemade single-funnel and double-funnel plastic fencing traps, double-funnel chicken-wire cage traps, and modified double-funnel minnow traps. No effort was made to use equal numbers of each trap type over the course of the study. Trap effort, however, was equal between the two study sites in terms of number of traps deployed and the types of traps deployed during each trap session (defined as the period between trap checks). The number of traps set during each session was based on the availability of bait items. Turtles were also collected by hand when possible.

Traps were set opportunistic and haphazardly in areas proximate to the last known locations of introduced Alligator Snapping Turtles. When possible, traps were set upstream of (in the case of the river channel) or near (in the case of the slough) potential cover and basking objects. Each trap was staked or tied to prevent movement and the traps remained only partially submerged to prevent drowning of captured turtles. The traps were baited with one or multiple items from the following list: sardines in soybean oil, skip-jack herring, shad, carp, catfish, panfish, pogies, crayfish, turkey, beaver, hamburger, bologna and whole chicken. Bait items were replaced on a 4- to 6-d cycle or as needed to retain freshness. A number of location characteristics were recorded at each trap site. These included coordinates (recorded in decimal degrees) obtained from a hand-held Garmen GPS unit (Model GPSmap 76CSx), distance (cm) from the closest bank, depth of water (cm), and type of cover object if any.

Radio-Telemetry

Twenty of the juvenile Alligator Snapping Turtles that were released were fitted with Advanced Telemetry System Series R1600 radio transmitters (Fig. 17), which were attached to the posterior end of the carapace using Gorilla Glue. These devices were fitted between the second and third dorsal scute rows with the antenna trailing from the rear of the specimen. Each transmitter emitted a unique signal within the range 150.000 – 153.999 MHz. Daily attempts to obtain a fixed location on each radio-tagged turtle were made throughout the summer months of 2007 and 2008 and once monthly during fall 2007 and early spring 2008.

Identification of Individuals

All turtles released or caught in this study (except for one captured adult which was marked with a carapace notch) were fitted with small Floy tags containing a unique number used to identify the individual. Application of the tag involved drilling a small hole in the rear margin of the carapace, threading the tag through the hole and sealing it with Super Glue. Positive identification of individuals previously released by TWRA was not possible because the animals were not marked. However, turtles of the right size when caught in proximity to sites of previous release were suspected to be among those artificially stocked and not of native origin.

Data Collection and Management

All data in this study were initially recorded on tailor-made forms and then entered into a Microsoft Excel spreadsheet as soon as reasonably possible. A number of habitat measurements were made at each release site, trapping location, and transmitter frequency fix position. These included: time, weather, vegetation type, percent canopy cover, water depth (cm), water turbidity, air temperature (^{o}C), water temperature (^{o}C), and GPS coordinates. Morphological data were also collected on all turtles including lengths and widths (mm) of the carapace, plastron, skull, and tail. Tail-cloacal lengths (mm), weight (g), unusual characteristics and health status (determined to the best of the observer's ability) were also recorded.

Turtles captured that were suspected to be of native origin or from a previous release were taken to the field station to be examined and photographed then returned to the capture site. Animals found deceased were frozen before being taken to the Austin Peay State University where they were preserved and accessioned into APSU's David H. Snyder Museum of Zoology.

CHAPTER V

RESULTS

Compilation of Historical Data

In an effort to adequately compile and analyze the history of the *M. temminckii* reintroduction efforts in Tennessee, field notes and other documents were obtained from the TWRA. The information was organized into a Microsoft Excel database (Appendix A). This database allowed us to easily review the history of the reintroduction program including the dates, locations, sources and numbers of turtles released since the program's induction in 1992.

In the year's prior to this project a total of 349 *M. temminckii* was released into nine of west Tennessee's major river drainages. Of these 349 individuals, 289 were considered juvenile and 69 were considered adults. In the Wolf River Wildlife Management Area a total of 100 turtles including nine adults and 91 juveniles were released prior to this project into both of our study sites. Seven adults were released near Yeager Road Bridge on 17 June 2003, two adults were released into the Mineral Slough from Beasley Road on 18 August 2004 and 91 juveniles were released into the Mineral Slough from the visitor boardwalk on 15 May 2005. To the best of our knowledge none of these previously released individuals were marked or tagged in any way.

Survival

Three individuals that are suspected to have been previously released were recaptured in the Mineral Slough during this project and no *M. temminckii* other than those released by us were captured in the Wolf River channel. Among the three recaptures were two juveniles (Fig. 18 & 19) suspected to have been released on 15 May 2005 and one adult male (Fig. 20) suspected to have been released on 18 August 2004. Growth rates can only be estimated since individual turtle mass was not recorded prior to initial release and only an average mass of the group was available. Assuming that the two recaptured juveniles were at or near the average mass of 99 g at the time of release, their mass increase in three years was 284 g for one individual and 346 g for the other, an increase of 287% and 349% respectively. Both juveniles were captured in both years of our study and showed a one year growth increase from 338 g to 445 g in one individual and from 304 g to 384 g in the other, representing 32% and 26% mass increases respectively.

Over the course of our study 69 recaptures representing 34 individuals from our release group of 84 juveniles were recorded representing 34 individuals. Twenty-eight recaptures occurred in the Mineral Slough and 41 recaptures occurred in the Wolf River channel. Most recaptures (91.3%) occurred within one month of the date of initial release 923 captured within one month of the first release, 2 within one month of the second release, and 38 within one month of the third release). Captures within one month of release represent 91.3% of total recaptures and lends little information on long term survival. Within years, however, we know that at least one turtle from the first group survived for > one month following release, two turtles from the second release survived for > one year following release, three turtles from the third release survived for > 1 month following release and one turtle from the third release survived for > 2 months following release.

Figure 18. Photograph of juvenile Alligator Snapping Turtle (AP00085) that was caught in May, 2007 in the Mineral Slough and presumed to be one of several released by TWRA in 2005.

Figure 19. Photograph of juvenile Alligator Snapping Turtle (AP00086) that was caught in June, 2007 in the Mineral Slough and presumed to be one of several released by TWRA in 2005.

Figure 20. Photograph of adult Alligator Snapping Turtle (0-10) that was caught in August, 2008 in the Mineral Slough and presumed to be one of several released by TWRA in 2005.

Two individuals from the second release in the Mineral Slough were recaptured in the second year suggesting a first year survival rate of at least 5.4% at that location and 2.7% overall. These individuals exhibited an annual growth increase of 88 g to 133 g for one individual and 84 g to 97 g for the other representing annual mass increases of 51% and 15% respectively. Only one individual was found dead throughout this study, a member of the first release in the Mineral Slough that was found dead on shore 29 days after release with no outward signs of injury or disease. No turtles released in the first year in the Wolf River Channel were recaptured in the second year. Radio-telemetry information does not lend further insight into annual survival as all radio-tagged turtles from year one remained in the immediate vicinity throughout the second year.

Movement

Substantial turtle movement was observed in the first month following release for all three groups in both locations (Fig. 21 & 22) and only limited movement occurred thereafter. Initial movements and release behavior were well documented using capture and telemetry data. While capture data is considered an important supplement to the telemetry data, it provides less frequent information on movement between locations (Fig. 23 & 24). Many turtles were observed facing head first into the mud at, near, and even above the water-land interface at both locations (Fig. 25 & 26), and some remained in these positions for up to a week in duration. These turtles were often wedged tightly in the soil or under objects such as cypress roots. Turtles found above the waterline are thought to have remained in these locations following a drop in water levels rather than actively leave the water to reach them. All turtles observed (except those found in traps)

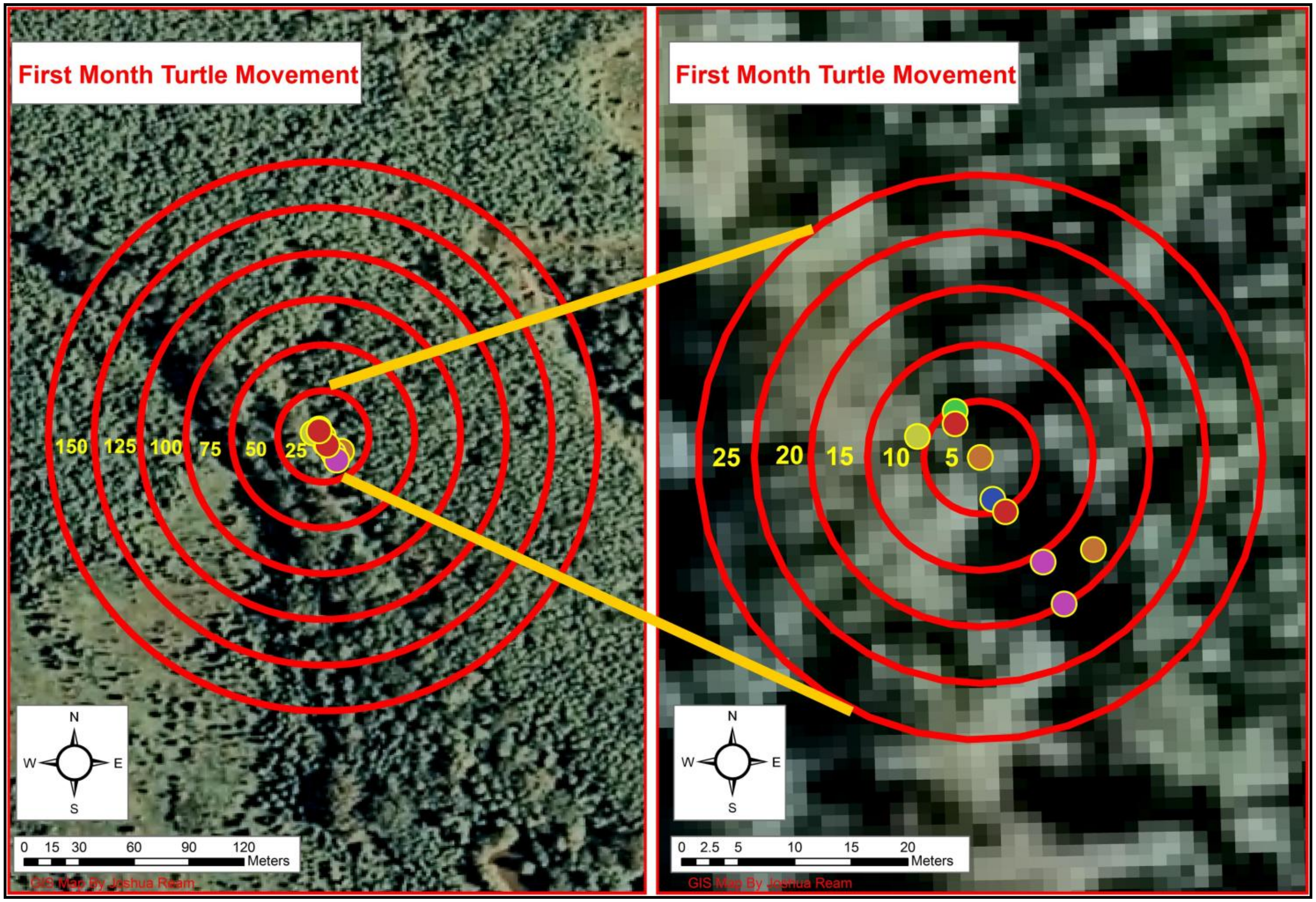

Figure 21. Turtle radio fixes in the Mineral Slough within first month of release. Individual colors of points represent unique turtles. Concentric rings radiate from the site of release at equal distances (m).

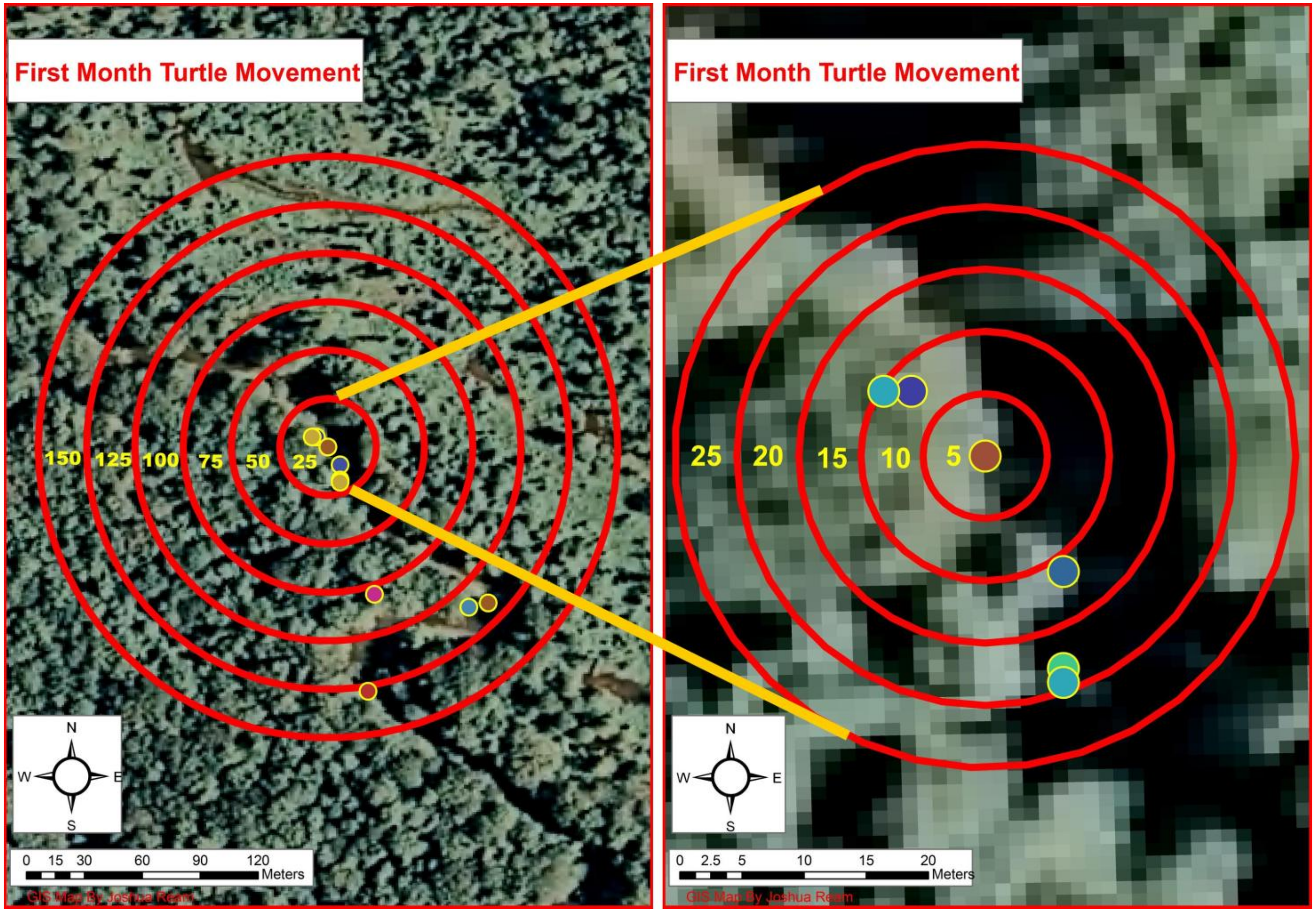

Figure 22. Turtle radio fixes in the Wolf River channel within first month of release. Individual colors of points represent unique turtles. Concentric rings radiate from the site of release at equal distances (m).

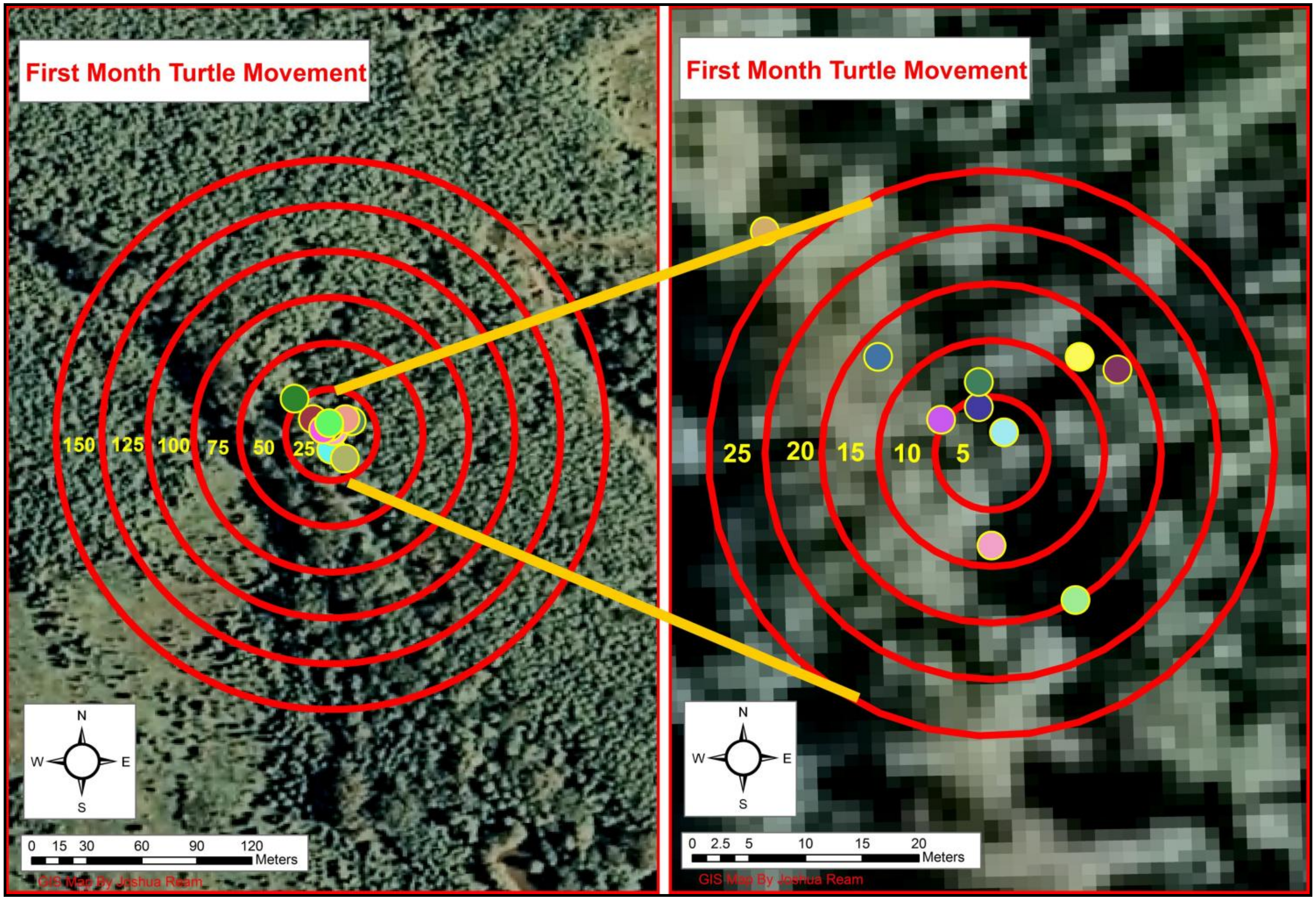

Figure 23. Locations of turtle recaptures in the Mineral Slough, 2007 to 2008. Individual colors of points represent unique turtles. Concentric rings radiate from the site of release at equal distances (m).

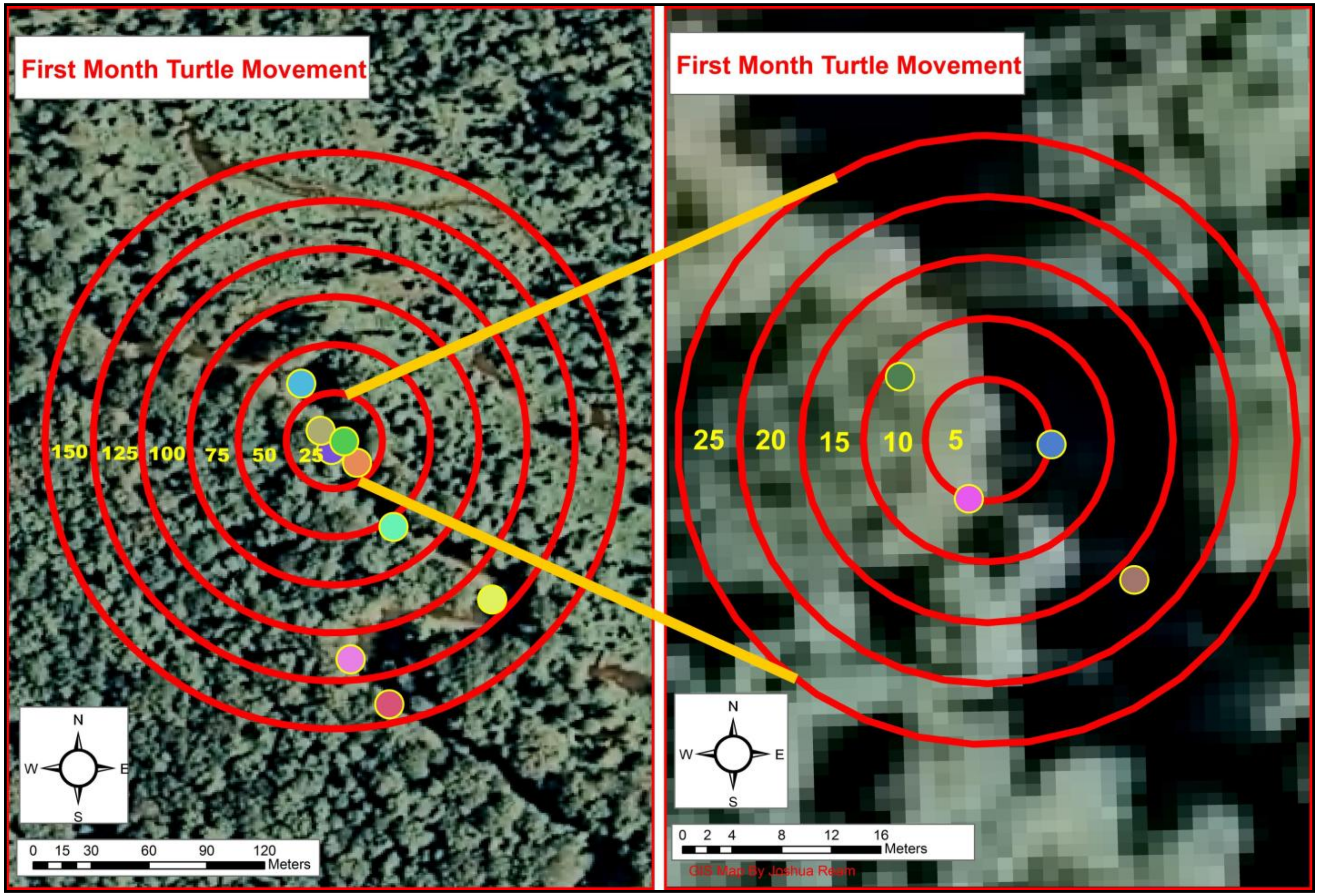

Figure 24. Locations of turtle recaptures in the Wolf River Channel, 2007 to 2008. Individual colors of points represent unique turtles. Concentric rings radiate from the site of release at equal distances (m).

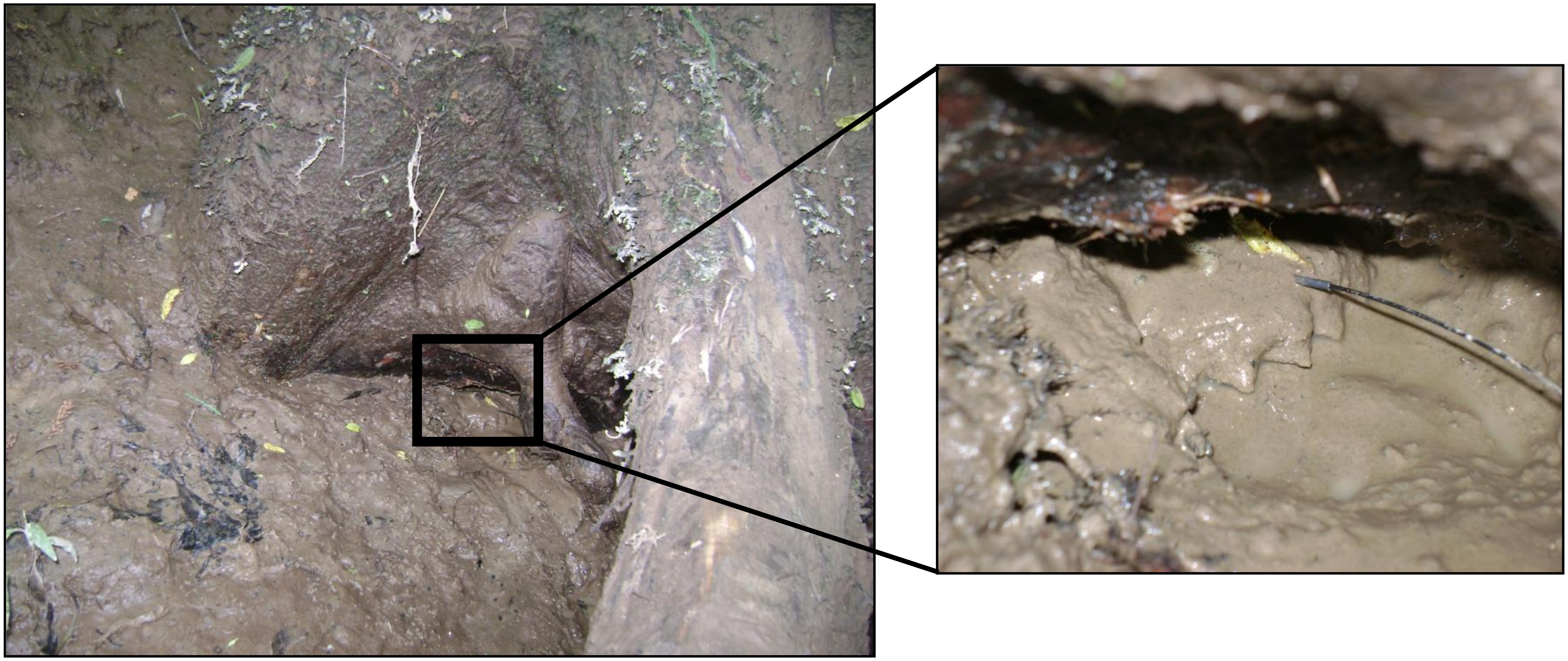

Figure 25. Photograph and enlargement of a juvenile Alligator Snapping Turtle (AP00075) burrowed in mud of bank of the Wolf River channel. Note antenna of radio transmitter protruding from posterior edge of carapace in enlarged section of photo at right.

Figure 26. Photograph and enlargement of a juvenile Alligator Snapping Turtle (AP00092) burrowed in mud of bank of the Mineral Slough. Note antenna of radio transmitter protruding from posterior edge of carapace in enlarged section of photo at right.

were within 50 cm of the bank with their heads facing the shore. Many of the radio-tagged turtles would not have been relocated without the telemetry receiver due to their cryptic nature. One such turtle pictured in figure 28 shows the radio transmitter's antenna and the nose of the turtle near the water-land interface; the turtle is otherwise completely buried in mud.

Turtle movements in each of the two habitat types were very different following release. In the river channel, many turtles began to disperse within days of release and the majority of these moved in an upriver direction. Only two individuals in the river moved downstream from the site of release, both for a distance of no more than 50 m. Of the 10 turtles fitted with radio-transmitters at this location, six turtles moved > 50 m upstream from the site of release, two turtles moved < 50 m upstream from the site of release, one turtle moved < 50 m downstream from the site of release and one turtle moved < 100m downstream from the site of release. These movements were similar both years (the second and third release events) though individuals released in the second year tended to move more after the first month following release. The greatest turtle movement for this site occurred in the first year when a radio-tagged turtle moved approximately 250 m upstream in seven days. This was the farthest from the site of release and most upstream location for any *M. temminickii* in this study. According to telemetry and trap data no turtles released in the first year made any substantial movement after one month following release and no turtle is known to have made any substantial movement after 3 months following release in the second year. All known turtle locations in the river channel were associated with the side of the river where the turtles were released, and

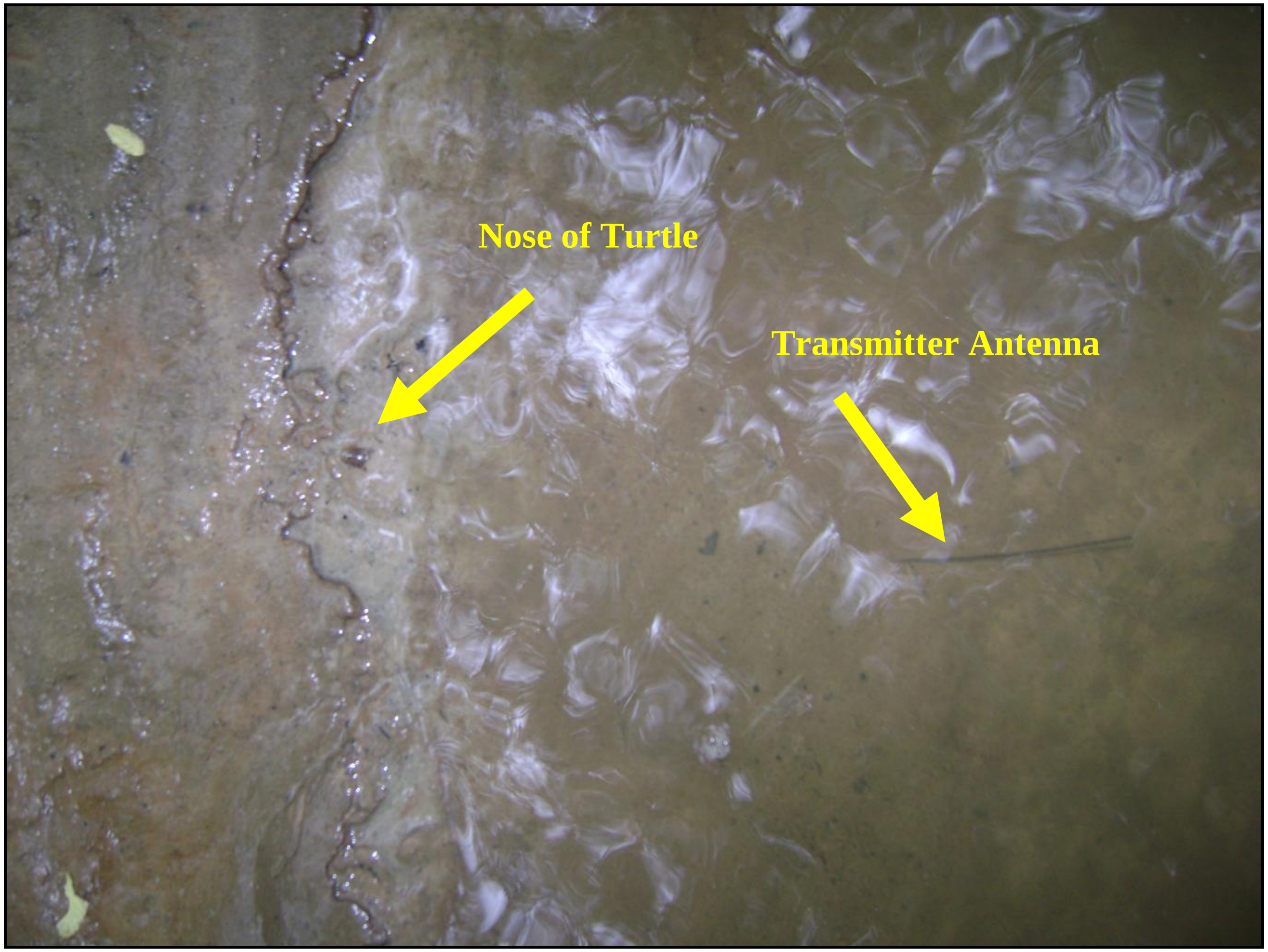

Figure 27. Photograph of a juvenile Alligator Snapping Turtle (AP00091) burrowed in mud of bank of the Wolf River channel. Note nose of turtle at land-water interface and antenna of radio transmitter protruding from posterior edge of carapace.

there is no evidence that any turtle ventured into deeper water or associated with the opposite shore.

Turtle movements in the Mineral Slough were substantially less than those in the Wolf River Channel. Except for two individuals that were captured < 25 m south of the site of release all other known movements were northward from the site of release. The most substantial movement at this site was approximately 45 m in 14 days though many turtles exhibited similar movements in the same amount of time. Except for two radio-telemetry determined locations that were < 75 m from the site of release, all turtle recaptures and radio fixes throughout this project occurred within 50 m of the site of release in the Mineral Slough. All turtle recaptures and telemetry determined relocation sites locations after one month following release were associated with a large patch of aquatic vegetation consisting mostly of American Bur-Reed located just north of the site of release. At the end of the study most and possibly all released individuals were within this patch of vegetation, which may provide adequate resources and shelter. Movement to this vegetation was similar between years with all turtles, 10 individuals, from the third release associating with this area within weeks of release. Again there was no evidence of turtles venturing into deeper water or associating with the opposite shore.

A Nearest Neighbor Analysis was run in ArcGIS 9.2 on the final telemetry locations of radio-transmitters at both sites. In the Mineral Slough, this test concluded that while animals were somewhat dispersed, the pattern may be due to random chance (Observed Mean Distance / Expected Mean Distance = 1.21 m; Z score = 1.34 standard deviations). In the Wolf River channel, the test concluded that the pattern of dispersal was random and neither clustered nor dispersed (Observed Mean Distance / Expected Mean Distance = 0.93 m; Z score = 0.42 standard deviations).

The two larger juvenile turtles captured that were suspected to be from the 2005 release supplied considerable data on movement since they were among the most frequently captured turtles in this study (Fig. 28). One was captured on three occasions, twice in 2007 and once in 2008 and the other was captured on six occasions, four times in 2007 and twice in 2008. This information suggests that these older turtles were moving more frequently in their habitat than the more recently released younger individuals and that they may have established a home range in the three years since their initial release. These individuals were found farther from the bank and in deeper water than any of the more recently released turtles.

Habitat Selection

Telemetry and trap information from both study sites suggests that introduced juvenile Alligator Snapping Turtles prefer shallow depths of water, a close proximity to shore, moderate to high canopy cover, and a strong association with a variety of cover objects (Table 2 & 3). The average overall depth of water where turtles were recaptured and relocated with radio telemetry was 32.7 cm and 19.3 cm respectively. In the Mineral Slough, the averages for depth were 42.9 cm for recaptures and 16.5 cm for telemetry relocations. In the Wolf River channel, depth of recaptures averaged 24.4 cm and 22.4 cm, respectively.

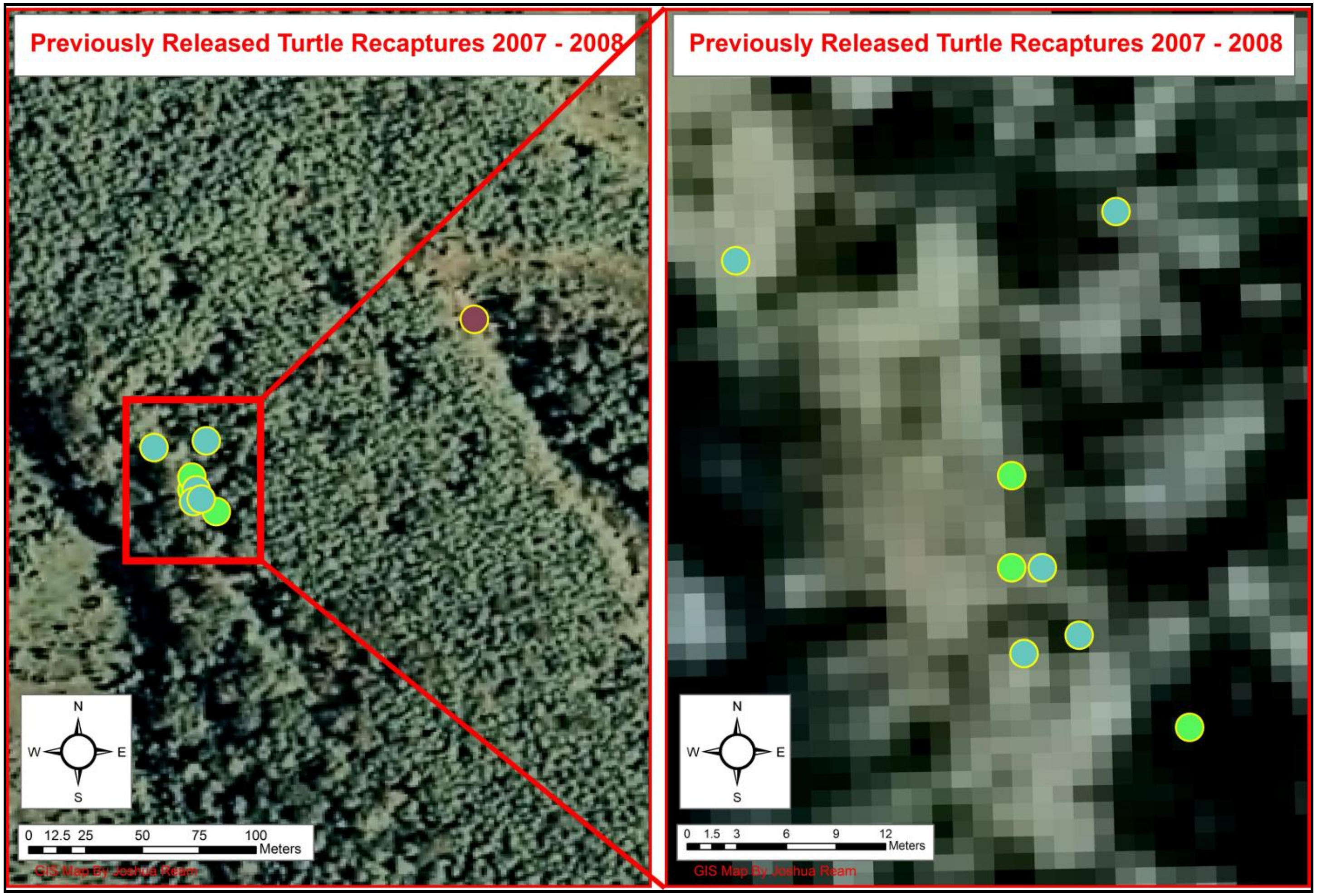

Figure 28. Recapture locations of Alligator Snapping Turtles in the Mineral Slough, 2007 to 2008. Individuals presumed to have been released by TWRA in 2005. Individual colors of points represent unique turtles.

Table 2. Descriptive statistics for habitat variables measured each time a study turtle was recaptured or relocated via radio telemetry in the Mineral Slough and the Wolf River channel. Asterisks indicate significant differences (P=0.05, t-test) between means at the trap locations.

	Capture Data				**Telemetry Data**		
Habitat Variable	Mineral Slough	Wolf River	Combined		Mineral Slough	Wolf River	Combined
Distance From Bank							
n	11	8	19		10	10	20
AVG	36.10	18.64	28.75		68.56	50.33	59.45
MIN	0.00	5.00	0.00		27.88	14.02	14.02
MAX	178.00	50.00	178.00		117.17	106.38	117.17
SD	50.63	17.74	40.31		30.33	31.44	31.49
VAR	2563.19	314.74	1624.84		919.82	988.66	991.40
Depth							
n	14	17	31		11	10	21
AVG	42.86	24.41	32.74		16.54*	22.40*	19.33
MIN	-25.00	5.00	-25.00		11.80	15.18	11.80
MAX	230.00	65.00	230.00		20.00	26.61	26.61
SD	68.46	16.94	47.66		2.78	3.62	4.33
VAR	4687.36	287.13	2271.40		7.75	13.11	18.78
Canopy Cover							
n	12	15	27		11	10	21
AVG	83.22	69.87	75.80		79.06	83.78	81.31
MIN	40.00	0.00	0.00		32.22	28.25	28.25
MAX	100.00	98.50	100.00		95.00	97.78	97.78
SD	19.46	39.04	32.04		17.58	20.46	18.68
VAR	378.57	1523.88	1026.44		309.16	418.55	348.77

Table 3. Numbers of times and percent of total that juvenile Alligator Snapping Turtles were recaptured or relocated at various types of cover objects in the Mineral Slough and the Wolf River channel.

HABITAT	**CAPTURE DATA**		**TELEMETRY DATA**	
Cover Type	**# Turtles**	**% Total**	**# Fixes**	**% Total**
Mineral Slough				
Aquatic Vegetation	17	65.38	246	128.80
Submerged Log	2	7.69	4	2.09
Roots	0	0.00	28	14.66
Bank	14	53.85	75	39.27
Boardwalk	1	3.85	0	0.00
Tree Trunk	2	7.69	0	0.00
Wolf River Channel				
Roots	26	63.41	191	52.62
Submerged Log	5	12.20	131	36.09
Bank	9	21.95	33	9.09
Tree Trunk	1	2.44	2	0.55
Terrestrial Vegetation	0	0.00	6	1.65

The average overall distance from the bank according to turtle capture data and telemetry locations was 28.8 cm and 59.5 cm respectively. In the Mineral Slough, turtle capture data suggests a preferred distance from the bank of 36.1 cm and telemetry locations suggest a preferred distance from the bank of 68.6 cm. In the Wolf River Channel, the preferred distance from the bank according to turtle capture data and telemetry locations was 18.6 cm and 50.3 cm respectively.

The average overall percentage canopy cover over turtle recapture sites and telemetry relocation points were 75.8% and 81.3% respectively. In the Mineral Slough, canopy cover over recapture sites averaged 83.2% and 79.1% over telemetry relocation points. In the Wolf River channel, the average percentages for canopy cover over recapture sites and telemetry relocation points were 69.9% and 83.8%, respectively.

While differences in habitat variables appear to be substantial both between sites and between data types (telemetry and capture data), statistically significant differences occurred only between the means of water depth between the Mineral Slough and the Wolf River channel, as well as between capture data and telemetry data in regards to mean distances from the bank. A two-tailed t-test revealed that these differences were significant (mean depth comparison between sites: $t = 4.13$, $df = 14$, $P < 0.0006$; mean distances from bank between capture data and telemetry data: $t = 2.64$, $df = 34$, $p < 0.01$).

CHAPTER VI

DISCUSSION

Capture Success and Data Validity

Though capture success was not as high in this project as we had originally hoped a lot of important data were derived from both the 69 recaptures and the telemetry information that was collected. Slight inconsistencies exist between data collected by direct capture and by radio telemetry. Differences in the overall averages were only 6.1 cm in depth, 41.8 cm for distance from the bank and 1.5% for canopy cover. We hypothesize that telemetry information may be more accurate when considering habitat preferences since trapping may either pull individuals away from preferred habitats or intercept turtles as they move between preferred habitats. Many of the trap types used in this project had to be set in slightly deeper water and away from the bank so that the entrance funnel was submerged thus permitting turtle entry. It should be noted that the majority of turtle captures (68.1%) were caught by hand and did not involve traps. Most hand captures (95.7%) occurred within the first month following release and may have been made before the turtles located their preferred habitat.

While turtle captures supplied concrete evidence of a turtle's location and the associated habitat variables, telemetry data offered consistent and daily information on where each radio-tagged individual was located. I am confident that the telemetry relocation points are within the accuracy range (+/- 13 ft) of our GPS receiver. Little data were obtained to support any conclusions on how long the radio-transmitters remained attached to the turtles. One turtle released in the first year was recaptured in the second year with its radio-transmitter still firmly attached. A detached radio-transmitter was found in the second year that was originally applied to a turtle in the first year. And a turtle that was fitted with a radio-transmitter in the first year was recaptured in the second year with its transmitter missing. The signal of this transmitter was lost four months prior to the turtle's recapture.

Turtle captures were relatively high in the first month following release and dropped dramatically each month thereafter. While this initial capture success may be attributed to knowing the turtle's location directly after release and its initial direction of movement away from the site of release, it is interesting to note that native turtles in the study area exhibited the same pattern of elevated visits to traps during the first months following initial capture and release. Turtle movement is expected to be greater in late fall and early summer as they move away from hibernacula in search of food and/or potential mates. The juvenile *M. temminckii* in this study displayed a temporal pattern of activity similar to this in both years.

Survival

Our ability to determine annual survival of juvenile Alligator Snapping Turtles was quite low with a conservative estimate of 2.7% survival overall, 5.4% in the Mineral Slough, and 0% in the Wolf River channel. A recent study from Louisiana found a one year conservative hatchling survival rate of 2.4% (Bass, 2007). The conservative estimate is defined here as that which includes only turtles known to have survived (via direct capture) with the assumption that all others had perished. Actual survival rates are probably higher than this predicts. Our results fall within the lower limits of this range. In my study, only one juvenile is known to have perished following release. Hopefully, survival rates are higher than suggested by my capture data. It should be noted that most turtles in this study were at least 75.0% larger in terms of mass at the time of release than those released in the Louisiana study mentioned previously. I hypothesize that larger individuals should be at less risk of predation as they are presumably stronger and better able to resist predators.

Movement

I found that introduced juvenile *M. temminckii* move frequently during the first month following release and move minimally thereafter. My study animals dispersed rapidly after release presumably in search of preferred habitat and adequate resources. Once in optimal habitat they became much more sedentary and remained proximal to these sites for extended periods of time. Movement was far greater in the river channel where optimal habitat appeared to be less abundant. Turtles released in the river channel also exhibited far less aggregation than those in the slough and most dispersed to locations substantially distant from other *M. temminckii*. In the Mineral Slough where optimal habitat was far more abundant the turtles moved less in terms of both number of movements and distance of movements than those released in the river channel. Turtles in the Mineral Slough were located much closer to other *M. temminckii* and it appears as though competition for available resources was minimal at this location. Increased movement likely increases the turtle’s risk of predation which may partially explain greater recapture success in the Mineral Slough as compared to the Wolf River Channel. Interesting too is the fact that the three individuals recaptured from a previous release were all located in the Mineral Slough study site. The two older juveniles suspected to have been released previously displayed much more frequent movement and movement of greater distances than that of the more recently released individuals. It appears as though juvenile Alligator Snapping Turtles begin to make more frequent movements within an established home range beginning sometime between one and two years post-release.

Habitat Selection

The habitat characteristics of sites chosen most often by turtles in this project were more consistent with the Mineral Slough than the Wolf River Channel. Turtles in the Mineral Slough were often associated with aquatic vegetation that was not available to individuals in the river channel. Also in the mineral slough turtles tended to venture slightly farther from the bank, on average 22.0 cm farther than in the river. This is probably attributable to topography since the mineral slough is gently sloping with a gradual increase in depth while in the river channel there is an abrupt increase in depth just off shore. Cypress roots appeared to be the most selected cover object type in the river but even the availability of these was limited. During periods of high water some turtles in the river were noted to associate with terrestrial vegetation that had since become submerged. Data in this study suggest that shore lines with no associated cover objects were where turtles at both sites were most often located. However, most of these records represent turtle locations logged within the first month following release or locations along movement paths, not those at destination points.

In most cases turtles in this study located areas of preferred habitat within one month following release. It appears that neither of our initial release sites provided ample resources prompting turtles at both sites to move in search of more suitable habitat. This search involved greater distances and probably a greater expenditure of energy among turtles in the river channel as opposed to those in the slough. Areas of shallow depths, close proximity to the bank, high canopy cover and abundant cover objects are plentiful in the slough. Furthermore, turtles were frequently found buried in detritus in the slough, something that is not usually present on the sandy exposed soils that form the bottom of the river channel.

CHAPTER VII

RECOMMENDATIONS

One objective of this study was to offer recommendations for improvement to the *M. temminckii* reintroduction program in Tennessee based on the results of this investigation and knowledge of past practices in the program. These recommendations may assist the Tennessee Wildlife Resources Agency in their efforts to establish viable populations of *M. temminckii* throughout their native range in the western portion of the state. While reintroduction efforts to date have been extensive, documentation and monitoring before, during and following release events are, in many cases, lacking. Adequate record keeping and annual trapping to determine survival rates and breeding success are needed to ensure the efficacy and viability of this program.

A strategic plan is needed to address both the short-term and the long-term goals of the *M. temminckii* reintroduction program in Tennessee. This document should state the numbers of individuals to be released annually, the number of individuals in each watershed that will constitute an upgrade or downgrade of the species' official status within the state, the number of man-hours that will be devoted annually to population sampling and the annual goals of the program including the budgeted expenses. The plan should also offer scientific evidence that the genetic composition of *M. temminckii* brought to the state from Louisiana will not decrease the genetic diversity of native Tennessean populations. Furthermore, this document should track the quantities and ages of individuals released as well as the specific locations of release.

All turtles that are released in the program should be individually weighed, measured and uniquely marked in order to determine growth rates, age, origin and survival of individuals that are subsequently recaptured. These data along with dates and GPS coordinates identifying sites of release should be maintained in a master database that is regularly updated and maintained. Annual sampling should occur at all release locations and the results considered before subsequent releases are carried out at these sites.

Public education should be a key tool in ensuring the success of this program. Many residents of West Tennessee are unaware of the differences between the Common Snapping Turtle and the Alligator Snapping Turtle. Many turtles, even those outside of the family Chelydridae, are referred to as Alligator Snapping Turtles and are killed when found on trotlines. Some residents do not know that *M. temminckii* is protected and that their harvest is prohibited by law. Additionally, many people believe that *M. temminckii* are responsible for depleting populations of sport fish in some areas when their populations are likely not large enough to have a substantial impact on fishing activities. While many reports of *M. temminckii* killings likely involve *C. serpentina,* we can not rule out the probability that some of these reports may be valid, especially those where the reported incident was in proximity to previous release sites. An effort should also be made to both educate the public on legal trotline use and to enforce these laws regularly. Abandoned trotlines, which are known to drown turtles when they become snagged, were a regularly observed in this study. And not once during this study, despite the Tennessee law that trotlines must be checked once in each 24-hour period, was anyone observed abiding by this rule, though we did not monitor the trotlines consistently. Additionally, even though it is the law that each trotline must be tagged with the owner's name and address, not one of approximately 50 trotlines observed met this regulation. We understand that the Tennessee Wildlife Resources Agency has been hesitant to publicize the reintroduction program because it may increase illegal harvest and trade; however it is believed that the benefits outweigh the costs at this time.

Based on information from Region 1 TWRA officials, beavers are being killed and their damns destroyed annually by wildlife officials in west Tennessee in an effort to minimize flooding of agricultural and public lands. Unfortunately, Alligator Snapping Turtles are known to utilize beaver damns and lodges that may provide underwater air pockets and shelter from the sun and the wetlands created by these damns often provide optimal habitat for *M. temminckii* (Riedel et al. 2006). Damns are often removed or altered using TNT in close proximity to known *M. temminckii* locations and previous release sites which may result in both direct and indirect mortality. We strongly suggest that release sites be considered when determining damn alteration or removal and that the associated wetlands be maintained at current levels when possible. This may be especially important in the Mineral Slough of the Wolf River Wildlife Management Area where 135 individuals including two adults have been released in the past four years, most within 500 m of a dam that is regularly destroyed or altered.

According to data obtained in this study, future releases of juvenile *M. temminckii* should occur at sites with extensive aquatic vegetation, moderate to high canopy cover, and an adequate proximity to the bank. Because turtles in this study tended to prefer the habitats in the Mineral Slough study site, similar wetlands should be considered as potential future release locations. In previous release events juvenile Alligator Snapping Turtles were released by haphazardly dropping them into the water along the length of a boardwalk (as was the case at Mineral Slough) and along bridges. The turtles were often released into deeper unfamiliar water some distance from the bank. It is believed that these turtles were at increased risk of predation as they moved to preferred microhabitats and that their energy expenditures during this movement could have been avoided. All future releases of juvenile *M. temminckii* should occur in close proximity to shore.

It is hoped that the results of this study and the recommendations offered for the improvement of the reintroduction program will be considered and implemented. A careful review of current goals and protocols should increase the efficacy of this program considerably and help guarantee its success.

CHAPTER VIII

CONCLUSIONS

1. Capture success and movement of juvenile *M. temminckii* was greatest in the first month following release.
2. Annual survival of turtles in this study was at least 5.4% in the Mineral Slough and 2.7% overall.
3. Greater movement was observed among turtles released in the river channel as compared to those released in the Mineral Slough.
4. Juvenile *M. temminckii* tended to remain in shallow water near where there was shore, moderate to high canopy cover and aquatic vegetation or some other submerged structure such as tree roots, branches, and logs.
5. The microhabitat characteristics of the Mineral Slough are more consistent with the preferred habitat of juvenile *M. temminckii* than that of the Wolf River Channel.
6. Juvenile *M. temminckii* tended to move frequently and to establish a home range one to two years following release.
7. A strategic plan, regularly updated database, and annual population sampling should be part of any *M. temminckii* reintroduction program.
8. Research should take place to determine the genetic validity of introducing Louisiana turtles into Tennessee waterways.
9. Fishing regulations should be strictly enforced in areas near known *M. temminckii* release locations.

10. Beaver damns and lodges should be maintained at sites that are proximal to *M. temminckii* release locations.
11. A public awareness and education program should be implemented to inform citizens about the reintroduction program, the regulations relating to *M. temminckii* and ways in which they can assist the reintroduction effort.
12. All *M. temminckii* released should be weighed, measured, and uniquely marked for future identification.
13. Future *M. temminckii* releases should occur at sites where there is optimal habitat.
14. Releases of juvenile *M. temminckii* should occur at shallow depths along shore and not at random locations in deeper water.

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APPENDIX A

Abbreviated data file of all known *M. temminckii* reintroduction release records in Tennessee having occurred prior to 2007, compiled from information provided from TWRA and APSU.

Turtle #	DATE	RIVER	COUNTY	STATUS	SOURCE
1	7/6/1992	Tennessee	Stewart	Adult	Confiscated by TWRA
2	7/6/1992	Tennessee	Stewart	Adult	Confiscated by TWRA
3	7/6/1992	Tennessee	Stewart	Juvenile	Confiscated by TWRA
4	8/10/1992	Tennessee	Stewart	Adult	Confiscated by TWRA
5	8/10/1992	Tennessee	Stewart	Adult	Confiscated by TWRA
6	5/14/1993	Tennessee	Stewart	Juvenile	Confiscated by TWRA
7	6/1/1993	Tennessee	Stewart	Adult	Confiscated by TWRA
8	6/5/1993	Tennessee	Stewart	Juvenile	Confiscated by TWRA
9	6/24/1993	Tennessee	Stewart	Juvenile	Confiscated by TWRA
10	6/3/1994	Tennessee	Stewart	Juvenile	Confiscated by TWRA
11	6/3/1994	Tennessee	Stewart	Juvenile	Confiscated by TWRA
12	2/9/2000	Hatchie	Haywood	UNKNOWN	Shreveport, Louisiana
13	2/9/2000	Hatchie	Haywood	UNKNOWN	Shreveport, Louisiana
14	2/9/2000	Hatchie	Haywood	UNKNOWN	Shreveport, Louisiana
15	2/9/2000	Hatchie	Haywood	UNKNOWN	Shreveport, Louisiana
16	2/9/2000	Hatchie	Haywood	UNKNOWN	Shreveport, Louisiana
17	2/9/2000	Hatchie	Haywood	UNKNOWN	Shreveport, Louisiana
18	2/9/2000	Hatchie	Haywood	UNKNOWN	Shreveport, Louisiana
19	2/9/2000	Hatchie	Haywood	UNKNOWN	Shreveport, Louisiana
20	2/9/2000	Hatchie	Haywood	UNKNOWN	Shreveport, Louisiana
21	2/9/2000	Hatchie	Haywood	UNKNOWN	Shreveport, Louisiana
22	2/9/2000	Hatchie	Haywood	UNKNOWN	Shreveport, Louisiana
23	6/29/2001	South Fork Obion	Carroll	Adult	UNKNOWN
24	6/29/2001	South Fork Obion	Carroll	Adult	UNKNOWN
25	6/29/2001	South Fork Obion	Carroll	Adult	UNKNOWN
26	6/29/2001	South Fork Obion	Carroll	Adult	UNKNOWN
27	6/29/2001	South Fork Obion	Carroll	Adult	UNKNOWN
28	6/29/2001	South Fork Obion	Carroll	Adult	UNKNOWN
29	6/29/2001	South Fork Obion	Carroll	Adult	UNKNOWN

Turtle #	DATE	RIVER	COUNTY	STATUS	SOURCE
30	6/29/2001	South Fork Obion	Carroll	Adult	UNKNOWN
31	6/29/2001	South Fork Obion	Carroll	Adult	UNKNOWN
32	6/29/2001	South Fork Obion	Carroll	Adult	UNKNOWN
33	6/29/2001	South Fork Obion	Carroll	Adult	UNKNOWN
34	6/29/2001	North Fork Forked Deer	Dyer	Adult	UNKNOWN
35	6/29/2001	North Fork Forked Deer	Dyer	Adult	UNKNOWN
36	6/29/2001	North Fork Forked Deer	Dyer	Adult	UNKNOWN
37	6/29/2001	North Fork Forked Deer	Dyer	Adult	UNKNOWN
38	6/29/2001	North Fork Forked Deer	Dyer	Adult	UNKNOWN
39	6/29/2001	North Fork Forked Deer	Dyer	Adult	UNKNOWN
40	6/29/2001	North Fork Forked Deer	Dyer	Adult	UNKNOWN
41	6/29/2001	North Fork Forked Deer	Dyer	Adult	UNKNOWN
42	6/29/2001	North Fork Forked Deer	Dyer	Adult	UNKNOWN
43	6/29/2001	North Fork Forked Deer	Dyer	Adult	UNKNOWN
44	6/29/2001	North Fork Forked Deer	Dyer	Adult	UNKNOWN
45	7/10/2001	UNKNOWN	Shelby	Juvenile	UNKNOWN
46	7/10/2001	UNKNOWN	Shelby	Juvenile	UNKNOWN
47	7/10/2001	UNKNOWN	Shelby	Juvenile	UNKNOWN
48	7/10/2001	UNKNOWN	Shelby	Juvenile	UNKNOWN
49	7/10/2001	UNKNOWN	Shelby	Juvenile	UNKNOWN
50	7/10/2001	UNKNOWN	Shelby	Juvenile	UNKNOWN
51	7/10/2001	UNKNOWN	Shelby	Juvenile	UNKNOWN
52	7/10/2001	UNKNOWN	Shelby	Juvenile	UNKNOWN
53	7/10/2001	UNKNOWN	Shelby	Juvenile	UNKNOWN
54	7/10/2001	UNKNOWN	Shelby	Juvenile	UNKNOWN
55	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
56	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
57	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
58	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN

Turtle #	DATE	RIVER	COUNTY	STATUS	SOURCE
59	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
60	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
61	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
62	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
63	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
64	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
65	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
66	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
67	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
68	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
69	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
70	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
71	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
72	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
73	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
74	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
75	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
76	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
77	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
78	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
79	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
80	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
81	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
82	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
83	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
84	7/10/2001	Middle Fork Forked Deer	Gibson / Crockett Line	Juvenile	UNKNOWN
85	7/10/2001	South Fork Forked Deer	Haywood/Crockett Line	Juvenile	UNKNOWN
86	7/10/2001	South Fork Forked Deer	Haywood/Crockett Line	Juvenile	UNKNOWN
87	7/10/2001	South Fork Forked Deer	Haywood/Crockett Line	Juvenile	UNKNOWN

Turtle #	DATE	RIVER	COUNTY	STATUS	SOURCE
88	7/10/2001	South Fork Forked Deer	Haywood/Crockett Line	Juvenile	UNKNOWN
89	7/10/2001	South Fork Forked Deer	Haywood/Crockett Line	Juvenile	UNKNOWN
90	7/10/2001	South Fork Forked Deer	Haywood/Crockett Line	Juvenile	UNKNOWN
91	7/10/2001	South Fork Forked Deer	Haywood/Crockett Line	Juvenile	UNKNOWN
92	7/10/2001	South Fork Forked Deer	Haywood/Crockett Line	Juvenile	UNKNOWN
93	7/10/2001	South Fork Forked Deer	Haywood/Crockett Line	Juvenile	UNKNOWN
94	7/10/2001	South Fork Forked Deer	Haywood/Crockett Line	Juvenile	UNKNOWN
95	7/10/2001	South Fork Forked Deer	Haywood/Crockett Line	Juvenile	UNKNOWN
96	7/10/2001	South Fork Forked Deer	Haywood/Crockett Line	Juvenile	UNKNOWN
97	7/10/2001	South Fork Forked Deer	Haywood/Crockett Line	Juvenile	UNKNOWN
98	7/10/2001	South Fork Forked Deer	Haywood/Crockett Line	Juvenile	UNKNOWN
99	7/10/2001	South Fork Forked Deer	Haywood/Crockett Line	Juvenile	UNKNOWN
100	7/10/2001	South Fork Forked Deer	Haywood/Crockett Line	Juvenile	UNKNOWN
101	7/10/2001	South Fork Forked Deer	Haywood/Crockett Line	Juvenile	UNKNOWN
102	7/10/2001	South Fork Forked Deer	Haywood/Crockett Line	Juvenile	UNKNOWN
103	7/10/2001	South Fork Forked Deer	Haywood/Crockett Line	Juvenile	UNKNOWN
104	7/10/2001	South Fork Forked Deer	Haywood/Crockett Line	Juvenile	UNKNOWN
105	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN
106	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN
107	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN
108	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN
109	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN
110	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN
111	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN
112	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN
113	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN
114	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN
115	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN
116	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN

Turtle #	DATE	RIVER	COUNTY	STATUS	SOURCE
117	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN
118	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN
119	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN
120	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN
121	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN
122	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN
123	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN
124	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN
125	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN
126	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN
127	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN
128	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN
129	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN
130	7/10/2001	Hatchie	Haywood	Juvenile	UNKNOWN
131	8/5/2002	North Fork Forked Deer	Dyer	Adult	UNKNOWN
132	8/5/2002	North Fork Forked Deer	Dyer	Adult	UNKNOWN
133	8/5/2002	North Fork Forked Deer	Dyer	Adult	UNKNOWN
134	8/5/2002	Big Lake, Obion	Obion	Adult	UNKNOWN
135	8/5/2002	Big Lake, Obion	Obion	Adult	UNKNOWN
136	8/5/2002	Big Lake, Obion	Obion	Adult	UNKNOWN
137	8/5/2002	Big Lake, Obion	Obion	Adult	UNKNOWN
138	8/5/2002	Big Lake, Obion	Obion	Adult	UNKNOWN
139	8/5/2002	Big Lake, Obion	Obion	Adult	UNKNOWN
140	8/5/2002	South Fork Obion	Weakley/Gibson Line	Adult	UNKNOWN
141	8/5/2002	South Fork Obion	Weakley/Gibson Line	Adult	UNKNOWN
142	8/5/2002	South Fork Obion	Weakley/Gibson Line	Adult	UNKNOWN
143	8/5/2002	South Fork Obion	Weakley/Gibson Line	Adult	UNKNOWN
144	8/5/2002	South Fork Obion	Weakley/Gibson Line	Adult	UNKNOWN
145	8/5/2002	South Fork Obion	Weakley/Gibson Line	Adult	UNKNOWN

Turtle #	DATE	RIVER	COUNTY	STATUS	SOURCE
146	8/5/2002	South Fork Obion	Weakley/Gibson Line	Adult	UNKNOWN
147	8/5/2002	South Fork Obion	Weakley/Gibson Line	Adult	UNKNOWN
148	8/5/2002	South Fork Obion	Weakley/Gibson Line	Adult	UNKNOWN
149	8/5/2002	South Fork Obion	Weakley/Gibson Line	Adult	UNKNOWN
150	6/17/2003	Wolf	Fayette	Adult	UNKNOWN
151	6/17/2003	Wolf	Fayette	Adult	UNKNOWN
152	6/17/2003	Wolf	Fayette	Adult	UNKNOWN
153	6/17/2003	Wolf	Fayette	Adult	UNKNOWN
154	6/17/2003	Wolf	Fayette	Adult	UNKNOWN
155	6/17/2003	Wolf	Fayette	Adult	UNKNOWN
156	6/17/2003	Wolf	Fayette	Adult	UNKNOWN
157	6/17/2003	Mud Creek	Hardin		UNKNOWN
158	6/18/2003	Mud Creek	Hardin		UNKNOWN
159	6/19/2003	Mud Creek	Hardin		UNKNOWN
160	6/20/2003	Mud Creek	Hardin		UNKNOWN
161	6/21/2003	Mud Creek	Hardin		UNKNOWN
162	6/22/2003	Mud Creek	Hardin		UNKNOWN
163	7/1/2004	Hatchie	Hardeman	Adult	UNKNOWN
164	7/1/2004	Hatchie	Hardeman	Adult	UNKNOWN
165	7/1/2004	Hatchie	Hardeman	Adult	UNKNOWN
166	7/1/2004	Hatchie	Hardeman	Adult	UNKNOWN
167	7/1/2004	Hatchie	Hardeman	Adult	UNKNOWN
168	7/1/2004	Hatchie	Hardeman	Adult	UNKNOWN
169	7/1/2004	Hatchie	Hardeman	Adult	UNKNOWN
170	7/2/2004	Hatchie	Hardeman	Adult	UNKNOWN
171	7/2/2004	Hatchie	Hardeman	Adult	UNKNOWN
172	7/2/2004	Hatchie	Hardeman	Adult	UNKNOWN
173	7/2/2004	Hatchie	Hardeman	Adult	UNKNOWN
174	7/2/2004	Hatchie	Hardeman	Adult	UNKNOWN

Turtle #	DATE	RIVER	COUNTY	STATUS	SOURCE
175	7/2/2004	Hatchie	Hardeman	Adult	UNKNOWN
176	7/2/2004	Hatchie	Hardeman	Adult	UNKNOWN
177	8/18/2004	Wolf	Fayette	Adult	Memphis Zoo
178	8/18/2004	Wolf	Fayette	Adult	Memphis Zoo
179	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
180	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
181	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
182	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
183	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
184	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
185	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
186	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
187	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
188	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
189	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
190	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
191	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
192	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
193	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
194	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
195	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
196	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
197	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
198	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
199	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
200	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
201	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
202	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
203	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana

Turtle #	DATE	RIVER	COUNTY	STATUS	SOURCE
204	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
205	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
206	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
207	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
208	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
209	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
210	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
211	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
212	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
213	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
214	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
215	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
216	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
217	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
218	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
219	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
220	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
221	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
222	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
223	5/5/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
224	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
225	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
226	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
227	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
228	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
229	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
230	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
231	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
232	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana

Turtle #	DATE	RIVER	COUNTY	STATUS	SOURCE
233	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
234	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
235	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
236	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
237	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
238	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
239	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
240	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
241	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
242	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
243	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
244	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
245	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
246	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
247	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
248	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
249	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
250	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
251	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
252	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
253	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
254	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
255	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
256	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
257	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
258	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
259	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
260	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
261	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana

Turtle #	DATE	RIVER	COUNTY	STATUS	SOURCE
262	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
263	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
264	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
265	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
266	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
267	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
268	5/5/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
269	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
270	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
271	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
272	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
273	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
274	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
275	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
276	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
277	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
278	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
279	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
280	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
281	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
282	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
283	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
284	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
285	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
286	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
287	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
288	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
289	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
290	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana

Turtle #	DATE	RIVER	COUNTY	STATUS	SOURCE
291	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
292	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
293	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
294	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
295	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
296	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
297	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
298	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
299	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
300	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
301	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
302	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
303	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
304	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
305	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
306	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
307	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
308	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
309	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
310	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
311	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
312	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
313	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
314	6/28/2005	Hatchie	Hardeman	Juvenile	Concordia Turtle Farm, Louisiana
315	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
316	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
317	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
318	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
319	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana

Turtle #	DATE	RIVER	COUNTY	STATUS	SOURCE
320	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
321	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
322	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
323	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
324	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
325	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
326	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
327	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
328	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
329	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
330	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
331	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
332	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
333	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
334	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
335	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
336	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
337	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
338	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
339	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
340	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
341	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
342	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
343	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
344	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
345	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
346	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
347	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
348	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana

Turtle #	DATE	RIVER	COUNTY	STATUS	SOURCE
349	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
350	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
351	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
352	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
353	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
354	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
355	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
356	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
357	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
358	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
359	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana
360	6/28/2005	Wolf	Fayette	Juvenile	Concordia Turtle Farm, Louisiana

APPENDIX B

Abbreviated data file of *M. temminckii* captures and recaptures in the

Wolf River Wildlife Management Area, Fayette County, Tennessee

From May of 2007 through August of 2008.

Tag #	Date	Orig.	Location	Latitude	Longitude	Mass	CL	CW	% CC	Depth	DFB	Cover
AP00026	5/22/2007	R	YB	35.03170	-89.24290	-	-	-	-	-	-	R
AP00035	5/22/2007	R	YB	35.03170	-89.24290	-	-	-	-	-	-	R
AP00047	5/22/2007	R	YB	35.03170	-89.24290	67	6.2	5.4	-	40.0	-	R
AP00056	5/22/2007	R	YB	35.03170	-89.24290	-	-	-	-	-	-	R
AP00008	5/23/2007	R	YB	35.03170	-89.24298	47	5.2	4.9	-	40.0	-	R
AP00039	5/24/2007	R	MS	35.02940	-89.27357	60	6.4	5.6	-	30.0	-	B
AP00014	5/24/2007	R	MS	35.02942	-89.27348	52	5.7	5.1	-	20.0	-	T
AP00085	5/26/2007	PR	MS	35.02942	-89.27362	304	10.5	9.6	95.0	30.0	-	AV
AP00084	5/26/2007	R	YB	35.03165	-89.24285	35	5.0	4.4	40.0	30.0	-	R
AP00025	5/26/2007	R	YB	35.03172	-89.24295	63	6.0	5.3	95.0	20.0	-	SL
AP00042	5/27/2007	R	YB	35.03167	-89.24288	85	6.9	6.1	98.0	30.0	-	R
AP00042	5/28/2007	R	YB	35.03172	-89.24288	84	6.9	6.1	99.0	30.0	-	R
AP00067	5/29/2007	R	MS	35.02942	-89.27362	70	6.3	5.8	80.0	40.0	-	B
AP00070	5/29/2007	R	YB	35.03162	-89.24288	64	6.2	5.3	30.0	20.0	-	B
AP00064	6/2/2007	R	YB	35.03165	-89.24295	77	6.6	6.0	98.0	35.0	-	B
AP000?	6/4/2007	R	MS	35.02953	-89.27385	73	6.6	5.7	30.0	50.0	-	AV
AP00007	6/5/2007	R	YB	35.03107	-89.24223	78	6.6	6.0	0.0	5.0	-	SL
AP00037	6/6/2007	R	YB	35.03155	-89.24287	66	6.2	5.6	10.0	40.0	-	SL
AP00062	6/12/2007	R	MS	35.02935	-89.27355	57	5.9	5.4	90.0	45.0	40	AV
AP00071	6/15/2007	R	MS	35.02933	-89.27345	65	6.1	5.6	10.0	30.0	-	SL
AP00044	6/17/2007	R	MS	35.02937	-89.27357	69	6.4	5.6	99.0	15.0	34	SL
AP00071	6/19/2007	R	MS	35.02937	-89.27353	63	6.1	5.6	see note	45.0	178	BW
AP00019	6/19/2007	R	MS	35.02938	-89.27348	58	5.7	5.3	40.0	n/a	n/a	n/a
AP00086	6/21/2007	PR	MS	35.02958	-89.27377	291	10.5	9.0	60.0	20.0	-	AV
AP00085	6/30/2007	PR	MS	35.02947	-89.27362	371	10.9	9.8	80.0	50.0	53	AV
AP00055	6/30/2007	R	YB	35.03162	-89.24288	113	7.4	6.8	10.0	25.0	50	SL
AP00005	7/3/2007	R	MS	35.03163	-89.24290	105	6.8	6.0	95.0	10.0	5	B
AP00021	7/6/2007	R	YB	35.03043	-89.24270	123	7.6	6.7	98.0	5.0	5	R
AP00086	7/7/2007	PR	MS	35.02942	-89.27360	311	10.8	9.2	80.0	25.0	178	AV

Tag #	Date	Orig.	Location	Latitude	Longitude	Mass	CL	CW	% CC	Depth	DFB	Cover
AP00086	7/10/2007	PR	MS	35.02961	-89.27356	297	10.8	9.2	40.0	60.0	1646	AV
AP00086	8/2/2007	PR	MS	-	-	318	10.9	9.2	30.0	30.0	136	AV
AP00088	5/1/2008	R	MS	35.02934	-89.27353	144	7.7	6.9	70.0	10.0	15	B
AP00092	5/1/2008	R	MS	35.02934	-89.27353	93	7.0	6.3	70.0	10.0	15	B
AP00093	5/1/2008	R	MS	35.02934	-89.27353	138	7.6	6.9	70.0	10.0	15	B
AP00091	5/1/2008	R	YB	35.03175	-89.24205	131	7.2	6.8	95.0	10.0	8	B
AP00057	5/1/2008	R	YB	35.03173	-89.24299	138	8.1	7.1	95.0	5	15	R
AP00075	5/1/2008	R	YB	35.03173	-89.24299	124	7.5	6.7	100.0	7	18	R
AP00075	5/1/2008	R	YB	35.03173	-89.24299	120	7.5	6.7	95.0	28	18	R
AP00087	5/1/2008	R	YB	35.03173	-89.24299	104	7.3	6.3	95.0	5.0	20	R
AP00087	5/1/2008	R	YB	35.03173	-89.24299	103	7.0	6.3	95.0	10.0	5	R
AP00090	5/1/2008	R	YB	35.03173	-89.24299	115	7.6	6.6	95.0	15.0	10	R
AP00088	5/2/2008	R	MS	35.02934	-89.27353	137	7.9	6.8	70.0	10.0	15	B
AP00092	5/2/2008	R	MS	35.02934	-89.27353	93	6.9	6.1	70.0	10.0	15	B
AP00093	5/2/2008	R	MS	35.02934	-89.27353	130	7.6	6.9	70.0	10.0	15	B
AP00087	5/2/2008	R	YB	35.03173	-89.24299	113	7.0	6.3	95.0	0.0	-15	B
AP00091	5/2/2008	R	YB	35.03176	-89.24301	125	7.3	6.8	95.0	5.0	5	B
AP00075	5/2/2008	R	YB	35.03173	-89.24299	123	7.2	6.7	100.0	0.0	-20	R
AP00090	5/2/2008	R	YB	35.03173	-89.24299	116	7.5	6.7	95.0	5.0	5	R
AP00086	5/3/2008	PR	MS	35.02937	-89.27361	329	11.3	9.5	80.0	60.0	160	AV
AP00030	5/3/2008	R	MS	35.02934	-89.27353	105	7.3	6.5	100.0	10.0	15	B
AP00089	5/3/2008	R	MS	35.02934	-89.27353	112	7.5	6.6	100.0	10.0	15	B
AP00092	5/4/2008	R	MS	35.02934	-89.27353	97	7.0	6.1	100.0	5.0	-10	B
AP00092	5/5/2008	R	MS	35.02934	-89.27353	99	7.2	6.2	100.0	-25.0	0	B
AP00092	5/7/2008	R	MS	35.02934	-89.27353	98	7.0	6.1	100.0	-25.0	0	B
AP00057	5/7/2008	R	YB	35.03166	-89.24287	138	8.1	7.2	100.0	5.0	9	B
AP00057	5/7/2008	R	YB	35.03166	-89.24287	138	8.1	7.2	100.0	5.0	9	B
AP00091	5/7/2008	R	YB	35.03173	-89.24299	130	7.3	6.8	100.0	5.0	5	R
AP00091	5/7/2008	R	YB	35.03173	-89.24299	130	7.3	6.8	100.0	5.0	5	R

Tag #	Date	Orig.	Location	Latitude	Longitude	Mass	CL	CW	% CC	Depth	DFB	Cover
AP00088	5/17/2008	R	MS	35.03943	-89.27358	148	7.9	6.8	90.0	5.0	5	AV
AP00075	5/18/2008	R	YB	35.03094	-89.24222	127	7.5	6.7	90.0	15.0	10	B
AP00088	5/18/2008	R	YB	35.02943	-89.27358	150	8.0	6.9	90.0	5.0	5	B
AP00087	5/18/2008	R	YB	35.03096	-89.24216	115	7.0	6.4	95.0	15.0	5	T
AP00088	5/19/2008	R	MS	35.02943	-89.27358	151	7.9	6.9	90.0	5.0	5	AV
AP00075	5/19/2008	R	YB	35.03096	-89.24220	117	7.5	6.8	90.0	10.0	10	R
AP00088	5/20/2008	R	MS	35.02943	-89.27358	147	7.9	6.9	90.0	5.0	5	AV
AP00075	5/20/2008	R	YB	35.03092	-89.24220	126	7.5	6.7	90.0	-5.0	5	R
AP00088	5/21/2008	R	MS	35.02943	-89.27358	145	8.0	6.9	90.0	5.0	5	AV
AP00093	5/21/2008	R	MS	35.02942	-89.27360	141	7.7	7.0	95.0	5.0	5	AV
AP00075	5/21/2008	R	YB	35.03092	-89.24220	120	7.5	6.8	90.0	-15.0	0	R
AP00075	5/26/2008	R	YB	35.02096	-89.24250	124	7.5	6.8	90	5.0	10	R
AP00085	5/27/2008	PR	MS	35.02933	-89.27352	445	11.6	10.6	0.0	80.0	70	T
AP00091	6/6/2008	R	YB	35.03158	-89.24283	183	7.5	7.0	100.0	10.0	5	R
AP00090	6/8/2008	R	YB	35.03169	-89.24284	115	7.8	6.9	90.0	130.0	40	R
AP00091	6/10/2008	R	YB	35.03158	-89.24283	133	7.6	7.1	100.0	65.0	25	SL
AP00086	6/21/2008	PR	MS	35.02938	-89.27358	438	11.9	10.2	90.0	160.0	50	AV
AP00012	6/24/2008	R	MS	35.02938	-89.27358	138	7.8	6.8	95.0	160.0	50	AV
AP00090	7/12/2008	R	YB	35.03167	-89.24291	142	8.2	7.2	95.0	30.0	40	R
AP00066	7/18/2008	R	MS	35.02942	-89.27362	97	7.4	6.5	50.0	230.0	50	AV
0-10	8/4/2008	PR	MS	35.03009	-89.27250	33KG	42.6	39.1	20.0	70.0	2000	BW

APPENDIX C

Abbreviated data file of *M. temminckii* radio telemetry locations in the Wolf River Wildlife Management Area, Fayette County, Tennessee documented May of 2007 through August of 2008.

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
6/16/2006	0.001	YB	35.03161	-89.24284	Moderate	Coaxial	90	55	140	SL	no
6/1/2007	0.531	MS	35.02930	-89.27350	Strong	Coaxial	20	10	-	R	no
6/1/2007	0.531	MS	35.02928	-89.27350	Strong	Coaxial	20	30	-	R	no
6/2/2007	0.531	MS	35.02940	-89.27345	Strong	Coaxial	20	10	-	R	no
6/3/2007	0.531	MS	35.02940	-89.27345	Strong	Coaxial	20	10	-	R	no
6/4/2007	0.531	MS	35.02940	-89.27345	Strong	Coaxial	20	10	-	R	no
6/5/2007	0.531	MS	35.02928	-89.27353	Strong	Coaxial	20	30	-	R	no
6/6/2007	0.531	MS	35.02928	-89.27353	Strong	Coaxial	20	30	-	R	no
6/7/2007	0.531	MS	35.02933	-89.27347	Strong	Coaxial	20	30	-	R	no
6/11/2007	0.531	MS	35.02927	-89.27355	Strong	Coaxial	20	30	-	R	no
6/12/2007	0.531	MS	35.02927	-89.27355	Strong	Coaxial	20	30	-	R	no
6/13/2007	0.531	MS	-	-	-	-	-	-	-	-	no
6/13/2007	0.531	MS	35.02927	-89.27355	Strong	Coaxial	20	30	-	R	no
6/14/2007	0.531	MS	35.02927	-89.27355	Strong	Coaxial	20	10	-	R	no
6/15/2007	0.531	MS	35.02927	-89.27355	Strong	Coaxial	20	10	-	R	no
6/16/2007	0.531	MS	35.02925	-89.27357	Strong	Coaxial	20	10	-	R	no
6/17/2007	0.531	MS	-	-	Weak	Coaxial	-	-	-	-	no
6/18/2007	0.531	MS	35.02927	-89.27343	Strong	Coaxial	70	15	-	R	no
6/19/2007	0.531	MS	35.02927	-89.27343	Strong	Coaxial	70	15	-	R	no
6/20/2007	0.531	MS	35.02927	-89.27348	Strong	Coaxial	80	25	-	R	no
6/21/2007	0.531	MS	35.02927	-89.27348	Strong	Coaxial	80	25	-	AV	no
6/28/2007	0.173	MS	35.02938	-89.27355	Strong	Coaxial	98	15	-	B	yes
6/28/2007	0.262	MS	35.02938	-89.27355	Strong	Coaxial	98	15	-	B	yes
6/28/2007	0.082	MS	35.02938	-89.27355	Strong	Coaxial	98	15	-	B	yes
6/28/2007	0.443	MS	35.02938	-89.27355	Strong	Coaxial	98	15	-	B	yes
6/28/2007	0.383	MS	35.02938	-89.27355	Strong	Coaxial	98	15	-	B	yes
6/28/2007	0.053	YB	35.03168	-89.24292	Strong	Coaxial	98	20	-	R	yes
6/28/2007	0.145	YB	35.03168	-89.24292	Strong	Coaxial	98	20	-	R	yes
6/28/2007	0.001	YB	35.03168	-89.24292	Strong	Coaxial	98	20	-	R	yes

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
6/28/2007	0.592	YB	35.03168	-89.24292	Strong	Coaxial	98	20	-	R	yes
6/28/2007	0.232	YB	35.03168	-89.24292	Strong	Coaxial	98	20	-	R	yes
6/29/2007	0.173	MS	35.02938	-89.27355	Strong	Coaxial	98	15	-	B	no
6/29/2007	0.443	MS	35.02938	-89.27355	Strong	Coaxial	98	15	-	B	no
6/29/2007	0.262	MS	35.02938	-89.27355	Strong	Coaxial	98	15	-	B	no
6/29/2007	0.082	MS	35.02938	-89.27355	Strong	Coaxial	98	15	-	B	no
6/29/2007	0.383	MS	35.02938	-89.27355	Strong	Coaxial	98	15	-	B	no
6/29/2007	0.173	MS	35.02938	-89.27355	Strong	Coaxial	98	15	-	B	no
6/29/2007	0.262	MS	35.02938	-89.27355	Strong	Coaxial	98	15	-	B	no
6/29/2007	0.082	MS	35.02938	-89.27355	Strong	Coaxial	98	15	-	B	no
6/29/2007	0.443	MS	35.02938	-89.27355	Strong	Coaxial	98	15	-	B	no
6/29/2007	0.383	MS	35.02938	-89.27355	Strong	Coaxial	98	15	-	B	no
6/29/2007	0.592	YB	35.03168	-89.24292	Strong	Coaxial	98	20	-	R	no
6/29/2007	0.053	YB	35.03168	-89.24292	Strong	Coaxial	98	20	-	R	no
6/29/2007	0.145	YB	35.03168	-89.24292	Strong	Coaxial	98	20	-	R	no
6/29/2007	0.232	YB	35.03168	-89.24292	Strong	Coaxial	98	20	-	R	no
6/29/2007	0.001	YB	35.03168	-89.24292	Strong	Coaxial	98	20	-	R	no
6/29/2007	0.053	YB	35.03168	-89.24292	Strong	Coaxial	98	20	-	R	no
6/29/2007	0.145	YB	35.03168	-89.24292	Strong	Coaxial	98	20	-	R	no
6/29/2007	0.001	YB	35.03168	-89.24292	Strong	Coaxial	98	20	-	R	no
6/29/2007	0.592	YB	35.03168	-89.24292	Strong	Coaxial	98	20	-	R	no
6/29/2007	0.232	YB	35.03168	-89.24292	Strong	Coaxial	98	20	-	R	no
6/30/2007	0.443	MS	35.02945	-89.27355	Strong	Coaxial	75	15	-	AV	no
6/30/2007	0.443	MS	35.02938	-89.27355	Strong	Coaxial	98	15	-	B	no
6/30/2007	0.173	MS	35.02938	-89.27355	Strong	Coaxial	98	15	-	B	no
6/30/2007	0.262	MS	35.02938	-89.27355	Strong	Coaxial	98	15	-	B	no
6/30/2007	0.082	MS	35.02938	-89.27355	Strong	Coaxial	98	15	-	B	no
6/30/2007	0.383	MS	35.02938	-89.27355	Strong	Coaxial	98	15	-	B	no
6/30/2007	0.173	MS	35.02938	-89.27355	Strong	Coaxial	98	15	-	B	no

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
6/30/2007	0.262	MS	35.02938	-89.27355	Strong	Coaxial	98	15	-	B	no
6/30/2007	0.082	MS	35.02938	-89.27355	Strong	Coaxial	98	15	-	B	no
6/30/2007	0.383	MS	35.02938	-89.27355	Strong	Coaxial	98	15	-	B	no
6/30/2007	0.145	YB	35.03172	-89.24287	Strong	Coaxial	98	10	-	R	no
6/30/2007	0.592	YB	35.03172	-89.24287	Strong	Coaxial	98	10	-	R	no
6/30/2007	0.232	YB	35.03172	-89.24287	Weak	Coaxial	98	30	-	R	no
6/30/2007	0.232	YB	35.03172	-89.24287	Strong	Coaxial	98	15	-	R	no
6/30/2007	0.145	YB	35.03172	-89.24287	Strong	Coaxial	98	20	-	R	no
6/30/2007	0.592	YB	35.03172	-89.24287	Strong	Coaxial	98	20	-	R	no
6/30/2007	0.001	YB	35.03162	-89.24288	Strong	Coaxial	10	25	-	SL	yes
6/30/2007	0.053	YB	35.03162	-89.24283	Strong	Coaxial	80	10	-	SL	no
6/30/2007	0.053	YB	35.03162	-89.24283	Strong	Coaxial	80	10	-	SL	no
6/30/2007	0.001	YB	35.03162	-89.24283	Strong	Coaxial	80	10	-	SL	no
7/1/2007	0.443	MS	35.02945	-89.27355	Strong	Coaxial	75	-	-	AV	no
7/1/2007	0.082	MS	35.02938	-89.27355	Strong	Coaxial	98	-	-	AV	no
7/1/2007	0.383	MS	35.02933	-89.27367	Strong	Coaxial	90	-	-	AV	no
7/1/2007	0.262	MS	35.02938	-89.27355	Strong	Coaxial	98	-	-	B	no
7/1/2007	0.173	MS	35.02938	-89.27355	Strong	Coaxial	98	-	-	B	no
7/1/2007	0.592	YB	35.03172	-89.24287	Strong	Coaxial	98	20	-	R	no
7/1/2007	0.001	YB	35.03163	-89.24283	Strong	Coaxial	80	10	-	SL	no
7/1/2007	0.145	YB	35.03120	-89.24243	Strong	Coaxial	90	-	-	SL	no
7/1/2007	0.053	YB	35.03120	-89.24243	Strong	Coaxial	90	-	-	SL	no
7/1/2007	0.232	YB	35.03162	-89.24285	Strong	Coaxial	70	-	-	SL	no
7/3/2007	0.531	MS	-	-	-	Antenna	-	-	-	-	no
7/3/2007	0.383	MS	35.02940	-89.27355	Strong	Coaxial	90	20	10	AV	no
7/3/2007	0.173	MS	35.02930	-89.27357	Strong	Coaxial	95	10	2	B	yes
7/3/2007	0.262	MS	35.02930	-89.27357	Strong	Coaxial	95	10	12	B	no
7/3/2007	0.082	MS	35.02930	-89.27357	Strong	Coaxial	95	10	12	B	no
7/3/2007	0.443	MS	35.02942	-89.27357	Strong	Coaxial	95	35	13	B	no

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
7/3/2007	0.592	YB	35.03118	-89.24232	Weak	Coaxial	15	15	47	B	no
7/3/2007	0.145	YB	35.03118	-89.24232	Moderate	Antenna	15	15	47	B	no
7/3/2007	0.053	YB	35.03170	-89.24293	Moderate	Coaxial	90	40	30	R	no
7/3/2007	0.232	YB	35.03163	-89.24290	Moderate	Coaxial	-	-	20	SL	no
7/3/2007	0.001	YB	35.03163	-89.24290	Moderate	Coaxial	-	-	20	SL	no
7/4/2007	0.383	MS	35.02945	-89.27357	Strong	Coaxial	95	15	43	AV	no
7/4/2007	0.173	MS	35.02930	-89.27357	Strong	Coaxial	95	10	5	B	no
7/4/2007	0.262	MS	35.02930	-89.27357	Strong	Coaxial	95	10	30	B	no
7/4/2007	0.082	MS	35.02930	-89.27357	Strong	Coaxial	95	10	30	B	no
7/4/2007	0.443	MS	35.02945	-89.27357	Strong	Coaxial	95	15	30	B	no
7/4/2007	0.053	YB	35.03170	-89.24293	Moderate	Coaxial	90	20	19	R	no
7/4/2007	0.232	YB	35.03175	-89.24287	Strong	Coaxial	95	10	25	R	no
7/4/2007	0.592	YB	35.03090	-89.24227	Strong	Coaxial	0	15	43	R	no
7/4/2007	0.001	YB	35.03158	-89.24282	Moderate	Coaxial	95	20	40	SL	no
7/4/2007	0.145	YB	35.03070	-89.24280	Strong	Coaxial	50	55	206	SL	no
7/5/2007	0.383	MS	35.02938	-89.27358	Strong	Coaxial	95	15	43	AV	no
7/5/2007	0.173	MS	35.02940	-89.27360	Strong	Coaxial	95	15	43	AV	no
7/5/2007	0.443	MS	35.02938	-89.27365	Strong	Coaxial	95	15	43	AV	no
7/5/2007	0.262	MS	35.02937	-89.27353	Strong	Coaxial	95	10	30	B	no
7/5/2007	0.082	MS	35.02937	-89.27353	Strong	Coaxial	95	10	30	B	no
7/5/2007	0.145	YB	35.03045	-89.24262	Strong	Coaxial	50	55	206	R	no
7/5/2007	0.053	YB	35.03165	-89.24287	Moderate	Coaxial	90	20	48	R	no
7/5/2007	0.232	YB	35.03172	-89.24282	Strong	Coaxial	95	10	25	R	no
7/5/2007	0.001	YB	35.03168	-89.24283	Moderate	Coaxial	95	20	102	SL	no
7/5/2007	0.592	YB	35.03093	-89.24283	Strong	Coaxial	0	15	43	SL	no
7/6/2007	0.383	MS	35.02945	-89.27352	Strong	Coaxial	95	15	30	AV	no
7/6/2007	0.173	MS	35.02945	-89.27352	Strong	Coaxial	95	15	43	AV	no
7/6/2007	0.443	MS	35.02943	-89.27352	Strong	Coaxial	95	15	43	AV	no
7/6/2007	0.262	MS	35.02943	-89.27360	Strong	Coaxial	95	10	30	B	no

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
7/6/2007	0.082	MS	35.02943	-89.27360	Strong	Coaxial	95	10	30	B	no
7/6/2007	0.145	YB	35.03043	-89.24270	Strong	Coaxial	98	5	5	R	yes
7/6/2007	0.053	YB	35.03168	-89.24285	Moderate	Coaxial	90	20	48	R	no
7/6/2007	0.232	YB	35.03172	-89.24293	Strong	Coaxial	95	10	25	R	no
7/6/2007	0.592	YB	35.03097	-89.24218	Strong	Coaxial	0	15	43	SL	no
7/6/2007	0.001	YB	35.03160	-89.24287	Strong	Coaxial	95	20	102	SL	no
7/7/2007	0.082	MS	35.02943	-89.27346	Strong	Coaxial	90	5	23	AV	no
7/7/2007	0.443	MS	35.02938	-89.27358	Strong	Coaxial	90	10	20	AV	no
7/7/2007	0.173	MS	35.02938	-89.27358	Strong	Coaxial	90	10	180	AV	no
7/7/2007	0.383	MS	35.02933	-89.27352	Strong	Coaxial	98	5	25	B	no
7/7/2007	0.262	MS	35.02933	-89.27352	Strong	Coaxial	98	5	25	B	no
7/7/2007	0.145	YB	35.03059	-89.24270	Strong	Coaxial	98	5	25	B	no
7/7/2007	0.232	YB	35.03169	-89.24296	Moderate	Coaxial	95	5	13	R	no
7/7/2007	0.053	YB	35.03159	-89.24290	Moderate	Coaxial	98	10	56	R	no
7/7/2007	0.592	YB	35.03097	-89.24228	Strong	Coaxial	0	10	20	R	no
7/7/2007	0.001	YB	35.03162	-89.24289	Moderate	Coaxial	95	5	56	SL	no
7/8/2007	0.082	MS	35.02940	-89.27348	Strong	Coaxial	90	5	23	AV	no
7/8/2007	0.443	MS	35.02937	-89.27343	Strong	Coaxial	90	10	20	AV	no
7/8/2007	0.173	MS	35.02937	-89.27343	Strong	Coaxial	90	10	180	AV	no
7/8/2007	0.383	MS	35.02935	-89.27357	Strong	Coaxial	98	5	25	B	no
7/8/2007	0.262	MS	35.02935	-89.27357	Strong	Coaxial	98	5	25	B	no
7/8/2007	0.145	YB	35.03048	-89.24258	Strong	Coaxial	98	15	13	B	no
7/8/2007	0.232	YB	35.03175	-89.24294	Moderate	Coaxial	95	5	13	R	no
7/8/2007	0.053	YB	35.03168	-89.24292	Strong	Coaxial	98	10	56	R	no
7/8/2007	0.592	YB	35.03090	-89.24226	Strong	Coaxial	0	10	20	R	no
7/8/2007	0.001	YB	35.03160	-89.24287	Moderate	Coaxial	95	5	56	SL	no
7/9/2007	0.082	MS	35.02942	-89.27363	Moderate	Coaxial	90	10	15	AV	no
7/9/2007	0.443	MS	35.02942	-89.27363	Strong	Coaxial	90	10	20	AV	no
7/9/2007	0.173	MS	35.02942	-89.27363	Strong	Coaxial	90	10	180	AV	no

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
7/9/2007	0.383	MS	35.02938	-89.27358	Strong	Coaxial	98	5	25	B	no
7/9/2007	0.262	MS	35.02938	-89.27358	Strong	Coaxial	98	5	25	B	no
7/9/2007	0.232	YB	35.03173	-89.24296	Strong	Coaxial	95	5	13	R	no
7/9/2007	0.592	YB	35.03096	-89.24219	Strong	Coaxial	0	10	20	R	no
7/9/2007	0.145	YB	35.03053	-89.24265	Strong	Coaxial	98	15	13	R	no
7/9/2007	0.053	YB	35.03175	-89.24294	Strong	Coaxial	80	5	76	SL	no
7/9/2007	0.001	YB	35.03175	-89.24294	Moderate	Coaxial	80	5	76	SL	no
7/10/2007	0.082	MS	35.02942	-89.27364	Moderate	Coaxial	90	10	15	AV	no
7/10/2007	0.443	MS	35.02942	-89.27364	Strong	Coaxial	90	10	20	AV	no
7/10/2007	0.173	MS	35.02942	-89.27364	Strong	Coaxial	90	10	180	AV	no
7/10/2007	0.383	MS	35.02935	-89.27357	Strong	Coaxial	98	5	25	B	no
7/10/2007	0.262	MS	35.02935	-89.27357	Strong	Coaxial	98	5	25	B	no
7/10/2007	0.232	YB	35.03168	-89.24292	Strong	Coaxial	98	5	13	R	no
7/10/2007	0.145	YB	35.03056	-89.24260	Strong	Coaxial	98	15	13	R	no
7/10/2007	0.053	YB	35.03167	-89.24283	Strong	Coaxial	80	5	76	SL	no
7/10/2007	0.001	YB	35.03167	-89.24283	Moderate	Coaxial	80	5	76	SL	no
7/10/2007	0.592	YB	35.03009	-89.24226	Strong	Coaxial	0	10	20	SL	no
7/11/2007	0.082	MS	35.02942	-89.27359	Strong	Coaxial	90	10	15	AV	no
7/11/2007	0.443	MS	35.02942	-89.27359	Strong	Coaxial	90	10	20	AV	no
7/11/2007	0.173	MS	35.02942	-89.27359	Strong	Coaxial	90	10	180	AV	no
7/11/2007	0.383	MS	35.02936	-89.27358	Strong	Coaxial	98	5	25	B	no
7/11/2007	0.262	MS	35.02936	-89.27358	Strong	Coaxial	98	5	25	B	no
7/11/2007	0.145	YB	35.03054	-89.24265	Strong	Coaxial	98	15	20	R	no
7/11/2007	0.592	YB	35.03095	-89.24225	Strong	Coaxial	0	20	13	R	no
7/11/2007	0.232	YB	35.03173	-89.24292	Strong	Coaxial	98	15	13	R	no
7/11/2007	0.001	YB	35.03162	-89.24286	Moderate	Coaxial	80	15	76	SL	no
7/11/2007	0.053	YB	35.03162	-89.24286	Strong	Coaxial	80	15	76	SL	no
7/17/2007	0.443	MS	35.02943	-89.27338	Strong	Coaxial	90	20	25	AV	no
7/17/2007	0.173	MS	35.02943	-89.27338	Moderate	Coaxial	90	20	180	AV	no

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
7/17/2007	0.082	MS	35.02943	-89.27338	Moderate	Coaxial	90	20	15	AV	no
7/17/2007	0.383	MS	35.02932	-89.22354	Strong	Coaxial	60	15	13	B	no
7/17/2007	0.262	MS	35.02932	-89.22354	Strong	Coaxial	60	15	13	B	no
7/17/2007	0.232	YB	35.03171	-89.24295	Strong	Coaxial	95	15	25	R	no
7/17/2007	0.592	YB	35.03059	-89.24217	Strong	Coaxial	0	10	28	R	no
7/17/2007	0.145	YB	35.03056	-89.24268	Strong	Coaxial	60	25	38	R	no
7/17/2007	0.053	YB	35.03162	-89.24284	Strong	Coaxial	95	20	33	SL	no
7/17/2007	0.001	YB	35.03162	-89.24284	Moderate	Coaxial	90	20	84	SL	no
7/18/2007	0.443	MS	35.02943	-89.27338	Strong	Coaxial	90	20	25	AV	no
7/18/2007	0.173	MS	35.02943	-89.27338	Moderate	Coaxial	90	20	180	AV	no
7/18/2007	0.082	MS	35.02943	-89.27358	Moderate	Coaxial	90	20	15	AV	no
7/18/2007	0.383	MS	35.02932	-89.22354	Strong	Coaxial	60	15	13	B	no
7/18/2007	0.262	MS	35.02932	-89.22354	Strong	Coaxial	60	15	13	B	no
7/18/2007	0.232	YB	35.03171	-89.24295	Strong	Coaxial	95	15	25	R	no
7/18/2007	0.592	YB	35.03059	-89.24217	Strong	Coaxial	0	10	28	R	no
7/18/2007	0.145	YB	35.03056	-89.24268	Strong	Coaxial	60	25	18	R	no
7/18/2007	0.053	YB	35.03162	-89.24284	Strong	Coaxial	95	20	132	SL	no
7/18/2007	0.001	YB	35.03162	-89.24284	Strong	Coaxial	90	20	84	SL	no
7/20/2007	0.383	MS	35.02932	-89.27354	Strong	Coaxial	60	15	13	AV	no
7/20/2007	0.443	MS	35.02943	-89.27338	Strong	Coaxial	90	20	25	AV	no
7/20/2007	0.173	MS	35.02943	-89.27338	Strong	Coaxial	90	20	180	AV	no
7/20/2007	0.262	MS	35.02932	-89.22354	Strong	Coaxial	60	15	13	B	no
7/20/2007	0.082	MS	35.02942	-89.27354	Strong	Coaxial	99	25	46	B	no
7/20/2007	0.232	YB	35.03171	-89.24295	Strong	Coaxial	95	15	25	R	no
7/20/2007	0.592	YB	35.03059	-89.24217	Strong	Coaxial	0	10	28	R	no
7/20/2007	0.145	YB	35.03056	-89.24268	Strong	Coaxial	60	25	18	R	no
7/20/2007	0.053	YB	35.03162	-89.24284	Strong	Coaxial	95	20	132	SL	no
7/20/2007	0.001	YB	35.03162	-89.24284	Moderate	Coaxial	90	20	84	SL	no
7/21/2007	0.383	MS	35.02932	-89.27354	Strong	Coaxial	60	15	13	AV	no

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
7/21/2007	0.443	MS	35.02943	-89.27338	Strong	Coaxial	90	20	25	AV	no
7/21/2007	0.173	MS	35.02943	-89.27338	Strong	Coaxial	90	20	180	AV	no
7/21/2007	0.262	MS	35.02932	-89.22354	Strong	Coaxial	60	15	13	B	no
7/21/2007	0.082	MS	35.02932	-89.22354	Strong	Coaxial	60	15	13	B	no
7/21/2007	0.232	YB	35.03171	-89.24295	Strong	Coaxial	95	15	25	R	no
7/21/2007	0.145	YB	35.03056	-89.24268	Strong	Coaxial	60	25	18	R	no
7/21/2007	0.053	YB	35.03162	-89.24284	Strong	Coaxial	95	20	132	SL	no
7/21/2007	0.001	YB	35.03162	-89.24284	Moderate	Coaxial	90	20	84	SL	no
7/21/2007	0.592	YB	35.03059	-89.24217	Strong	Coaxial	0	10	28	SL	no
7/22/2007	0.443	MS	35.02943	-89.27338	Strong	Coaxial	90	20	25	AV	no
7/22/2007	0.173	MS	35.02943	-89.27338	Strong	Coaxial	90	20	180	AV	no
7/22/2007	0.383	MS	35.02932	-89.27354	Strong	Coaxial	60	15	13	AV	no
7/22/2007	0.262	MS	35.02932	-89.22354	Strong	Coaxial	60	15	13	B	no
7/22/2007	0.082	MS	35.02932	-89.22354	Strong	Coaxial	60	15	13	B	no
7/22/2007	0.145	YB	35.03056	-89.24268	Strong	Coaxial	60	25	18	R	no
7/22/2007	0.232	YB	35.03171	-89.24295	Strong	Coaxial	95	15	25	R	no
7/22/2007	0.592	YB	35.03059	-89.24217	Strong	Coaxial	0	10	28	SL	no
7/22/2007	0.053	YB	35.03162	-89.24284	Strong	Coaxial	95	20	132	SL	no
7/22/2007	0.001	YB	35.03162	-89.24284	Moderate	Coaxial	90	20	84	SL	no
7/23/2007	0.383	MS	35.02935	-89.27354	Strong	Coaxial	90	10	15	AV	no
7/23/2007	0.262	MS	35.02935	-89.27354	Strong	Coaxial	90	10	15	AV	no
7/23/2007	0.082	MS	35.02935	-89.27354	Strong	Coaxial	90	10	15	AV	no
7/23/2007	0.443	MS	35.02931	-89.27346	Strong	Coaxial	98	10	15	AV	no
7/23/2007	0.173	MS	35.02931	-89.27346	Strong	Coaxial	98	10	180	AV	no
7/23/2007	0.232	YB	35.03173	-89.24297	Strong	Coaxial	98	15	15	R	no
7/23/2007	0.145	YB	35.03055	-89.24273	Strong	Coaxial	95	15	51	R	no
7/23/2007	0.053	YB	35.03160	-89.24286	Strong	Coaxial	95	10	76	SL	no
7/23/2007	0.001	YB	35.03160	-89.24286	Moderate	Coaxial	95	10	76	SL	no
7/23/2007	0.592	YB	35.03096	-89.24217	Moderate	Coaxial	80	15	41	SL	no

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
7/24/2007	0.383	MS	35.02931	-89.27346	Strong	Coaxial	90	10	15	AV	no
7/24/2007	0.262	MS	35.02931	-89.27346	Strong	Coaxial	90	10	15	AV	no
7/24/2007	0.082	MS	35.02935	-89.27354	Strong	Coaxial	90	10	15	AV	no
7/24/2007	0.443	MS	35.02931	-89.27346	Strong	Coaxial	98	10	15	AV	no
7/24/2007	0.173	MS	35.02931	-89.27346	Strong	Coaxial	98	10	180	AV	no
7/24/2007	0.232	YB	35.03173	-89.24297	Strong	Coaxial	98	15	15	R	no
7/24/2007	0.145	YB	35.03055	-89.24273	Strong	Coaxial	95	15	51	R	no
7/24/2007	0.053	YB	35.03160	-89.24286	Strong	Coaxial	95	10	76	SL	no
7/24/2007	0.001	YB	35.03160	-89.24286	Moderate	Coaxial	95	10	76	SL	no
7/24/2007	0.592	YB	35.03096	-89.24217	Strong	Coaxial	80	15	41	SL	no
7/25/2007	0.383	MS	35.02931	-89.27346	Strong	Coaxial	90	10	15	AV	no
7/25/2007	0.262	MS	35.02931	-89.27346	Strong	Coaxial	90	10	15	AV	no
7/25/2007	0.443	MS	35.02931	-89.27346	Strong	Coaxial	98	10	15	AV	no
7/25/2007	0.173	MS	35.02931	-89.27346	Strong	Coaxial	98	10	180	AV	no
7/25/2007	0.082	MS	35.02935	-89.27354	Strong	Coaxial	90	10	15	AV	no
7/25/2007	0.232	YB	35.03173	-89.24297	Moderate	Coaxial	98	15	61	R	no
7/25/2007	0.145	YB	35.03055	-89.24273	Strong	Coaxial	95	15	51	R	no
7/25/2007	0.053	YB	35.03160	-89.24286	Strong	Coaxial	95	10	76	SL	no
7/25/2007	0.001	YB	35.03160	-89.24286	Moderate	Coaxial	95	10	76	SL	no
7/25/2007	0.592	YB	35.03096	-89.24217	Strong	Coaxial	80	15	203	SL	no
7/26/2007	0.383	MS	35.02931	-89.27346	Strong	Coaxial	90	10	15	AV	no
7/26/2007	0.262	MS	35.02931	-89.27346	Strong	Coaxial	90	10	15	AV	no
7/26/2007	0.443	MS	35.02931	-89.27346	Strong	Coaxial	98	10	15	AV	no
7/26/2007	0.173	MS	35.02931	-89.27346	Strong	Coaxial	98	10	180	AV	no
7/26/2007	0.082	MS	35.02935	-89.27354	Strong	Coaxial	90	10	15	AV	no
7/26/2007	0.232	YB	35.03173	-89.24297	Strong	Coaxial	98	15	61	R	no
7/26/2007	0.145	YB	35.03055	-89.24273	Strong	Coaxial	95	15	51	R	no
7/26/2007	0.053	YB	35.03160	-89.24286	Strong	Coaxial	95	10	76	SL	no
7/26/2007	0.001	YB	35.03160	-89.24286	Moderate	Coaxial	95	10	76	SL	no

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
7/26/2007	0.592	YB	35.03096	-89.24217	Strong	Coaxial	80	15	203	SL	no
7/27/2007	0.383	MS	35.02931	-89.27346	Strong	Coaxial	90	10	15	AV	no
7/27/2007	0.262	MS	35.02931	-89.27346	Strong	Coaxial	90	10	15	AV	no
7/27/2007	0.443	MS	35.02931	-89.27346	Strong	Coaxial	98	10	15	AV	no
7/27/2007	0.173	MS	35.02931	-89.27346	Strong	Coaxial	98	10	180	AV	no
7/27/2007	0.082	MS	35.02935	-89.27354	Strong	Coaxial	90	10	15	AV	no
7/27/2007	0.232	YB	35.03173	-89.24297	Moderate	Coaxial	98	15	61	R	no
7/27/2007	0.145	YB	35.03055	-89.24273	Strong	Coaxial	95	15	51	R	no
7/27/2007	0.053	YB	35.03160	-89.24286	Strong	Coaxial	95	10	76	SL	no
7/27/2007	0.001	YB	35.03160	-89.24286	Moderate	Coaxial	95	10	76	SL	no
7/27/2007	0.592	YB	35.03096	-89.24217	Moderate	Coaxial	80	15	203	SL	no
7/30/2007	0.082	MS	35.02937	-89.27343	Strong	Coaxial	99	15	18	AV	no
7/30/2007	0.443	MS	35.02945	-89.27361	Moderate	Coaxial	90	10	178	AV	no
7/30/2007	0.262	MS	35.02945	-89.27361	Moderate	Coaxial	90	10	178	AV	no
7/30/2007	0.383	MS	35.02945	-89.27361	Strong	Coaxial	90	10	25	AV	no
7/30/2007	0.173	MS	35.02945	-89.27361	Strong	Coaxial	90	10	25	AV	no
7/30/2007	0.145	YB	35.03047	-89.24230	Strong	Coaxial	99	35	64	R	no
7/30/2007	0.232	YB	35.03176	-89.24289	Strong	Coaxial	98	25	38	R	no
7/30/2007	0.053	YB	35.03161	-89.24285	Strong	Coaxial	75	20	142	SL	no
7/30/2007	0.001	YB	35.03161	-89.24285	Moderate	Coaxial	75	20	142	SL	no
7/30/2007	0.592	YB	35.03025	-89.24221	Moderate	Coaxial	0	35	196	SL	no
7/31/2007	0.082	MS	35.02937	-89.27343	Strong	Coaxial	99	15	18	AV	no
7/31/2007	0.443	MS	35.02945	-89.27361	Strong	Coaxial	90	10	178	AV	no
7/31/2007	0.262	MS	35.02945	-89.27361	Moderate	Coaxial	90	10	178	AV	no
7/31/2007	0.383	MS	35.02945	-89.27361	Strong	Coaxial	90	10	25	AV	no
7/31/2007	0.173	MS	35.02945	-89.27361	Strong	Coaxial	90	10	25	AV	no
7/31/2007	0.145	YB	35.03047	-89.24230	Strong	Coaxial	99	35	64	R	no
7/31/2007	0.232	YB	35.03176	-89.24289	Strong	Coaxial	98	25	38	R	no
7/31/2007	0.053	YB	35.03161	-89.24285	Strong	Coaxial	75	20	142	SL	no

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
7/31/2007	0.001	YB	35.03161	-89.24285	Weak	Coaxial	75	20	142	SL	no
7/31/2007	0.592	YB	35.03025	-89.24221	Strong	Coaxial	0	35	196	SL	no
8/1/2007	0.082	MS	35.02937	-89.27343	Strong	Coaxial	99	15	18	AV	no
8/1/2007	0.443	MS	35.02945	-89.27361	Strong	Coaxial	90	10	178	AV	no
8/1/2007	0.262	MS	35.02945	-89.27361	Moderate	Coaxial	90	10	178	AV	no
8/1/2007	0.383	MS	35.02945	-89.27361	Strong	Coaxial	90	10	25	AV	no
8/1/2007	0.173	MS	35.02945	-89.27361	Strong	Coaxial	90	10	25	AV	no
8/1/2007	0.145	YB	35.03047	-89.24230	Strong	Coaxial	99	35	64	R	no
8/1/2007	0.232	YB	35.03176	-89.24289	Strong	Coaxial	98	25	38	R	no
8/1/2007	0.053	YB	35.03161	-89.24285	Strong	Coaxial	75	20	142	SL	no
8/1/2007	0.001	YB	35.03161	-89.24285	Moderate	Coaxial	75	20	142	SL	no
8/1/2007	0.592	YB	35.03025	-89.24221	Strong	Coaxial	0	35	196	SL	no
8/2/2007	0.082	MS	35.02937	-89.27343	Strong	Coaxial	99	15	18	AV	no
8/2/2007	0.443	MS	35.02945	-89.27361	Strong	Coaxial	90	10	178	AV	no
8/2/2007	0.262	MS	35.02945	-89.27361	Moderate	Coaxial	90	10	178	AV	no
8/2/2007	0.383	MS	35.02945	-89.27361	Strong	Coaxial	90	10	25	AV	no
8/2/2007	0.173	MS	35.02945	-89.27361	Strong	Coaxial	90	10	25	AV	no
8/2/2007	0.145	YB	35.03047	-89.24230	Strong	Coaxial	99	35	64	R	no
8/2/2007	0.232	YB	35.03176	-89.24289	Strong	Coaxial	98	25	38	R	no
8/2/2007	0.053	YB	35.03161	-89.24285	Strong	Coaxial	75	20	142	SL	no
8/2/2007	0.001	YB	35.03161	-89.24285	Moderate	Coaxial	75	20	142	SL	no
8/2/2007	0.592	YB	35.03025	-89.24221	Strong	Coaxial	0	35	196	SL	no
8/3/2007	0.082	MS	35.02937	-89.27343	Strong	Coaxial	99	15	18	AV	no
8/3/2007	0.443	MS	35.02945	-89.27361	Strong	Coaxial	90	10	178	AV	no
8/3/2007	0.262	MS	35.02945	-89.27361	Moderate	Coaxial	90	10	178	AV	no
8/3/2007	0.383	MS	35.02945	-89.27361	Strong	Coaxial	90	10	25	AV	no
8/3/2007	0.173	MS	35.02945	-89.27361	Strong	Coaxial	90	10	25	AV	no
8/3/2007	0.145	YB	35.03047	-89.24230	Strong	Coaxial	99	35	64	R	no
8/3/2007	0.232	YB	35.03176	-89.24289	Strong	Coaxial	98	25	38	R	no

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
8/3/2007	0.053	YB	35.03161	-89.24285	Strong	Coaxial	75	20	142	SL	no
8/3/2007	0.001	YB	35.03161	-89.24285	Moderate	Coaxial	75	20	142	SL	no
8/3/2007	0.592	YB	35.03025	-89.24221	Moderate	Coaxial	0	35	196	SL	no
8/4/2007	0.082	MS	35.02937	-89.27343	Strong	Coaxial	99	15	18	AV	no
8/4/2007	0.443	MS	35.02945	-89.27361	Strong	Coaxial	90	10	178	AV	no
8/4/2007	0.262	MS	35.02945	-89.27361	Moderate	Coaxial	90	10	178	AV	no
8/4/2007	0.383	MS	35.02945	-89.27361	Strong	Coaxial	90	10	25	AV	no
8/4/2007	0.173	MS	35.02945	-89.27361	Strong	Coaxial	90	10	25	AV	no
8/4/2007	0.145	YB	35.03047	-89.24230	Strong	Coaxial	99	35	64	R	no
8/4/2007	0.232	YB	35.03176	-89.24289	Strong	Coaxial	98	25	38	R	no
8/4/2007	0.053	YB	35.03161	-89.24285	Strong	Coaxial	75	20	142	SL	no
8/4/2007	0.001	YB	35.03161	-89.24285	Moderate	Coaxial	75	20	142	SL	no
8/4/2007	0.592	YB	35.03025	-89.24221	Moderate	Coaxial	0	35	196	SL	no
8/5/2007	0.082	MS	35.02937	-89.27343	Strong	Coaxial	99	15	18	AV	no
8/5/2007	0.443	MS	35.02945	-89.27361	Strong	Coaxial	90	10	178	AV	no
8/5/2007	0.262	MS	35.02945	-89.27361	Moderate	Coaxial	90	10	178	AV	no
8/5/2007	0.383	MS	35.02945	-89.27361	Strong	Coaxial	90	10	25	AV	no
8/5/2007	0.173	MS	35.02945	-89.27361	Strong	Coaxial	90	10	25	AV	no
8/5/2007	0.145	YB	35.03047	-89.24230	Strong	Coaxial	99	35	64	R	no
8/5/2007	0.232	YB	35.03176	-89.24289	Strong	Coaxial	98	25	38	R	no
8/5/2007	0.053	YB	35.03161	-89.24285	Strong	Coaxial	75	20	142	SL	no
8/5/2007	0.001	YB	35.03161	-89.24285	Moderate	Coaxial	75	20	142	SL	no
8/5/2007	0.592	YB	35.03025	-89.24221	Moderate	Coaxial	0	35	196	SL	no
8/6/2007	0.082	MS	35.02937	-89.27343	Strong	Coaxial	99	15	18	AV	no
8/6/2007	0.443	MS	35.02945	-89.27361	Strong	Coaxial	90	10	178	AV	no
8/6/2007	0.262	MS	35.02945	-89.27361	Moderate	Coaxial	90	10	178	AV	no
8/6/2007	0.383	MS	35.02945	-89.27361	Strong	Coaxial	90	10	25	AV	no
8/6/2007	0.173	MS	35.02945	-89.27361	Strong	Coaxial	90	10	25	AV	no
8/6/2007	0.145	YB	35.03047	-89.24230	Strong	Coaxial	99	35	64	R	no

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
8/6/2007	0.232	YB	35.03176	-89.24289	Strong	Coaxial	98	25	38	R	no
8/6/2007	0.053	YB	35.03161	-89.24285	Strong	Coaxial	75	20	142	SL	no
8/6/2007	0.001	YB	35.03161	-89.24285	Moderate	Coaxial	75	20	142	SL	no
8/6/2007	0.592	YB	35.03025	-89.24221	Moderate	Coaxial	0	35	196	SL	no
8/9/2007	0.443	MS	35.02963	-89.27355	Moderate	Coaxial	0	10	178	AV	no
8/9/2007	0.262	MS	35.02963	-89.27355	Moderate	Coaxial	0	10	178	AV	no
8/9/2007	0.383	MS	35.02963	-89.27355	Strong	Coaxial	90	10	25	AV	no
8/9/2007	0.173	MS	35.02963	-89.27355	Strong	Coaxial	90	10	25	AV	no
8/9/2007	0.082	MS	35.02938	-89.27351	Strong	Coaxial	98	10	51	SL	no
8/9/2007	0.232	YB	35.03170	-89.24285	Strong	Coaxial	98	15	15	R	no
8/9/2007	0.145	YB	35.03043	-89.24273	Strong	Coaxial	99	30	64	R	no
8/9/2007	0.053	YB	35.03157	-89.24289	Strong	Coaxial	90	10	13	SL	no
8/9/2007	0.001	YB	35.03157	-89.24290	Moderate	Coaxial	80	10	56	SL	no
8/9/2007	0.592	YB	35.03087	-89.24223	Moderate	Coaxial	0	35	191	SL	no
8/10/2007	0.443	MS	35.02963	-89.27355	Moderate	Coaxial	0	10	178	AV	no
8/10/2007	0.262	MS	35.02963	-89.27355	Moderate	Coaxial	0	10	178	AV	no
8/10/2007	0.383	MS	35.02963	-89.27355	Moderate	Coaxial	90	10	25	AV	no
8/10/2007	0.173	MS	35.02963	-89.27355	Moderate	Coaxial	90	10	25	AV	no
8/10/2007	0.082	MS	35.02938	-89.27351	Strong	Coaxial	98	10	51	SL	no
8/10/2007	0.232	YB	35.03170	-89.24285	Strong	Coaxial	98	15	15	R	no
8/10/2007	0.145	YB	35.03043	-89.24273	Strong	Coaxial	99	30	64	R	no
8/10/2007	0.053	YB	35.03157	-89.24289	Strong	Coaxial	90	10	13	SL	no
8/10/2007	0.001	YB	35.03157	-89.24290	Moderate	Coaxial	80	10	56	SL	no
8/10/2007	0.592	YB	35.03087	-89.24223	Moderate	Coaxial	0	35	191	SL	no
8/11/2007	0.443	MS	35.02963	-89.27355	Moderate	Coaxial	0	10	178	AV	no
8/11/2007	0.262	MS	35.02963	-89.27355	Weak	Coaxial	0	10	178	AV	no
8/11/2007	0.383	MS	35.02963	-89.27355	Strong	Coaxial	90	10	25	AV	no
8/11/2007	0.173	MS	35.02963	-89.27355	Strong	Coaxial	90	10	25	AV	no
8/11/2007	0.082	MS	35.02938	-89.27351	Strong	Coaxial	98	10	51	SL	no

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
8/11/2007	0.232	YB	35.03170	-89.24285	Strong	Coaxial	98	15	15	R	no
8/11/2007	0.145	YB	35.03043	-89.24273	Strong	Coaxial	99	30	64	R	no
8/11/2007	0.053	YB	35.03157	-89.24289	Strong	Coaxial	90	10	13	SL	no
8/11/2007	0.001	YB	35.03157	-89.24290	Moderate	Coaxial	80	10	56	SL	no
8/11/2007	0.592	YB	35.03087	-89.24223	Moderate	Coaxial	0	35	191	SL	no
8/12/2007	0.443	MS	35.02963	-89.27355	Moderate	Coaxial	0	10	178	AV	no
8/12/2007	0.262	MS	35.02963	-89.27355	Weak	Coaxial	0	10	178	AV	no
8/12/2007	0.383	MS	35.02963	-89.27355	Strong	Coaxial	90	10	25	AV	no
8/12/2007	0.173	MS	35.02963	-89.27355	Strong	Coaxial	90	10	25	AV	no
8/12/2007	0.082	MS	35.02938	-89.27351	Strong	Coaxial	98	10	51	SL	no
8/12/2007	0.232	YB	35.03170	-89.24285	Strong	Coaxial	98	15	15	R	no
8/12/2007	0.145	YB	35.03043	-89.24273	Strong	Coaxial	99	30	64	R	no
8/12/2007	0.053	YB	35.03157	-89.24289	Strong	Coaxial	90	10	13	SL	no
8/12/2007	0.001	YB	35.03157	-89.24290	Moderate	Coaxial	80	10	56	SL	no
8/12/2007	0.592	YB	35.03087	-89.24223	Moderate	Coaxial	0	35	191	SL	no
8/19/2007	0.443	MS	35.02955	-89.27361	Moderate	Coaxial	0	65	203	AV	no
8/19/2007	0.262	MS	35.02955	-89.27361	Weak	Coaxial	0	65	203	AV	no
8/19/2007	0.383	MS	35.02963	-89.27355	Strong	Coaxial	90	10	25	AV	no
8/19/2007	0.173	MS	35.02963	-89.27355	Strong	Coaxial	90	10	25	AV	no
8/19/2007	0.082	MS	35.02958	-89.27351	Strong	Coaxial	98	10	51	R	no
8/19/2007	0.232	YB	35.03170	-89.24285	Strong	Coaxial	98	15	15	R	no
8/19/2007	0.145	YB	35.03043	-89.24273	Strong	Coaxial	99	30	13	R	no
8/19/2007	0.053	YB	35.03157	-89.24289	Strong	Coaxial	90	10	13	SL	no
8/19/2007	0.001	YB	35.03157	-89.24290	Moderate	Coaxial	90	10	13	SL	no
8/19/2007	0.592	YB	35.03087	-89.24225	Moderate	Coaxial	0	35	191	SL	no
8/20/2007	0.443	MS	35.02955	-89.27361	Moderate	Coaxial	0	65	203	AV	no
8/20/2007	0.262	MS	35.02955	-89.27361	Moderate	Coaxial	0	65	203	AV	no
8/20/2007	0.383	MS	35.02963	-89.27355	Strong	Coaxial	90	10	25	AV	no
8/20/2007	0.173	MS	35.02963	-89.27355	Moderate	Coaxial	90	10	25	AV	no

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
8/20/2007	0.082	MS	35.02958	-89.27351	Strong	Coaxial	98	10	51	R	no
8/20/2007	0.232	YB	35.03170	-89.24285	Moderate	Coaxial	98	15	15	R	no
8/20/2007	0.145	YB	35.03043	-89.24273	Strong	Coaxial	99	30	13	R	no
8/20/2007	0.053	YB	35.03157	-89.24289	Strong	Coaxial	90	10	13	SL	no
8/20/2007	0.001	YB	35.03157	-89.24290	Moderate	Coaxial	90	10	13	SL	no
8/20/2007	0.592	YB	35.03087	-89.24225	Moderate	Coaxial	0	35	191	SL	no
8/21/2007	0.443	MS	35.02955	-89.27361	Moderate	Coaxial	0	65	203	AV	no
8/21/2007	0.262	MS	35.02955	-89.27361	Weak	Coaxial	0	65	203	AV	no
8/21/2007	0.383	MS	35.02963	-89.27355	Strong	Coaxial	90	10	25	AV	no
8/21/2007	0.173	MS	35.02963	-89.27355	Strong	Coaxial	90	10	25	AV	no
8/21/2007	0.082	MS	35.02958	-89.27351	Strong	Coaxial	98	10	51	R	no
8/21/2007	0.232	YB	35.03170	-89.24285	Moderate	Coaxial	98	15	15	R	no
8/21/2007	0.145	YB	35.03043	-89.24273	Strong	Coaxial	99	30	13	R	no
8/21/2007	0.053	YB	35.03157	-89.24289	Strong	Coaxial	90	10	13	SL	no
8/21/2007	0.001	YB	35.03157	-89.24290	Moderate	Coaxial	90	10	13	SL	no
8/21/2007	0.592	YB	35.03087	-89.24225	Moderate	Coaxial	0	35	191	SL	no
8/22/2007	0.443	MS	35.02955	-89.27361	Moderate	Coaxial	0	65	203	AV	no
8/22/2007	0.262	MS	35.02955	-89.27361	Weak	Coaxial	0	65	203	AV	no
8/22/2007	0.383	MS	35.02963	-89.27355	Strong	Coaxial	90	10	25	AV	no
8/22/2007	0.173	MS	35.02963	-89.27355	Strong	Coaxial	90	10	25	AV	no
8/22/2007	0.082	MS	35.02958	-89.27351	Strong	Coaxial	98	10	51	R	no
8/22/2007	0.232	YB	35.03170	-89.24285	Strong	Coaxial	98	15	15	R	no
8/22/2007	0.145	YB	35.03043	-89.24273	Strong	Coaxial	99	30	13	R	no
8/22/2007	0.053	YB	35.03157	-89.24289	Strong	Coaxial	90	10	13	SL	no
8/22/2007	0.001	YB	35.03157	-89.24290	Weak	Coaxial	90	10	13	SL	no
8/22/2007	0.592	YB	35.03087	-89.24225	Weak	Coaxial	0	35	191	SL	no
9/14/2007	0.082	MS	35.02935	-89.27362	Moderate	Coaxial	70	24	64	AV	no
9/14/2007	0.443	MS	35.02946	-89.27355	Weak	Coaxial	70	25	102	AV	no
9/14/2007	0.383	MS	35.02946	-89.27355	Strong	Coaxial	70	25	102	AV	no

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
9/14/2007	0.173	MS	35.02946	-89.27355	Weak	Coaxial	70	25	102	AV	no
9/14/2007	0.262	MS	35.02946	-89.27355	Strong	Antenna	70	25	102	AV	no
9/14/2007	0.232	YB	35.03176	-89.24297	Moderate	Coaxial	98	35	58	R	no
9/14/2007	0.145	YB	35.03050	-89.24268	Strong	Coaxial	98	25	66	R	no
9/14/2007	0.053	YB	35.03163	-89.24287	Strong	Coaxial	60	40	193	SL	no
9/14/2007	0.001	YB	35.03160	-89.24284	Moderate	Coaxial	60	35	193	SL	no
9/14/2007	0.592	YB	35.03089	-89.24220	Strong	Coaxial	20	25	89	SL	no
9/15/2007	0.443	MS	35.02946	-89.27355	Moderate	Coaxial	70	25	102	AV	no
9/15/2007	0.383	MS	35.02946	-89.27355	Strong	Coaxial	70	25	102	AV	no
9/15/2007	0.173	MS	35.02946	-89.27355	Strong	Coaxial	70	25	102	AV	no
9/15/2007	0.262	MS	35.02946	-89.27355	Weak	Coaxial	70	25	102	AV	no
9/15/2007	0.082	MS	35.02935	-89.27362	Strong	Coaxial	70	24	64	AV	no
9/15/2007	0.232	YB	35.03176	-89.24297	Moderate	Coaxial	98	35	58	R	no
9/15/2007	0.145	YB	35.03050	-89.24268	Strong	Coaxial	98	25	66	R	no
9/15/2007	0.053	YB	35.03163	-89.24287	Strong	Coaxial	60	40	193	SL	no
9/15/2007	0.001	YB	35.03160	-89.24284	Moderate	Coaxial	60	35	193	SL	no
9/15/2007	0.592	YB	35.03089	-89.24220	Strong	Coaxial	20	25	89	SL	no
10/19/2007	0.383	MS	35.02940	-89.27357	Strong	Coaxial	50	25	114	AV	no
10/19/2007	0.443	MS	35.02940	-89.27357	Moderate	Coaxial	50	25	114	AV	no
10/19/2007	0.173	MS	35.02940	-89.27357	Moderate	Coaxial	50	25	114	AV	no
10/19/2007	0.082	MS	35.02950	-89.27357	Strong	Coaxial	50	25	114	AV	no
10/19/2007	0.262	MS	35.02943	-89.27369	Moderate	Coaxial	95	25	140	AV	no
10/19/2007	0.232	YB	35.03175	-89.24291	Strong	Coaxial	95	25	36	R	no
10/19/2007	0.145	YB	35.03051	-89.24271	Strong	Coaxial	95	30	51	R	no
10/19/2007	0.053	YB	35.03164	-89.24287	Strong	Coaxial	45	40	191	SL	no
10/19/2007	0.001	YB	35.03164	-89.24287	Moderate	Coaxial	45	40	191	SL	no
10/19/2007	0.592	YB	35.03084	-89.24216	Strong	Coaxial	30	55	191	SL	no
10/20/2007	0.383	MS	35.02940	-89.27357	Strong	Coaxial	50	25	114	AV	no
10/20/2007	0.443	MS	35.02940	-89.27357	Moderate	Coaxial	50	25	114	AV	no

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
10/20/2007	0.173	MS	35.02940	-89.27357	Moderate	Coaxial	50	25	114	AV	no
10/20/2007	0.082	MS	35.02950	-89.27357	Moderate	Coaxial	50	25	114	AV	no
10/20/2007	0.262	MS	35.02943	-89.27369	Moderate	Coaxial	95	25	140	AV	no
10/20/2007	0.232	YB	35.03175	-89.24291	Strong	Coaxial	95	25	36	R	no
10/20/2007	0.145	YB	35.03051	-89.24271	Strong	Coaxial	95	30	51	R	no
10/20/2007	0.053	YB	35.03164	-89.24287	Moderate	Coaxial	45	40	191	SL	no
10/20/2007	0.001	YB	35.03164	-89.24287	Moderate	Coaxial	45	40	191	SL	no
10/20/2007	0.592	YB	35.03084	-89.24216	Strong	Coaxial	30	55	191	SL	no
11/17/2007	0.262	MS	35.02943	-89.27354	Moderate	Antenna	40	55	390	AV	no
11/17/2007	0.443	MS	35.02942	-89.27359	Moderate	Coaxial	40	45	230	AV	no
11/17/2007	0.173	MS	35.02941	-89.27360	Moderate	Coaxial	40	50	150	AV	no
11/17/2007	0.082	MS	35.02945	-89.27360	Strong	Coaxial	45	30	260	AV	no
11/17/2007	0.383	MS	35.02943	-89.27362	Strong	Coaxial	95	15	70	AV	no
11/17/2007	0.001	YB	35.03165	-89.24290	Weak	Coaxial	40	30	60	B	no
11/17/2007	0.145	YB	35.03048	-89.24271	Strong	Coaxial	40	20	25	R	no
11/17/2007	0.053	YB	35.03163	-89.24282	Strong	Coaxial	80	35	40	R	no
11/17/2007	0.232	YB	35.03176	-89.24298	Moderate	Coaxial	85	30	50	R	no
11/17/2007	0.592	YB	35.03096	-89.24222	Moderate	Coaxial	30	20	30	SL	no
1/10/2008	0.262	MS	35.02942	-89.27356	Moderate	Coaxial	25	25	90	AV	no
1/10/2008	0.082	MS	35.02942	-89.27356	Moderate	Coaxial	25	25	90	AV	no
1/10/2008	0.173	MS	35.02942	-89.27356	Moderate	Antenna	25	25	90	AV	no
1/10/2008	0.383	MS	35.02942	-89.27356	Weak	Antenna	25	25	90	AV	no
1/10/2008	0.443	MS	35.02942	-89.27356	Moderate	Antenna	25	25	90	AV	no
1/10/2008	0.232	YB	35.03160	-89.24284	Strong	Coaxial	80	35	60	B	no
1/10/2008	0.001	YB	35.03160	-89.24285	Moderate	Coaxial	60	40	60	B	no
1/10/2008	0.145	YB	35.03045	-89.24268	Strong	Coaxial	50	30	20	R	no
1/10/2008	0.592	YB	35.03096	-89.24223	Strong	Coaxial	0	30	87	R	no
1/10/2008	0.053	YB	35.03172	-89.24296	Moderate	Coaxial	50	25	35	R	no
3/3/2008	0.383	MS	-	-	-	-	-	-	-	-	no

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
3/3/2008	0.173	MS	35.02956	-89.27373	Moderate	Coaxial	50	15	35	AV	no
3/3/2008	0.082	MS	35.02940	-89.27357	Strong	Coaxial	10	30	140	R	no
3/3/2008	0.443	MS	35.02943	-89.27362	Moderate	Coaxial	20	20	100	R	no
3/3/2008	0.262	MS	35.02956	-89.27373	Moderate	Coaxial	50	15	35	R	no
3/3/2008	0.001	YB	35.03164	-89.24288	Weak	Coaxial	40	50	130	TV	no
3/3/2008	0.232	YB	35.03176	-89.24293	Moderate	Coaxial	40	30	35	B	no
3/3/2008	0.053	YB	35.03164	-89.24288	Moderate	Coaxial	50	30	20	R	no
3/3/2008	0.145	YB	35.03051	-89.24266	Strong	Coaxial	80	35	70	R	no
3/3/2008	0.592	YB	35.03094	-89.24225	Strong	Coaxial	0	40	70	SL	no
3/12/2008	0.383	MS	-	-	-	-	-	-	-	-	no
3/12/2008	0.173	MS	35.02956	-89.27373	Moderate	Coaxial	50	30	35	AV	no
3/12/2008	0.082	MS	35.02940	-89.27357	Strong	Coaxial	10	30	140	R	no
3/12/2008	0.443	MS	35.02943	-89.27362	Moderate	Coaxial	20	30	100	R	no
3/12/2008	0.262	MS	35.02956	-89.27373	Moderate	Coaxial	50	30	35	R	no
3/12/2008	0.001	YB	35.03164	-89.24288	Weak	Coaxial	40	150	120	TV	no
3/12/2008	0.232	YB	35.03176	-89.24293	Moderate	Coaxial	40	135	190	B	no
3/12/2008	0.053	YB	35.03164	-89.24288	Strong	Receiver	50	20	20	R	no
3/12/2008	0.145	YB	35.03051	-89.24266	Strong	Coaxial	80	60	85	R	no
3/12/2008	0.592	YB	35.03094	-89.24225	Strong	Coaxial	0	50	110	SL	no
4/30/2008	0.173	MS	-	-	-	-	-	-	-	-	no
4/30/2008	0.262	MS	35.02950	-89.27354	Strong	Coaxial	50	10	40	AV	no
4/30/2008	0.443	MS	35.02950	-89.27354	Moderate	Coaxial	50	10	40	AV	no
4/30/2008	0.082	MS	35.02950	-89.27354	Moderate	Coaxial	50	10	40	AV	no
4/30/2008	0.201	MS	35.02934	-89.27353	Strong	Receiver	100	5	10.16	AV	yes
4/30/2008	0.352	MS	35.02934	-89.27353	Strong	Coaxial	100	5	10.16	AV	no
4/30/2008	0.293	MS	35.02934	-89.27353	Strong	Coaxial	100	5	10.16	AV	no
4/30/2008	0.113	MS	35.02934	-89.27353	Strong	Coaxial	100	5	10.16	AV	no
4/30/2008	0.473	MS	35.02934	-89.27353	Strong	Coaxial	100	5	10.16	AV	no
4/30/2008	0.232	YB	35.03175	-89.24295	Moderate	Coaxial	100	30	45	R	no

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
4/30/2008	0.053	YB	35.03162	-89.24284	Strong	Coaxial	90	15	10	R	no
4/30/2008	0.001	YB	35.03162	-89.24284	Weak	Coaxial	90	15	10	R	no
4/30/2008	0.145	YB	35.03047	-89.24268	Strong	Coaxial	90	20	30	R	no
4/30/2008	0.413	YB	35.03173	-89.24299	Strong	Receiver	95	8	3	R	yes
4/30/2008	0.323	YB	35.03173	-89.24299	Strong	Receiver	95	5	8	R	yes
4/30/2008	0.561	YB	35.03173	-89.24299	Strong	Coaxial	95	28	56	R	no
4/30/2008	0.533	YB	35.03173	-89.24299	Strong	Coaxial	95	28	56	R	no
4/30/2008	0.502	YB	35.03173	-89.24299	Strong	Coaxial	95	28	56	R	no
4/30/2008	0.592	YB	35.03095	-89.24220	Moderate	Coaxial	107	60	75	SL	no
5/1/2008	0.352	MS	35.02934	-89.27353	Strong	Coaxial	100	5	10.16	AV	no
5/1/2008	0.293	MS	35.02934	-89.27353	Strong	Coaxial	100	5	10.16	AV	no
5/1/2008	0.113	MS	35.02934	-89.27353	Strong	Coaxial	100	5	10.16	AV	no
5/1/2008	0.473	MS	35.02934	-89.27353	Strong	Coaxial	100	5	10.16	AV	no
5/1/2008	0.201	MS	35.02934	-89.27353	Strong	Coaxial	100	5	10.16	AV	no
5/1/2008	0.473	MS	35.02934	-89.27353	Strong	Coaxial	70	10	15	AV	yes
5/1/2008	0.082	MS	35.02950	-89.27354	Strong	Coaxial	50	10	40	AV	no
5/1/2008	0.443	MS	35.02950	-89.27354	Strong	Coaxial	50	10	40	AV	no
5/1/2008	0.201	MS	35.02934	-89.27353	Strong	Coaxial	70	10	15	AV	yes
5/1/2008	0.352	MS	35.02934	-89.27353	Strong	Coaxial	70	10	15	AV	yes
5/1/2008	0.262	MS	35.02950	-89.27354	Strong	Coaxial	50	10	40	AV	no
5/1/2008	0.413	MS	35.03173	-89.24299	Strong	Receiver	95	13	20.32	R	yes
5/1/2008	0.561	YB	35.03175	-89.24295	Strong	Coaxial	95	10	5	B	yes
5/1/2008	0.533	YB	35.03173	-89.24299	Strong	Receiver	95	5	15	R	yes
5/1/2008	0.323	YB	35.03173	-89.24299	Strong	Coaxial	95	13	51	R	no
5/1/2008	0.502	YB	35.03173	-89.24299	Strong	Coaxial	100	8	18	R	yes
5/1/2008	0.561	YB	35.03173	-89.24299	Strong	Coaxial	95	13	51	R	no
5/1/2008	0.323	YB	35.03173	-89.24299	Strong	Receiver	95	15	10	R	yes
5/1/2008	0.413	YB	35.03173	-89.24299	Strong	Receiver	95	10	5	R	yes
5/1/2008	0.561	YB	35.03173	-89.24299	Strong	Coaxial	95	28	18	R	no

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
5/1/2008	0.533	YB	35.03173	-89.24299	Strong	Coaxial	95	28	18	R	no
5/1/2008	0.502	YB	35.03173	-89.24299	Strong	Receiver	95	28	18	R	yes
5/2/2008	0.113	MS	35.02934	-89.27353	Strong	Coaxial	100	5	10.16	AV	no
5/2/2008	0.293	MS	35.02934	-89.27353	Strong	Coaxial	100	5	10.16	AV	no
5/2/2008	0.262	MS	35.02950	-89.27354	Strong	Coaxial	50	10	40	AV	no
5/2/2008	0.443	MS	35.02950	-89.27354	Moderate	Coaxial	50	10	40	AV	no
5/2/2008	0.082	MS	35.02950	-89.27354	Moderate	Coaxial	50	10	40	AV	no
5/2/2008	0.473	MS	35.02934	-89.27353	Strong	Coaxial	70	10	15	AV	yes
5/2/2008	0.352	MS	35.02934	-89.27353	Strong	Coaxial	70	10	15	AV	yes
5/2/2008	0.201	MS	35.02934	-89.27353	Strong	Coaxial	70	10	15	AV	yes
5/2/2008	0.561	YB	35.03176	-89.24301	Strong	Coaxial	95	5	5	B	yes
5/2/2008	0.533	YB	35.03173	-89.24299	Strong	Coaxial	95	28	18	R	no
5/2/2008	0.502	YB	35.03173	-89.24299	Strong	Coaxial	100	5	-20	R	yes
5/2/2008	0.323	YB	35.03173	-89.24299	Strong	Coaxial	95	5	-5	R	yes
5/2/2008	0.413	YB	35.03173	-89.24299	Strong	Coaxial	95	5	-15	R	yes
5/3/2008	0.293	MS	35.02934	-89.27353	Strong	Receiver	100	10	15	B	yes
5/3/2008	0.113	MS	35.03173	-89.27353	Strong	Receiver	100	10	15	B	yes
5/3/2008	0.352	MS	35.02934	-89.27353	Strong	Coaxial	100	10	15	B	no
5/3/2008	0.293	MS	35.02934	-89.27353	Strong	Coaxial	100	10	15	B	no
5/3/2008	0.201	MS	35.02934	-89.27353	Strong	Coaxial	100	10	15	B	no
5/4/2008	0.201	MS	35.02934	-89.27353	Strong	Receiver	100	5	-10	B	yes
5/4/2008	0.473	MS	35.02934	-89.27353	Strong	Receiver	100	15	15	B	no
5/5/2008	0.443	MS	35.02944	-89.27363	Moderate	Coaxial	95	20	50	AV	no
5/5/2008	0.262	MS	35.02948	-89.27354	Strong	Coaxial	70	20	10	AV	no
5/5/2008	0.082	MS	35.02946	-89.27360	Strong	Coaxial	90	10	45	AV	no
5/5/2008	0.113	MS	35.02934	-89.27353	Strong	Coaxial	100	20	70	B	no
5/5/2008	0.293	MS	35.02934	-89.27353	Strong	Coaxial	100	15	10	B	no
5/5/2008	0.473	MS	35.02934	-89.27353	Strong	Coaxial	70	15	15	B	no
5/5/2008	0.352	MS	35.02934	-89.27353	Strong	Coaxial	100	15	10	B	no

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
5/5/2008	0.201	MS	35.02934	-89.27353	Strong	Receiver	100	5	-10	B	yes
5/5/2008	0.413	YB	35.03173	-89.24299	Strong	Coaxial	100	50	10	B	no
5/5/2008	0.323	YB	35.03173	-89.24299	Strong	Coaxial	100	50	10	B	no
5/5/2008	0.323	YB	35.03151	-89.24291	Strong	Coaxial	100	15	10	B	no
5/5/2008	0.232	YB	35.03181	-89.24289	Strong	Coaxial	95	20	10	B	no
5/5/2008	0.502	YB	35.03173	-89.24299	Strong	Coaxial	100	50	10	B	no
5/5/2008	0.533	YB	35.03173	-89.24299	Moderate	Coaxial	100	50	10	B	no
5/5/2008	0.561	YB	35.03173	-89.24299	Strong	Coaxial	100	50	10	B	yes
5/5/2008	0.053	YB	35.03160	-89.24281	Strong	Coaxial	95	150	120	B	no
5/5/2008	0.001	YB	35.03160	-89.24281	Strong	Coaxial	95	150	120	B	no
5/5/2008	0.592	YB	35.03100	-89.24221	Strong	Coaxial	50	30	50	B	no
5/5/2008	0.145	YB	35.03045	-89.24268	Strong	Coaxial	95	80	70	B	no
5/7/2008	0.533	YB	35.03166	-89.24287	Strong	Receiver	100	9	5	B	yes
5/11/2008	0.113	MS	35.02936	-89.27361	Strong	Coaxial	95	15	40	B	no
5/11/2008	0.352	MS	35.02936	-89.27361	Strong	Coaxial	95	15	40	B	no
5/11/2008	0.201	MS	35.02936	-89.27361	Strong	Coaxial	95	15	40	B	no
5/11/2008	0.473	MS	35.02936	-89.27361	Strong	Coaxial	95	15	40	B	no
5/11/2008	0.293	MS	35.02936	-89.27361	Strong	Coaxial	95	15	40	B	no
5/11/2008	0.502	YB	35.03175	-89.24297	Moderate	Coaxial	95	30	45	R	no
5/11/2008	0.533	YB	35.03164	-89.24287	Moderate	Coaxial	95	80	30	R	no
5/11/2008	0.561	YB	35.03175	-89.24297	Strong	Coaxial	95	30	45	R	no
5/11/2008	0.413	YB	35.03175	-89.24297	Strong	Coaxial	95	30	45	R	no
5/11/2008	0.323	YB	35.03175	-89.24297	Strong	Coaxial	95	30	45	R	no
5/12/2008	0.352	MS	35.02937	-89.27361	Strong	Coaxial	95	20	40	AV	yes
5/12/2008	0.201	MS	35.02947	-89.27353	Strong	Coaxial	95	5	20	AV	no
5/12/2008	0.473	MS	35.02934	-89.27357	Strong	Coaxial	90	10	20	AV	no
5/12/2008	0.262	MS	35.02939	-89.27359	Strong	Coaxial	95	15	20	AV	no
5/12/2008	0.113	MS	35.02947	-89.27353	Strong	Coaxial	95	5	20	B	no
5/12/2008	0.082	MS	35.02939	-89.27359	Strong	Coaxial	100	20	60	B	no

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
5/12/2008	0.443	MS	35.02941	-89.27359	Moderate	Coaxial	50	25	120	B	no
5/12/2008	0.323	YB	35.03154	-89.24290	Strong	Coaxial	100	-	-	TV	no
5/12/2008	0.413	YB	35.03163	-89.24286	Moderate	Coaxial	95	40	20	B	no
5/12/2008	0.561	YB	35.03181	-89.24310	Strong	Coaxial	100	40	30	B	no
5/12/2008	0.232	YB	35.03180	-89.24300	Strong	Coaxial	100	40	40	B	no
5/12/2008	0.502	YB	35.03098	-89.24218	Strong	Coaxial	80	10	10	B	yes
5/12/2008	0.053	YB	35.03160	-89.24284	Strong	Coaxial	95	45	20	R	no
5/12/2008	0.001	YB	35.03160	-89.24284	Moderate	Coaxial	95	45	20	R	no
5/12/2008	0.145	YB	35.03048	-89.24273	Strong	Coaxial	95	55	60	R	no
5/12/2008	0.592	YB	35.03098	-89.24218	Strong	Coaxial	70	45	90	R	no
5/14/2008	0.293	MS	35.02934	-89.27360	Strong	Coaxial	90	10	50	B	no
5/14/2008	0.413	YB	35.03104	-89.24223	Strong	Coaxial	60	5	10	R	no
5/15/2008	0.561	YB	35.03167	-89.24292	Strong	Coaxial	95	30	45	TV	no
5/16/2008	0.561	YB	35.03154	-89.24290	Strong	Coaxial	100	-	-	TV	no
5/16/2008	0.413	YB	35.03096	-89.24220	Strong	Coaxial	95	10	20	R	yes
5/17/2008	0.352	MS	35.02943	-89.27358	Strong	Receiver	90	5	5	B	yes
5/18/2008	0.413	YB	35.03096	-89.24216	Strong	Receiver	95	5	15	B	no
5/18/2008	0.502	YB	35.03096	-89.24220	Strong	Receiver	90	5	15	R	yes
5/18/2008	0.413	YB	35.03095	-89.24219	Strong	Receiver	95	5	15	T	no
5/19/2008	0.502	YB	35.03096	-89.24220	Strong	Receiver	90	10	10	R	yes
5/20/2008	0.502	YB	35.03092	-89.24220	Strong	Receiver	90	5	-5	R	yes
5/21/2008	0.473	MS	35.02942	-89.27360	Strong	Receiver	95	5	5	B	yes
5/22/2008	0.502	YB	35.03092	-89.24220	Moderate	Receiver	80	20	15	R	no
5/25/2008	0.413	YB	35.03094	-89.24226	Moderate	Receiver	95	5	10	R	no
5/25/2008	0.502	YB	35.03096	-89.24250	Strong	Receiver	85	10	5	R	yes
5/25/2008	0.533	YB	35.03152	-89.24286	Moderate	Coaxial	100	10	10	R	no
5/25/2008	0.323	YB	35.03153	-89.24286	Strong	Coaxial	100	10	15	R	no
5/25/2008	0.561	YB	35.03153	-89.24286	Strong	Receiver	100	10	10	R	no
5/26/2008	0.473	MS	35.02942	-89.27357	Strong	Coaxial	95	30	130	AV	no

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
5/26/2008	0.201	MS	35.02942	-89.27357	Strong	Coaxial	95	30	130	AV	no
5/26/2008	0.352	MS	35.02941	-89.27357	Strong	Coaxial	30	40	350	AV	no
5/26/2008	0.293	MS	35.02940	-89.27360	Strong	Coaxial	100	15	20	AV	no
5/26/2008	0.113	MS	35.02942	-89.27357	Strong	Coaxial	90	40	200	AV	no
5/26/2008	0.082	MS	35.02942	-89.27357	Strong	Coaxial	80	45	170	AV	no
5/26/2008	0.262	MS	35.02942	-89.27357	Moderate	Coaxial	90	45	180	AV	no
5/26/2008	0.145	YB	35.03039	-89.24264	Strong	Coaxial	100	15	30	R	no
5/26/2008	0.053	YB	35.03164	-89.24289	Strong	Coaxial	85	30	55	R	no
5/26/2008	0.232	YB	35.03167	-89.24292	Strong	Coaxial	100	15	10	R	no
5/26/2008	0.592	YB	35.03090	-89.24224	Strong	Coaxial	40	25	50	R	no
5/26/2008	0.001	YB	35.03163	-89.24282	Moderate	Coaxial	60	40	120	SL	no
5/27/2008	0.502	YB	35.03100	-89.24270	Strong	Receiver	100	5	5	B	no
5/30/2008	0.502	YB	35.03062	-89.24279	Strong	Receiver	100	15	10	TV	no
6/1/2008	0.502	YB	35.03059	-89.24276	Strong	Receiver	100	15	10	SL	no
6/5/2008	0.293	MS	35.02938	-89.27359	Strong	Coaxial	95	10	30	AV	no
6/5/2008	0.113	MS	35.02939	-89.27356	Strong	Coaxial	90	40	160	AV	no
6/5/2008	0.473	MS	35.02939	-89.27356	Strong	Coaxial	90	40	160	AV	no
6/5/2008	0.201	MS	35.02941	-89.27359	Strong	Coaxial	85	10	5	AV	no
6/5/2008	0.082	MS	35.02939	-89.27359	Strong	Coaxial	90	15	50	AV	no
6/5/2008	0.262	MS	35.02942	-89.27363	Moderate	Coaxial	70	55	190	AV	no
6/5/2008	0.352	MS	35.02936	-89.27357	Strong	Coaxial	60	40	350	AV	no
6/5/2008	0.232	YB	35.03173	-89.24295	Strong	Coaxial	95	5	5	B	no
6/5/2008	0.561	YB	35.03158	-89.24283	Strong	Receiver	100	25	65	R	yes
6/5/2008	0.323	YB	35.03150	-89.24276	Strong	Coaxial	100	20	25	R	yes
6/5/2008	0.533	YB	35.03158	-89.24283	weak	Coaxial	100	60	200	R	no
6/5/2008	0.413	YB	35.03096	-89.24233	Moderate	Coaxial	100	45	50	R	no
6/5/2008	0.502	YB	35.03056	-89.24274	Strong	Receiver	100	20	20	R	no
6/5/2008	0.592	YB	35.03097	-89.24223	Strong	Coaxial	30	10	20	R	no
6/5/2008	0.145	YB	35.03049	-89.24261	Strong	Coaxial	95	15	30	R	no

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
6/5/2008	0.053	YB	35.03158	-89.24281	Strong	Receiver	95	30	50	SL	no
6/5/2008	0.001	YB	35.03164	-89.24284	Strong	Coaxial	60	35	200	T	no
6/6/2008	0.561	YB	35.03158	-89.24283	Strong	Receiver	100	5	10	R	yes
6/8/2008	0.323	YB	35.03169	-89.24284	Strong	Receiver	90	40	130	R	yes
6/10/2008	0.323	YB	35.03169	-89.24284	Strong	Receiver	100	30	70	R	no
6/10/2008	0.561	YB	35.03158	-89.24283	Strong	Receiver	100	25	65	SL	no
6/11/2008	0.533	YB	35.03197	-89.24320	Strong	Coaxial	95	5	50	B	no
6/16/2008	0.082	MS	35.02942	-89.27356	Strong	Coaxial	75	15	70	AV	yes
6/16/2008	0.262	MS	35.02942	-89.27369	Moderate	Coaxial	10	85	400	AV	no
6/16/2008	0.293	MS	35.02940	-89.27360	Strong	Coaxial	90	20	90	AV	no
6/16/2008	0.113	MS	35.02948	-89.27364	weak	Coaxial	90	10	70	AV	no
6/16/2008	0.201	MS	35.02946	-89.27354	Strong	Coaxial	95	25	30	AV	no
6/16/2008	0.473	MS	35.02939	-89.27361	Strong	Coaxial	100	10	50	AV	no
6/16/2008	0.352	MS	35.02945	-89.27344	Strong	Coaxial	75	20	80	AV	no
6/16/2008	0.502	YB	35.03056	-89.24278	Strong	Coaxial	100	5	10	B	no
6/16/2008	0.533	YB	35.03201	-89.24323	Strong	Coaxial	95	10	30	B	no
6/16/2008	0.413	YB	35.03108	-89.24227	Strong	Coaxial	80	20	15	R	no
6/16/2008	0.561	YB	35.03156	-89.24270	Strong	Coaxial	100	55	110	R	no
6/16/2008	0.323	YB	35.03164	-89.24293	Strong	Coaxial	100	40	130	R	no
6/16/2008	0.232	YB	35.03173	-89.24298	Strong	Coaxial	95	20	15	R	no
6/16/2008	0.145	YB	35.03048	-89.24260	Strong	Coaxial	95	20	45	R	no
6/16/2008	0.592	YB	35.03097	-89.24223	Strong	Coaxial	80	15	30	R	no
6/20/2008	0.561	YB	35.03134	-89.24267	Strong	Coaxial	95	40	60	SL	no
6/24/2008	0.082	MS	35.02938	-89.27358	Strong	Receiver	95	50	160	AV	no
6/24/2008	0.293	MS	35.02943	-89.27357	Strong	Coaxial	50	100	450	AV	no
6/24/2008	0.053	MS	35.02947	-89.27364	Strong	Coaxial	10	70	450	AV	no
7/7/2008	0.145	YB	35.03047	-89.24274	Strong	Coaxial	95	20	15	R	no
7/7/2008	0.413	YB	35.03111	-89.24227	Strong	Coaxial	60	30	50	R	no
7/7/2008	0.323	YB	35.03167	-89.24291	Strong	Coaxial	95	10	10	R	yes

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
7/7/2008	0.232	YB	35.03174	-89.24287	Strong	Coaxial	80	20	20	R	no
7/7/2008	0.502	YB	35.03066	-89.24280	Strong	Coaxial	95	10	15	SL	no
7/7/2008	0.592	YB	35.03094	-89.24218	Moderate	Coaxial	40	30	60	SL	no
7/7/2008	0.561	YB	35.03131	-89.24271	Strong	Coaxial	100	20	30	SL	no
7/7/2008	0.001	YB	35.03161	-89.24287	Moderate	Coaxial	95	15	85	SL	no
7/7/2008	0.533	YB	35.03193	-89.24310	Strong	Coaxial	90	5	50	SL	no
7/8/2008	0.293	MS	35.02948	-89.27361	Strong	Coaxial	95	25	100	AV	no
7/8/2008	0.473	MS	35.02943	-89.27365	Moderate	Coaxial	75	35	70	AV	no
7/8/2008	0.082	MS	35.02940	-89.27367	Strong	Coaxial	95	40	60	AV	no
7/8/2008	0.201	MS	35.02945	-89.27364	Moderate	Coaxial	70	20	20	AV	no
7/8/2008	0.053	MS	35.02953	-89.27355	Strong	Coaxial	50	50	250	AV	no
7/8/2008	0.262	MS	35.02949	-89.27363	Moderate	Coaxial	180	30	130	AV	no
7/10/2008	0.352	MS	35.02952	-89.27352	weak	Coaxial	75	45	330	AV	no
7/10/2008	0.113	MS	35.02946	-89.27365	weak	Coaxial	90	30	100	AV	no
7/21/2008	0.413	YB	35.03096	-89.24220	Moderate	Coaxial	30	15	15	R	no
7/28/2008	0.053	MS	35.02931	-89.27355	Strong	Coaxial	70	20	200	AV	no
7/28/2008	0.262	MS	35.02945	-89.27345	Strong	Coaxial	70	20	20	AV	no
7/28/2008	0.082	MS	35.02931	-89.27355	Strong	Coaxial	100	5	30	AV	no
7/28/2008	0.201	MS	35.02944	-89.27356	Moderate	Coaxial	75	10	100	AV	no
7/28/2008	0.473	MS	35.02944	-89.27356	Strong	Coaxial	60	10	100	AV	no
7/28/2008	0.113	MS	35.02946	-89.27364	weak	Coaxial	90	10	20	AV	no
7/28/2008	0.293	MS	35.02940	-89.27354	Strong	Coaxial	95	30	50	AV	no
7/28/2008	0.352	MS	35.02946	-89.27348	weak	Coaxial	30	25	370	AV	no
7/28/2008	0.232	YB	35.03173	-89.24298	Strong	Coaxial	95	5	10	R	no
7/28/2008	0.323	YB	35.03168	-89.24287	Strong	Coaxial	50	25	40	R	no
7/28/2008	0.413	YB	35.03094	-89.24218	Strong	Coaxial	60	10	5	R	no
7/28/2008	0.592	YB	35.03094	-89.24218	Strong	Coaxial	60	10	5	R	no
7/28/2008	0.145	YB	35.03045	-89.24266	Strong	Coaxial	95	5	10	R	no
7/28/2008	0.533	YB	35.03195	-89.24307	Strong	Coaxial	75	5	20	SL	no

Date	Freq.	Site	LATITUDE	LONGITUDE	Signal	Equip.	% CC	Depth	DFB	Cover	Visual
7/28/2008	0.001	YB	35.03164	-89.24293	Strong	Coaxial	30	15	30	SL	no
7/28/2008	0.561	YB	35.03128	-89.24264	Strong	Coaxial	100	10	10	SL	no
7/28/2008	0.502	YB	35.03066	-89.24284	Strong	Coaxial	100	10	20	SL	no

APPENDIX D

A list of herpetofauna encountered during the course of this study. Taxa names above Genus follow those in Conant and Collins (1998); species, subspecies, and common names are those of Crother (2008).

Class: **AMPHIBIA - AMPHIBIANS**

Order: **CAUDATA – SALAMANDERS**

Family: **AMBYSTOMATIDAE - Mole Salamanders**

Ambystoma talpoideum – Mole Salamander

Family: **SALAMANDRIDAE - "True" Salamanders**

Notophthalmus viridescens louisianensis– Central Newt (Eastern Newt)

Family: **AMPHIUMIDAE - Amphiumas**

Amphiuma tridactylum - Three-toed Amphiuma

Family: **PLETHODONTIDAE - Lungless Salamanders**

Plethodon mississippi - Mississippi Slimy Salamander

Order: **ANURA - FROGS AND TOADS**

Family: **BUFONIDAE - "True" Toads**

Anaxyrus americanus americanus - Eastern American Toad (American Toad)

Anaxyrus fowleri - Fowler's Toad

Family: **HYLIDAE - Treefrogs**

Acris crepitans crepitans - Eastern Cricket Frog (Northern Cricket Frog)

Hyla avivoca avivoca – Western Bird-voiced Treefrog (Bird-voiced Treefrog)

Pseudacris crucifer - Spring Peeper

Pseudacris feriarum - Upland Chorus Frog

Family: **MICROHYLIDAE – Narrow-mouthed Toads**

Gastrophryne carolinensis - Eastern Narrow-mouthed Toad

Family: **RANIDAE - "True" Frogs**

Lithobates catesbeianus – American Bullfrog

Lithobates clamitans melanotus – Northern Green Frog (Green Frog)

Lithobates sphenocephalus utricularius- Southern Leopard Frog (Southern Leopard Frog)

Class: **REPTILIA – REPTILES**

Order: **TESTUDINES – TURTLES**

Family: **CHELYDRIDAE - Snapping Turtles**

Chelydra serpentina serpentina - Eastern Snapping Turtle (Snapping Turtle)

Macrochelys temminckii - Alligator Snapping Turtle

Family: **EMYDIDAE - Emydid Turtles**

Chrysemys dorsalis - Southern Painted Turtle

Pseudemys concinna concinna - Eastern River Cooter (River Cooter)

Terrapene carolina carolina - Eastern Box Turtle (Eastern Box Turtle)

Terrapene carolina triunguis - Three-toed Box Turtle (Eastern Box Turtle)

Trachemys scripta elegans - Red-eared Slider (Pond Slider)

Family: **KINOSTERNIDAE - Mud and Musk Turtles**

Kinosternon subrubrum hippocrepis - Mississippi Mud Turtle (Eastern Mud Turtle)

Kinosternon subrubrum subrubrum - Eastern Mud Turtle (Eastern Mud Turtle)

Sternotherus odoratus – Eastern Musk Turtle

Family: **TRIONYCHIDAE - Softshell Turtles**

Apalone spinifera spinifera - Eastern Spiny Softshell (Spiny Softshell)

Order: **SQUAMATA - SNAKES AND LIZARDS**

Suborder: **SAURIA - LIZARDS**

Family: **SCINCIDAE - Skinks**

Plestiodon fasciatus– Common Five-lined Skink

Scincella lateralis – Little Brown Skink

Suborder: **SERPENTES - SNAKES**

Family: **COLUBRIDAE - Colubrid Snakes** (sensu lato; new classification below)

Coluber constrictor latrunculus – Black-masked Racer (North American Racer)

Farancia abacura reinwardtii - Western Mudsnake (Red-bellied Mudsnake)

Lampropeltis getula holbrooki - Speckled Kingsnake (Common Kingsnake)

Nerodia erythrogaster flavigaster – Yellow-bellied Watersnake (Plain-bellied Watersnake)

Nerodia sipedon pleuralis - Midland Watersnake (Northern Watersnake)

Family: **VIPERIDAE - Pit Vipers**

Agkistrodon contortrix contortrix - Southern Copperhead (Copperhead)

Agkistrodon piscivorus leucostoma - Western Cottonmouth (Cottonmouth)

APPENDIX E

Abbreviated field data forms used during this study.

FORM A

***Macrochelys temminckii* Reintroduction Data Sheets**

Property of the Austin Peay State University & the Tennessee Wildlife Resources Agency

Trap Deployment

Date __________ Time __________

H_20Temp(oC) ______ Air Temp_______

Sky _______ Wind _______ Precip _______

Trap Check

Date __________ Time __________

H_20Temp ______ Air Temp___________

Sky _______ Wind _______ Precip ________

Trap # ______ Location __________ Bait Used (Species/#) ____________

Coordinates N__________________________ W__________________________ +/- ________

Depth of Water ______ Distance from Bank (m) _____

Turbidity (Clear/Semi Murky/Very Murky)

Cover (None/Aquatic Macrophyte/Submerged Log/Tree Trunk/Roots/Beaver Dam/Bank/ Other)

TRAP CHECKS

DATE	TIME	DATE	TIME	DATE	TIME

***Macrochelys temminckii* caught? (Yes/No) If Yes, Complete Form B2.**

Non-target vertebrate species caught? (Yes/No) If Yes, Complete Form C.

Notes:

FORM B

Macrochelys temminckii Reintroduction Data Sheets

Property of the Austin Peay State University & the Tennessee Wildlife Resources Agency

FREQUENCY ____________ TAG____________

Telemetry Data

Date: ________ Time: _________ Sky: ________ Wind _________ Precip _________

$H_2$0Temp _____ Air Temp______ Site _________ Turbidity (Clear/Semi Murky/Very Murky)

Signal Strength (Weak/Moderate/Strong) Equipment (Receiver/Coaxial/Antenna)

Coordinates N_______________________________ W______________________________ +/- ________

Cover (None/Aquatic Macrophyte/Submerged Log/Tree Trunk/Roots/Beaver Dam/Bank/ Other)

Water Depth (cm) _____ Canopy Density_____ Distance from Bank _____

Visual sighting? (Yes/No) Captured? (Yes/No)

If Turtle Did Not Move From Previous, Continue Completing Form Below for Rechecks:

Date	Time	Signal Strength	Equipment	Notes
___________	___________	_______________	__________________	__________________________
___________	___________	_______________	__________________	__________________________
___________	___________	_______________	__________________	__________________________
___________	___________	_______________	__________________	__________________________
___________	___________	_______________	__________________	__________________________
___________	___________	_______________	__________________	__________________________
___________	___________	_______________	__________________	__________________________
___________	___________	_______________	__________________	__________________________
___________	___________	_______________	__________________	__________________________
___________	___________	_______________	__________________	__________________________
___________	___________	_______________	__________________	__________________________
___________	___________	_______________	__________________	__________________________

FORM C

Macrochelys temminckii Reintroduction Data Sheets

Property of the Austin Peay State University & the Tennessee Wildlife Resources Agency

Capture Data

Date: ________ Time: _________ Sky: ______ Wind _______ Precip _______ %CC________

$H_2$0Temp _____ Air Temp______ Site _____ Freq. _________ DFB _________ Depth _______

Trap # _____ Bait Used: ________ Coordinates N______________ W______________ +/- ______

Tag #______ Health Status: ______ Turbidity (Clear/Semi Murky/Very Murky)

Cover (None/Aquatic Vegetation/Submerged Log/Tree Trunk/Roots/Beaver Dam/Bank/ Other)

Tag Applied? (Yes/No) Transmitter Applied? (Yes/No)

Age (Juvenile/Adult) Status (Previously Released / Native / Recently Released)

Mass (g) _____ Skull Width (mm) _____ Tail Length (mm) _____ Pre-anal Tail Length (mm) _____

Carapace Length (mm) _____ Carapace Width (mm) _____ Notes:

Plastron Length (mm) _____ Plastron Width (mm) _____

Capture Data

Date: ________ Time: _________ Sky: ______ Wind _______ Precip _______ %CC________

$H_2$0Temp _____ Air Temp______ Site _____ Freq. _________ DFB _________ Depth _______

Trap # _____ Bait Used: ________ Coordinates N______________ W______________ +/- ______

Tag #______ Health Status: ______ Turbidity (Clear/Semi Murky/Very Murky)

Cover (None/Aquatic Vegetation/Submerged Log/Tree Trunk/Roots/Beaver Dam/Bank/ Other)

Tag Applied? (Yes/No) Transmitter Applied? (Yes/No)

Age (Juvenile/Adult) Status (Previously Released / Native / Recently Released)

Mass (g) _____ Skull Width (mm) _____ Tail Length (mm) _____ Pre-anal Tail Length (mm) _____

Carapace Length (mm) _____ Carapace Width (mm) _____ Notes:

Plastron Length (mm) _____ Plastron Width (mm) _____

FORM D

Macrochelys temminckii Reintroduction Data Sheets

Property of the Austin Peay State University & the Tennessee Wildlife Resources Agency

-NON-TARGET CAPTURE DATA-

DATE: ____________ **TIME:** ___________ **TRAP #:** __________

SKY: _____________ **WIND:**___________ **PRECIP:** __________

LOCATION: _________ **COORD.: N**____________ **W**____________ **+/-** ______

SPECIES: ______________ **NUMBER:** ____________ **MASS:** ____________

CL___________ **CW**__________ **PL**___________ **PW**_________

NOTCH CODE: _________ **NOTES:** ___________________ **Check If Recap** ☐

DATE: ____________ **TIME:** ___________ **TRAP #:** __________

SKY: _____________ **WIND:**___________ **PRECIP:** __________

LOCATION: _________ **COORD.: N**____________ **W**____________ **+/-** ______

SPECIES: ______________ **NUMBER:** ____________ **MASS:** ____________

CL___________ **CW**__________ **PL**___________ **PW**_________

NOTCH CODE: _________ **NOTES:** ___________________ **Check If Recap** ☐

DATE: ____________ **TIME:** ___________ **TRAP #:** __________

SKY: _____________ **WIND:**___________ **PRECIP:** __________

LOCATION: _________ **COORD.: N**____________ **W**____________ **+/-** ______

SPECIES: ______________ **NUMBER:** ____________ **MASS:** ____________

CL___________ **CW**__________ **PL**___________ **PW**_________

NOTCH CODE: _________ **NOTES:** ___________________ **Check If Recap** ☐

VITA

Joshua Taylor Ream was born in Latrobe, Pennsylvania on 6 April 1984 to Beth Ann Bangor and Donald George Ream of Latrobe, PA and Derry, PA respectively. He has one younger sister, Alexis Briah Capel. Following a brief period in Tampa, Florida Joshua returned to Pennsylvania where he was raised throughout his middle and high school years on a small farm in Ligonier, PA. Joshua was an active member of the Chestnut Ridge 4-H Club through which he participated in a number of projects including rabbit husbandry, market lambs, market hogs, layer poultry and dairy goats among others. His senior year of high school was spent abroad in Chile, South America as an exchange student through the American Field Service. Though he first graduated from high school in Chile, Joshua returned to the United States where he obtained a second high school degree from the Ligonier Valley High School in June of 2002.

Following high school Joshua enrolled in the Bachelor of Science in Animal Sciences (Science Option) degree program at the Pennsylvania State University's University Park campus where his degree was conferred in December of 2006. Joshua also obtained a Minor in Wildlife and Fisheries Science at that time. He spent his sophomore year at the University of Alaska – Fairbanks where he worked as a student mentor for the School of Education as well as for the Alaska Department of Fish and Game as a technician. Though Joshua returned to Pennsylvania for the remainder of his undergraduate career, he did revisit Alaska during the summer of 2005 to work as an ornithological field technician for the University of Alaska's Kodiak Island Research Station. At Penn State, Joshua was an active member of the Poultry Science Club, the President of The Wildlife Society, Chaplain of the Sigma Phi Epsilon fraternity, and a

Town Senator for the Undergraduate Student Government. He also worked in Penn State's Department of Biology under Dr. Peter Hudson to complete an independent study of rodent parasites in central Pennsylvania.

In January of 2007, Joshua enrolled in the Master of Science degree program at Austin Peay State University. Under the tutelage of Dr. A. Floyd Scott, Joshua began his graduate work through the Center of Excellence for Field Biology and eventually presented his thesis research to the 6th World Congress of Herpetology held in Manaus Brazil. In addition to his thesis research, Joshua conducted two concurrent turtle studies which he hopes to publish the results of soon. He also served as a founding member and the first President of Austin Peay State University's Student Chapter of The Wildlife Society.

Upon graduation Joshua plans to pursue a Doctorate of Philosophy Degree in Natural Resource Management and Sustainability from the University of Alaska – Fairbanks. He plans to use GIS and remote sensing technologies to analyze burn severity of wildfires in America's Arctic and to investigate the impacts of wildfires on waterfowl nesting habitat. Joshua eventually plans to become a tenure-track professor in Alaska or the Pacific Northwest or work as a wildlife biologist for the U.S. Fish and Wildlife Service.