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# AMPHIBIANS & REPTILES

A Checklist  
with  
Notes on  
Conservation  
Status,  
Identification,  
and Distribution

# in CONNECTICUT

BY  
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CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BULLETIN 32

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AMPHIBIANS  
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## INTRODUCTION

Almost a decade has passed since the publication of the first edition of this checklist (Klemens, 1991). This new, revised edition includes descriptions of all native species, both the common, widespread forms as well as the uncommon species that were featured in the first edition. Distributional information has been updated, and the conservation status of each species is discussed. Although amphibians and reptiles are still among the most poorly known of our native fauna, public interest and appreciation of these animals is on the rise. Popular culture has expanded the definition of "wildlife" to encompass not only mammals and birds, but a host of fascinating creatures including insects, arachnids, amphibians, and reptiles. Although some individuals still hold a deep-seated aversion to reptiles and amphibians, especially snakes, there are many who share a fascination of these attractively patterned and often cryptic denizens of Connecticut's woods, wetlands, and meadows.

Old prejudices, however, die hard. Each year hundreds of harmless snakes are killed in the mistaken belief that they are venomous. Likewise, snapping turtles are too frequently destroyed because of unfounded fears for human safety and exaggerated reports of their depredations on game fish and waterfowl. The greatest threat to Connecticut's amphibians and reptiles is the increasing fragmentation, degradation and loss of their habitats. The state's amphibian and reptile fauna still contains all the species that were native to Connecticut when Europeans settled here over four centuries ago. This is in marked contrast to mammals and birds where species

have disappeared from the state through extinction (e.g., passenger pigeon) or extirpation (e.g., timber wolf). Extirpation is extinction that occurs over a portion of a species' range, but does not eliminate the entire species. As we enter the twenty-first century several species of Connecticut's herpetofauna are in imminent danger of disappearing forever from the state. While not threatened with extirpation, over half of the remaining species are in the midst of a long-term, noncyclical decline, while a smaller number of adaptable species (also known as generalists) are actually increasing. Overall, the biodiversity (species richness) of Connecticut's amphibians and reptiles is declining, while the biomass (actual number of individuals) of a small number of adaptable species is on the rise.

Not surprisingly, many amphibians and reptiles are quite secretive. Diurnal species are often superbly camouflaged, whereas other species escape detection by their nocturnal or subterranean lifestyles. In fact, as a group, amphibians and reptiles are far more widespread and abundant than most people realize. There is scarcely a patch of open space within Connecticut that does not house a few hardy, adaptable species. Although amphibians and reptiles are found throughout Connecticut, many species are localized and restricted to specific habitat types. Unfortunately, when these habitats are destroyed the amphibians and reptiles found there disappear too. With few exceptions, amphibians and reptiles have poor dispersal abilities. This means that when their habitat is lost, they are unable to find a suitable habitat to which to relocate. Even if suitable habitat is located nearby, migration to that habitat is very difficult in a landscape that is increasingly criss-crossed with roads.

Amphibians and reptiles serve as excellent barometers of general environmental health. Overall habitat quality is often reflected in the diversity and abundance of species present in any given area. This checklist serves as a brief introduction to Connecticut's amphibians and

reptiles. Those wanting to pursue this topic in more detail should consult Klemens, 1993: *The Amphibians and Reptiles of Connecticut and Adjacent Regions*, Bulletin 112, State Geological and Natural History Survey of Connecticut.

Connecticut's terrestrial and freshwater herpetofauna is composed of forty-five species: twelve salamanders, ten frogs, eight turtles, one lizard, and fourteen snakes. In addition, several species of pelagic marine turtles have been reported from the Connecticut portions of Long Island Sound and are discussed in this text. Of the forty-five freshwater and terrestrial amphibians and reptiles, eighteen species (40%) are commonly found throughout Connecticut. Twenty-seven species (60%) are irregularly distributed, and often absent or very rare in at least one of Dowhan and Craig's (1976) ecoregions. Scientific and common names used in this paper follow Collins (1997).

Babbitt (1937) and Lamson (1935) mentioned nine additional species as potentially occurring within Connecticut. Craig et al. (1980) eliminated the eastern mud turtle from Connecticut's herpetofauna. After intensive field surveys, coupled with a search of museum collections, Klemens (1991, 1993) reported that there was no real evidence to support the natural occurrence of the nine species listed in Table 2.

## **MATERIALS AND METHODS**

These data derive from field surveys conducted between 1975 and 1999, including repeated visits to the state's various ecological regions throughout the activity season (March-November). Most of Connecticut's 169 towns were visited at least once. The Connecticut town is equivalent to a township, encompassing densely settled areas and the surrounding undeveloped land. Distributions are documented by preserved voucher specimens deposited at the American Museum of Natural History, augmented by field notes and photographs. Additional current locality data are from the collections at the Museum of Natural History, University of Connecticut, assembled primarily by faculty and students. Historical locality data are from museum collections and the literature. Wesleyan University's herpetological collection (incorporated into the United States National Museum) and Yale's Peabody Museum are major repositories of historically significant Connecticut collections dating back to the 1870s. Other repositories of Connecticut collections are listed in Klemens (1993).

Undocumented reports (i.e., not accompanied by a voucher specimen or photograph) were generally not accepted. Many species of amphibians and reptiles are difficult to identify, especially salamanders and larval amphibians. Several uncommon species are readily confused with common, widespread species. Admittedly, this approach may result in rejecting some valid, unverified locality data. However, the statewide distributional patterns were not altered by excluding these undocumented reports. Turtles presented special problems in analysis of locality data as native species are often kept as pets. Inevitably, some escape or are liberated outside their natural Connecticut range. Single specimens found at

questionable localities often showed signs of captive confinement including deformed shells and wide growth annuli (indicating abnormally accelerated growth), overgrown beaks and toenails (from unnaturally soft food and substratum), plastral lesions (from unclean cage conditions), and holes drilled into the shell's edge. Additional fieldwork was usually required to determine if a single turtle represented a natural population or a released or escaped individual.

Various species of nonnative turtles may be found in lakes and ponds in Connecticut. The red-eared slider, *Trachemys scripta elegans*, is the most commonly encountered nonnative turtle. If one cannot identify a turtle using this field guide, the possibility that it is a nonnative species should be considered. There are no records of nonnative turtles reproducing in Connecticut, but our winters are mild enough for species from the southern United States and southeast Asia to survive.

## CONSERVATION

Many of Connecticut's uncommon and rare species are near the northeastern limit of their continuous range. They inhabit small areas of specialized habitat in western Connecticut, or low-lying river valleys, and may never have been widespread within the state. Examples of these include the bog turtle, five-lined skink, and spadefoot toad. Several species, including the spring salamander and northern redbelly snake, are primarily restricted to the hills of northern Connecticut and are much more widely distributed in the upland regions of central and northern New England. Although all species have been subject to collecting pressure, several species are directly threatened by collection, including the bog, wood, spotted, and box turtles, as well as the timber rattlesnake.

Road mortality seriously affects populations of amphibians and reptiles. Although all species are vulnerable to this factor, long-lived, slow-maturing species with low reproductive outputs, including certain snakes and the majority of turtles, are most seriously affected by the steady attrition of reproductively active adults. The loss of even a few box turtles per decade from a population is not sustainable over the long term (Doroff and Keith, 1990). Many of Connecticut's highways have developed "kill zones" parallel to, and extending hundreds of feet from, the edge of the road. Kill zones are characterized by greatly reduced numbers of reptiles, a direct effect of road mortality exceeding the capacity of populations of long-lived, slow-maturing reptiles to replenish their numbers over time. Amphibians that migrate *en masse* to breeding sites, including wood frogs and mole salamanders, are vulnerable to large scale mortality if the migration occurs at a time of night when road traffic is high. Development and changing land use patterns often affect specialized, ecologically vulnerable

habitats that contain a high proportion of uncommon species. For example, vernal pool breeding species, including the wood frog, Jefferson, marbled and spotted salamanders, are especially vulnerable (Klemens, 1998a). These species are declining statewide because of the loss of large tracts of forested habitat that surround these small wetlands. Although many towns protect the vernal pool wetland breeding habitat, there is minimal protection of the upland habitats that surround these pools. These forested uplands that extend 500 feet or more from the edge of the vernal pool are critical habitat that these animals depend upon most of the year for foraging and hibernation.

An additional challenge to conserving vernal-pool breeding amphibians, as well as many other amphibians and reptiles, is that populations of species rarely occur in isolation from one another. What the casual observer may perceive as series of breeding pools, each with its own resident population of amphibians, actually function as a metapopulation. There is gene flow between these pools, and, in times of ecological catastrophe at one site, such as the loss of a large portion of the breeding population, dispersal from other nearby sites can help replenish the population. I observed one such instance in the spring of 1999 in the Appalachian Mountains of southern Pennsylvania. Here, an early warm spring rain had triggered a mass migration of Jefferson salamanders to their breeding pools. These pools were scattered for about a kilometer along a ridge-line. This warm, rainy night was followed by an extended period of very cold weather. The open pools completely refroze, and several storms then covered the iced over pools with a heavy snow layer. Although Jefferson salamanders can sustain extended periods submerged in cold water, they cannot survive being entombed and subsequently suffocated, unable to obtain oxygen at the surface of the pools. Although every pool examined held dead salamanders, a single spring-fed pool had no mor-

tality. This illustrates how important this single pool was in this particular year, and probably will be for several years afterward, as such a large percentage of breeding adults was lost in the other pools.

Maintaining these landscape-scale ecological connections is one of the biggest challenges that we face in conserving amphibians and reptiles. Spotted turtles use a variety of different wetlands and upland habitats within a landscape mosaic of habitat. Again, in order for this species to sustain itself over the long term, it is insufficient to simply protect the various wetlands that it uses as single entities without recognizing and then protecting the connectivity between these wetlands through the intervening upland habitat. It is also important to understand the impediments that different types of human uses on a landscape can pose to amphibian and reptile movements. For example, many species of amphibians are able to disperse across agricultural fields at night in cool wet weather. If these fields were replaced with a housing subdivision, a common occurrence, and even if some portions of the habitat were reforested, the system of roads, curbs, catch basins, and the activities of the human inhabitants pose a far greater obstacle to the dispersal of amphibians than did the former agricultural landscape. These ecosystem-scale landscape requirements of amphibians and reptiles pose a tremendous challenge to local land-use decision-makers. It requires a much broader look at the overall ecosystem, rather than the site-specific project reviews that are the current norm.

While many of Connecticut's amphibians and reptiles that have complex habitat requirements and life history strategies encompassing multiple habitat types are in decline, a small group of species are on the increase. Species including the bullfrog, snapping turtle, and brown snake are able to survive in human-altered landscapes that are increasing within the state. As wooded swamps and other diverse shallow wetlands are converted into ponds, bullfrogs, snapping turtles, and painted tur-

tles increase, exploiting habitats that once supported wood frogs, spotted turtles, and ribbon snakes. Although many towns stringently protect their wetlands, they often fail to adequately protect the complexity and structure of these wetlands. Wetlands that are structurally complex, with many layers of shrubs and vegetation, support a rich diversity of amphibians and reptiles. When these wetlands are replaced by ponds, which often occurs when land is developed, the complexity of the wetland and its rich biodiversity are lost. A major challenge that land-use decision-makers and conservationists will face in the twenty-first century is to sustain the biodiversity (species richness) of Connecticut's amphibians and reptiles. This will require maintaining habitat complexity and connectivity by examining a much larger landscape scale, often more than 1,000 acres, when evaluating the environmental impacts of a development proposal.

One of the fundamental dilemmas that town planning boards and wetland commissions face is that the majority of projects that they review fall well below 100 acres in size, whereas many wetland-dependent amphibians and reptiles require a minimum of 1,000 acres that is a mosaic of upland and wetland habitats (Klemens, 1998a; Lassila, 1999). The land-use review mechanisms designed to protect the environment often fall short of that goal by failing to consider impacts at an ecosystem scale. Ironically, because the current environmental and land-use review processes are often conducted at too small a scale, they actually encourage habitat fragmentation (and destruction) of Connecticut's wetland and terrestrial ecosystems. However, this does not have to be the case. A growing number of Connecticut towns have already begun to consider ecosystem-scale in their land-use planning and decision, adding both value and effectiveness to the environmental review process. Such efforts logically lead to focusing more intense development in certain areas, while leaving larger tracts of open space between developed areas. This ecosystem steward-

ship approach results in a very different pattern of suburban development than has occurred over much of the state. Fragmentation of large tracts of second growth forest into ever smaller, ecologically dysfunctional patches is replaced with more tightly clustered development around existing hamlets and urban centers, with large blocks of open space and lower density development zones retaining ecological connectivity and rural character.



Hartford Counties have also been severely reduced and stressed by habitat fragmentation.

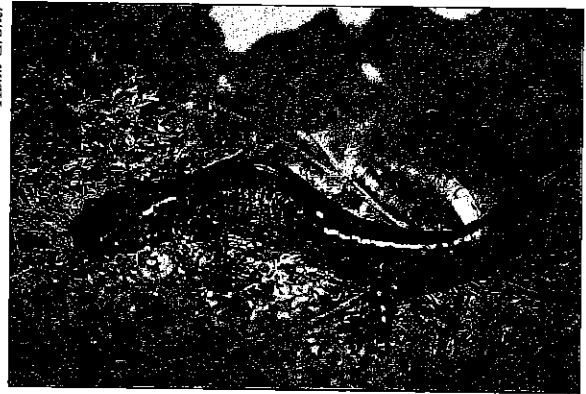
This species is near the northeastern limit of its range and has hybridized extensively with the blue-spotted salamander in southern New England. These hybrids, which possess characteristics of both species, can be reliably distinguished only by karyological and biochemical analyses. All Connecticut populations of Jefferson salamanders sampled by Bogart and Klemens (1997) were composed of hybrid females, with a very small number of "pure" male and female Jefferson salamanders in each population. The Jefferson salamander complex is a "Special Concern Species" in Connecticut. Collection is prohibited under Section 26-66-13-A of the Connecticut Code. The Jefferson salamander complex is also of conservation concern throughout its northeastern United States range, with many states affording the species special status and/or protection.

### Blue-spotted Salamander Complex (*Ambystoma laterale* complex)

**IDENTIFICATION:** *Slender, narrow head, black coloration with blue flecks, especially on belly, sides, and tail. Tail flattened laterally. Small to medium size, adults 70-120 mm total length.*

**F**irst reported from Connecticut by Klemens and Dubos (1978), this salamander is irregularly distributed on both sides of the Connecticut River where it is associated with riparian red maple swamps. It usually breeds in slightly flowing water and is found in marble valleys as well as acidic areas underlain by sandy soils. West of the Connecticut River, it occurs in low lying portions of the Housatonic uplands, northern Fairfield County, and along the base of several trap rock ridges in Hartford and New Haven Counties. It is more localized east of the Connecticut River, recorded from three sites in the Scantic River Basin. Connecticut is near the southern range limit of the blue-spotted salamander. As its

Henk Gruner



*Blue-spotted Salamander Complex*

swampland habitats are more extensive and usually protected by wetland regulations, and populations of salamanders often large, it is less vulnerable to extirpation than the Jefferson salamander, with which it has hybridized extensively within southern New England. Connecticut populations are dominated by hybrid females (Bogart and Klemens, 1997) possessing characteristics of both species, and can be reliably distinguished only by karyological and biochemical analyses. The blue spotted salamander complex is a "Special Concern Species" in Connecticut. Collection is prohibited under Section 26-66-13-A of the Connecticut Code. The blue-spotted salamander complex is also of conservation concern throughout much of its northeastern United States range, with many states affording the species special status and/or protection.

### Blue-spotted Salamander Pure Diploid Populations (*Ambystoma laterale*)

**IDENTIFICATION:** *Slender, narrow head, black coloration with blue flecks, especially on belly, sides, and tail. Tail flattened laterally. Small, adults are usually under 100 mm total length.*

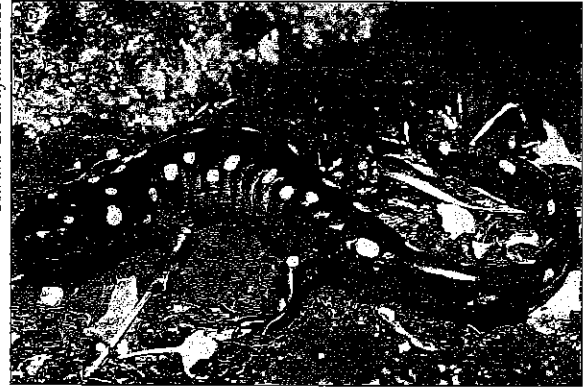
Don Sizer



*Blue-spotted Salamander—Pure Diploid Population*

**B**ogart and Klemens (1997) reported on the genetic distinctiveness of the blue spotted salamanders found in eastern Connecticut, southeastern Massachusetts, and on the tip of Long Island at Montauk. Unlike any other blue spotted salamanders in southern New England, these animals have been geographically isolated, and never have had an opportunity to hybridize with Jefferson salamanders or to come into contact with hybrid populations of blue-spotted salamanders. These animals occur in an even sex ratio of males to females. In Connecticut, these salamanders are restricted to several large swamp systems lying in the Quinebaug Valley. These populations of diploid blue-spotted salamanders, found in the towns of Plainfield and Griswold, are a "Threatened Species" in Connecticut and strictly protected on state lands. Collection is prohibited under Section 26-66-13-A of the Connecticut Code. These relictual populations of blue-spotted salamanders are unfortunately not afforded differential conservation or protection status in either New York, where they are restricted to the extreme eastern tip of the South Fork of Long Island, nor in southeastern Massachusetts where they are known from a few sites between Cape Cod and the Rhode Island line. Although these salamanders may have once occurred in northeastern Rhode Island, their habitat has been destroyed by urbanization.

Richard G. Zweifel/AMNH



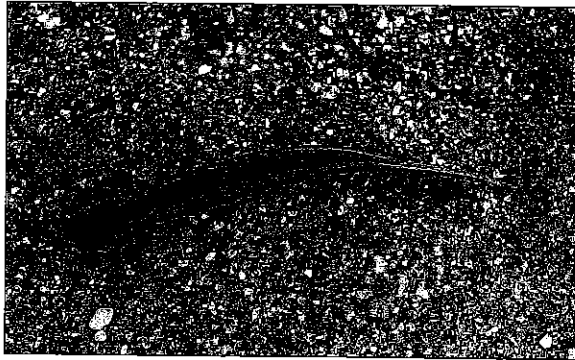
*Spotted Salamander*

### **Spotted Salamander** (*Ambystoma maculatum*)

**IDENTIFICATION:** *Robust, broad head, gray coloration with bright yellow spots on back and tail. Large, adults 120-200 mm total length, females considerably larger than males.*

**T**his is Connecticut's most widespread mole salamander, reported from all the state's ecoregions. It is, however, undergoing a long-term decline within the state not only because of the loss of its vernal pool breeding habitats, but of even more importance, the reduction of upland habitat surrounding its aquatic breeding sites, as well as road mortality. Most wetland regulations prescribe a 50-100 foot wide forested buffer around vernal pools. This buffer is to maintain water quality. To maintain the amphibian biodiversity of a vernal pool requires 500 feet or more of primarily forested habitat surrounding salamander breeding pools. Section 26-55-3-A of the Connecticut Code protects spotted salamanders by limiting possession to no more than three adults at any time. Section 26-66-13-B prohibits collection of eggs and juveniles, sets an open season from May 1 to August 31, sets a daily and seasonal bag limit to three animals, and limits collection to hand or handheld implements, with seining specifically prohibited. Spotted salamanders are

Al Richmond



Common Mudpuppy, larva

logs, and a heavy duff layer. Loss of old second growth forest is the major conservation issue confronting this salamander in Connecticut. The slimy salamander is a "Threatened Species" in Connecticut and is strictly protected on all state lands.

#### PROTEIDAE: Mudpuppies

### Common Mudpuppy

(*Necturus maculosus*)

**IDENTIFICATION:** *A large, aquatic salamander with well-developed, maroon colored gills, broad flat head with small eyes, and a fin-like tail. Adults are olive colored and can attain total lengths of 200-430 mm. Many larval salamanders possess gills, and are often incorrectly referred to as mudpuppies. Mudpuppies are restricted to deeper waters of the Connecticut River, and are most often encountered by fishermen or taken in eel pots.*

**C**raig (1979) eliminated this large, aquatic salamander from Connecticut's native herpetofauna based on reports by Warfel (1936) and Vinegar and Friedman (1967) attributing the Connecticut River population to introductions made in the 1930s. I subsequently located a specimen collected in the 1870s at Middletown. Correspondence and newspaper clippings in the archives

Al Richmond



Common Mudpuppy, adult

of the Herpetology Division at the American Museum of Natural History also indicated that mudpuppies were present in the Connecticut River well before the 1930s. In Connecticut, the common mudpuppy has been reported only from the Connecticut River. The origins of this population may never be satisfactorily determined.

#### SALAMANDRIDAE: Newts

### Red-spotted Newt

(*Notophthalmus v. viridescens*)

**IDENTIFICATION:** *Aquatic adults are smooth-skinned, with an olive green dorsum. A row of red ocelli (red spots ringed with black) are present on each side, and the belly is yellow with black dots. The tail is fin-like. The conspicuous terrestrial eft stage is bright orange to dull carmine brown, with very granular skin, and a row of ocelli along each side as in the adults. Small size, adults 60-110 mm total length.*

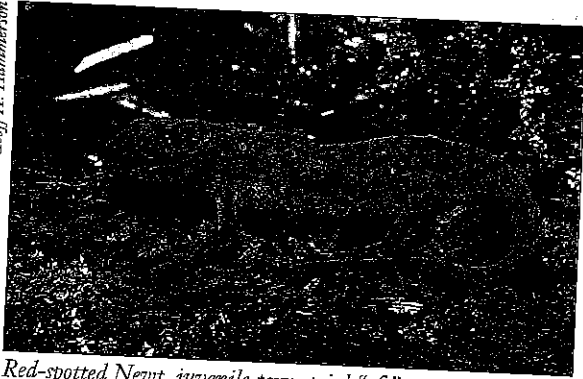
**T**he red-spotted newt is a widespread and familiar species in many sections of Connecticut. Newts have a three part developmental stage, an aquatic larva, a terrestrial "eft" stage, and an adult aquatic stage. The bright red-orange eft is the most familiar, and large numbers of these can be found wandering on the forest floor in damp weather. Newts are most abundant in the

Geoff A. Hamneron



Red-spotted Newt, aquatic adult stage

Geoff A. Hamneron



Red-spotted Newt, juvenile terrestrial "eft" stage

upland areas of Connecticut, especially the northwestern highlands. They are far more localized in the low-lying sandy areas of the state, and are absent from large portions of the Central Connecticut Lowland. Newts are secure in many areas of the state, though they are declining in more urban areas. They require large areas of forested habitat adjacent to their breeding sites to support the multiyear terrestrial eft stage. Under Section 26-66-13-C of the Connecticut Code, eggs and juveniles may not be collected, and adults may be taken only by hand or handheld implement. The collection of newts by seine, minnow traps, or with the aid of a motorboat is specifically prohibited.

Joe D. Pratt



Eastern American Toad

## FROGS

### BUFONIDAE: Toads

#### Eastern American Toad

(*Bufo a. americanus*)

**IDENTIFICATION:** A stocky, squat frog with numerous tubercles scattered on the dorsum and legs. Usually, one tubercle (= wart) per pigmented spot. Legs are very spiny. Belly is dirty white with scattered black pigmentation. Females are considerably larger than males. Medium-large size, adults 50-85 mm body length.

**T**his toad is found throughout Connecticut, except in the most urban areas. Its ability to exploit a wide variety of habitats accounts for its widespread occurrence. Road mortality may be significant in some areas of the state; this species, however, is presently considered to be secure within Connecticut.

Christopher J. Rathel



Fowler's Toad

Christopher J. Rathel



Fowler's Toad

### Fowler's Toad (*Bufo fowleri*)

**IDENTIFICATION:** *A stocky, squat frog with numerous tubercles scattered on dorsum and legs. Usually three or more tubercles per pigmented spot, highly variable dorsal pigmentation lighter than the eastern American toad, often with gray and/or greenish hues. Legs not spiny, belly immaculate white, sometimes with a triangle-shaped dark spot on the breastbone. Males have darkly pigmented throats. Medium-large size, females larger than males, adults 50-80 mm body length.*

**T**he Fowler's toad is a southern species with its center of distribution in Connecticut confined to the coastal and

Christopher J. Rathel



Gray Treefrog

low-lying portions of the state, as well as the Central Connecticut Lowland. This toad extends its range into the state's uplands, following a network of low-lying river valleys that are laced with glacial sand and gravel deposits. Hybrids between American and Fowler's toads have been reported from New Haven, Tolland, and Windham Counties (Klemens, 1993). Fowler's toad is presently considered secure within Connecticut.

### HYLIDAE: Treefrogs

#### Gray Treefrog (*Hyla versicolor*)

**IDENTIFICATION:** *An arboreal frog distinguished by its gray mottled dorsum, suction cup feet, and bright yellow flash patches on the rear of its thighs. Small-medium size, adults 35-60 mm body length.*

**T**he gray treefrog is widely distributed in the state, but it has been declining since the 1930s (Babbitt, 1937). One of the main reasons for its decline is the loss of shrub swamps, the preferred breeding habitat of this species. Although some loss occurs naturally through canopy closure, the major causes of habitat loss are the outright draining of wetlands, as well as the conversion of large

## FROGS

Geoff A. Hammerson



*Northern Spring Peeper*

tracts of shrub swampland into other wetland types. Wetland conversion occurs when swamps and other wetlands are converted into ponds and small lakes. This is a common development practice in many areas, driven by the legal mandate not to lose wetland acreage, but without regard for the vegetational structure, ecological function, and biological complexity of the wetland. The wetlands that result from these conversions are usually biologically impoverished, and serve as habitat for only the most hardy and adaptable amphibians and reptiles.

### **Northern Spring Peeper** (*Pseudacris c. crucifer*)

**IDENTIFICATION:** *An arboreal frog distinguished by its brown dorsum with an X-shaped marking and small suction cups on the tips of its toes. Very small, females larger than males, adults 20-35 mm body length.*

**T**he diminutive spring peeper is widely distributed in the state, and is found across a wide range of habitats. It is tolerant of slightly brackish water, and occurs from the upper edges of Connecticut's salt marshes to forested mountaintops, and even, in some urban parks. The spring peeper is presently considered secure in Connecticut.

Geoff A. Hamner



Bullfrog

under Section 26-66-13-A of the Connecticut Code. Spadefoots occur in all three states bordering Connecticut, where they are considered to be localized, declining, and of conservation concern.

#### RANIDAE: True Frogs

##### Bullfrog

(*Rana catesbeiana*)

**IDENTIFICATION:** *A large, robust species distinguished by its green coloration, light belly mottled with gray, and a dorsum lacking any distinct, continuous longitudinal creases or folds. Adults 80-150 mm body length.*

**T**he bullfrog is a common species statewide. Favoring permanent bodies of water, this large frog is especially common at sites that are disturbed and degraded. Bullfrog populations are expanding in many areas where complex wetland systems, e.g., shrub swamps and vernal pools, are being replaced by impoundments or artificial ponds. Bull frogs are voracious predators of smaller animals. At sites where they become well-established, they can eliminate other frog species, through both competition for food and direct predation.

Joe D. Pratt



Green Frog

##### Green Frog

(*Rana clamitans melanota*)

**IDENTIFICATION:** *Often mistaken for the bullfrog, this species is smaller, its dorsum tends to be browner or mottled, its belly more darkly mottled, and a pair of longitudinal creases (dorsolateral folds) run from the back of the eye to the groin. Adults 50-100 mm body length.*

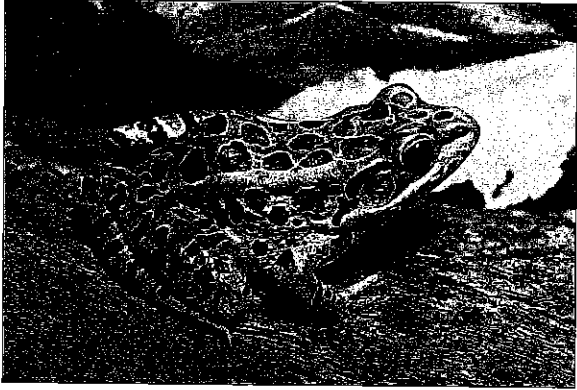
**G**reen frogs are widely distributed statewide. Unlike the bull frog, they are able to exploit a wide variety of wetland habitats, including permanent and semipermanent water bodies, wooded swamps and vernal pools, as well as small streams. The green frog is presently secure in Connecticut.

##### Pickereil Frog

(*Rana palustris*)

**IDENTIFICATION:** *A medium-size frog often confused with the leopard frog from which it is distinguished by a dorsal pattern of brown squares arranged symmetrically between a pair of cream-colored, longitudinal lines. The underside of the thighs and groin have a yellow or orange wash. The belly is white. When disturbed it tends to flee in a series of linear jumps into water. Females larger than males, adults 40-80 mm body length.*

Richard G. Zweifel/AMNH



Pickerel Frog

**P**ickerel frogs are widely distributed in Connecticut, favoring stream corridors, wet meadows, and open, weedy wetland edges. Although less disturbance tolerant than either the bull or green frog, it is widespread and presently secure in Connecticut.

### Northern Leopard Frog (*Rana pipiens*)

**IDENTIFICATION:** *A medium-size frog often confused with the pickerel frog from which it is distinguished by a dorsal pattern of dark circles with white edges irregularly distributed over a green or brown dorsum. The belly, thighs, and groin are white. When disturbed it tends to flee in a series of zigzag jumps into high grass. Adults 50-70 mm body length.*

**T**his species is restricted to seasonal wet meadows and forests located on the floodplain of a river or large stream. Leopard frogs are locally common along sections of the Connecticut River and its tributaries, the Farmington, Scantic, and Coginchaug Rivers. Populations are scattered in Litchfield County and at a few other sites west of the Connecticut River. This species is often confused with the widespread pickerel frog. Leopard frogs in

Christopher J. Raatzel



Northern Leopard Frog

Connecticut represent two distinct gene pools. Klemens (1993) reporting on biochemical and morphological studies conducted on Connecticut leopard frogs found that animals from the Connecticut River drainage are referable to the northern leopard frog. Those from the Housatonic drainage of western Connecticut have some of the distinctive genetic and morphological markers of the southern leopard frog, *Rana sphenoccephala utricularius*. One major distinction is that the males of the Connecticut River population possess vestigial oviducts, a characteristic of the northern leopard frog, while males from the Housatonic drainage lack vestigial oviducts. These data point to two separate origins of Connecticut's leopard frog population.

Leopard frogs have disappeared from some areas of Connecticut; historical data and reports indicate that they were once more widespread. They are intolerant of acidic conditions, which may account for their present distribution in the state to limestone areas or areas of circum-neutral soils. Loss of floodplain habitats through impoundments, levees, and channelizing has eliminated habitats upon which these frogs depend. The leopard frog is considered a "Special Concern" species within Connecticut and collection is prohibited under Section 26-66-13-A of the Connecticut Code.



FROGS

Richard G. Zweifel/AMNH



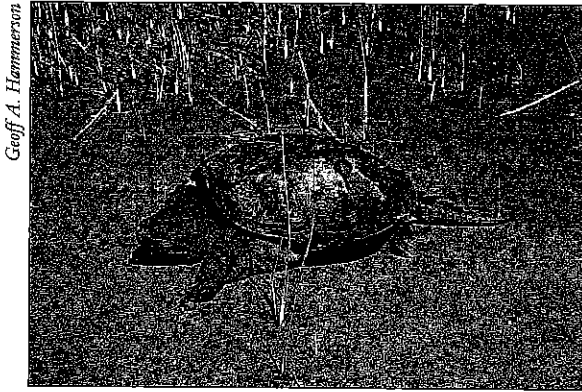
Wood Frog

**Wood Frog**  
(*Rana sylvatica*)

**IDENTIFICATION:** *A medium-size, rich brown to fawn colored frog with a dark black mask around eyes, and a well-defined pair of dorsolateral folds. Small wood frogs may be confused with spring peepers; however, peepers have small terminal suction cups on their toes. Females larger than males, adults 40-60 mm body length.*

**T**he wood frog is a vernal pool-dependent amphibian found statewide, but undergoing a long-term, non-cyclical decline. The primary cause of this decline is the loss of upland habitat that surrounds their woodland pool breeding sites. Research by Klemens (1998a) near Danbury reported that wood frogs were in serious decline in habitat blocks of under 1,000 acres that were fragmented by roads and development.

## TURTLES



Geoff A. Hamneron

*Common Snapping Turtle*

### CHELYDRIDAE: Snapping Turtles

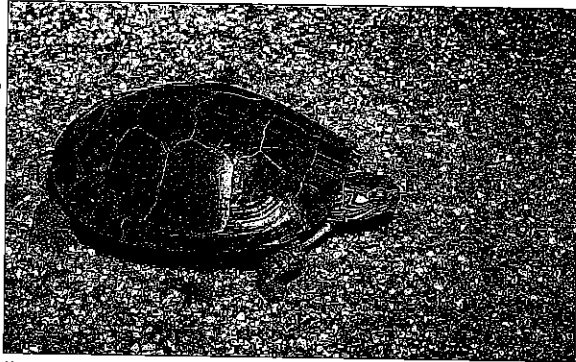
#### Common Snapping Turtle (*Chelydra s. serpentina*)

**IDENTIFICATION:** *A large, distinctive species with a brown-black carapace, with a saw-toothed rear edge. The plastron is very reduced, leaving large portions of the underside exposed. The head is large and the tail is long and plated. The largest authenticated Connecticut specimen measured 445 mm (carapace length) and weighed 19.7 kg.*

**T**he snapping turtle is a widespread, hardy, and adaptable species found in all types of waterbodies ranging from polluted ponds in urban parks to wilderness areas, as well as brackish, tidally influenced habitats. It is one of the few species of turtles that is common at high elevations within the state. Its adaptability, secretive habits, and pugnacious disposition have helped ensure its survival. None-the-less, large numbers of snapping turtles, especially nesting females, are killed on the state's roads each year. Raccoons, skunks, and coyotes dig up and consume large numbers of snapping turtle eggs, and humans kill snappers out of unfounded fears that they pose a threat to human safety and to other wildlife. Snapping turtles are occasionally eaten; however, the

concentration of large amounts of pollutants such as PCBs in their flesh makes regular consumption of snapping turtle meat a potential health hazard for humans.

Richard G. Zweifel/MANH



Painted Turtle

Geoff A. Hammeron



Painted Turtle, basking

**EMYDIDAE: Pond and Marsh Turtles****Painted Turtle**  
(*Chrysemys picta* ssp.)

**IDENTIFICATION:** A flat, smooth-shelled turtle, readily distinguished by its orange plastron, yellow striped neck, and red stripes running down its front limbs. Males much smaller than females, adults 90-170 mm carapace length.

**P**ainted turtles are widely distributed in Connecticut, but uncommon at higher elevations. They reach their greatest abundance in weed-choked, shallow impound-

Geoff A. Hammeron



Spotted Turtle

ments and ponds. Although not as widely distributed as the common snapping turtle, painted turtles are Connecticut's most familiar turtle because of their basking habits, conspicuously perched in large numbers on emergent rocks and logs. The creation of artificial ponds and impoundments has undoubtedly increased the amount of available painted turtle habitat in Connecticut over the last century and they are presently considered secure within the state. Klemens (1978) reported that the Connecticut population of painted turtles was composed of intergrades between the eastern painted turtle (*Chrysemys p. picta*) and the midland painted turtle (*Chrysemys picta marginata*)

**Spotted Turtle**  
(*Clemmys guttata*)

**IDENTIFICATION:** A flat to moderately-domed, smooth-shelled, small turtle, readily distinguished by its black carapace with yellow polka-dot pattern. It has an orange marking on each side of its head, behind the eye. Adults 90-130 mm carapace length.

**S**potted turtles are widely distributed in Connecticut, but are most common in the low-lying portions of the state, and are very rare at elevations above 900 feet

(Klemens, 1993). They reach their northern range limits in southern portions of New Hampshire, Vermont, and Maine. Spotted turtles have complex habitat requirements, often using several different types of shallow, vegetation-rich wetlands, including vernal pools, at different times of the year, as well as terrestrial habitats. Such rotational use of wetlands, with overland movements, is not well accommodated in current patterns of landscape development within Connecticut. Current development practice is to encircle each wetland with a small buffer of protected land, and to then allow development between these wetlands. This practice serves to isolate wetlands from one another, and makes overland migrations of amphibians and reptiles between these now isolated wetlands very difficult. These factors have resulted in a steady decline through attrition of the viability of Connecticut's spotted turtle populations. As this is a long-lived species, the long-term effect of habitat fragmentation will take decades to be fully manifested. Road mortality and over-collection of spotted turtles for the wild animal trade also poses a threat to their survival. The spotted turtle is of conservation concern throughout most of its range. Most states and provinces where it occurs afford it special status and/or some form of statutory protection.

### Wood Turtle

(*Clemmys insculpta*)

**IDENTIFICATION:** *A medium-sized turtle, readily distinguished by its sculptured, rough, moderately-domed carapace, black head, orange-red wash on its under limbs, and a yellow plastron with black squares along the edges. Adults 150-200 mm carapace length.*

In contrast to Connecticut's other turtle species, the wood turtle is an animal of the northern forest biome, from the Great Lakes eastward through New England and northeastern Canada. Its southern range limit lies near Washington, DC. In Connecticut, the strongholds of wood turtle distribution are the eastern and western uplands. Although once quite common in the Central Connecticut Lowland, many populations have been

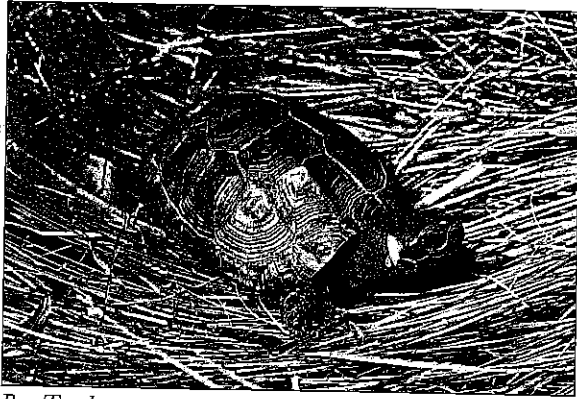
Nicole S. Klemens



Wood Turtle

reduced or even eliminated by habitat fragmentation. This species was never common in the coastal zone of the state. Wood turtles have extensive landscape-scale habitat requirements, requiring clean rivers and large streams with deeply undercut banks for hibernation, as well as extensive areas of floodplain, forest, and fields for summer foraging. Because of their extensive overland movements, they are very susceptible to road mortality. They take over a decade to reach sexual maturity, and have a low egg output, and limited juvenile survivorship. Loss of adults from breeding populations, whether from increased road mortality or by collection for the wildlife trade, is a major problem affecting the sustainability of wood turtle populations in Connecticut. Possession of any wood turtle is prohibited (Conn. Code Sec. 26-55-3-C) in Connecticut without regard to its origin, and collection within Connecticut is prohibited (Conn. Code Sec. 26-66-14-A). The wood turtle is a "Special Concern" species in Connecticut. International commerce in wood turtles posed such a threat that in 1992 this species was placed under international trade regulatory protection administered by CITES (Convention on International Trade in Endangered Species of Flora and Fauna). The wood turtle is of conservation concern throughout most of its range. Most states and provinces where it occurs afford it special status and/or some form of statutory protection.

Geoff A. Hammerson



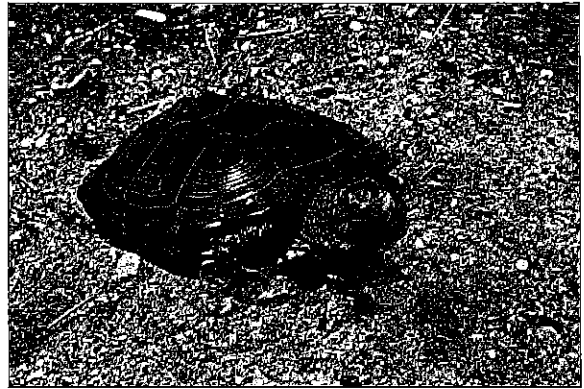
Bog Turtle

### Bog Turtle (*Clemmys mublenbergii*)

**IDENTIFICATION:** *A very small turtle, with a moderately domed, sculptured carapace resembling a wood turtle, though older animals are worn smooth. There is an orange spot on each side of its head, similar to a spotted turtle. The carapace is oblong in shape, adults 80-95 mm carapace length.*

**T**he bog turtle appears restricted to the marble valleys of western Connecticut, between the Housatonic River and the New York state line (Klemens, 1993). Single specimens have been reported from sites east of the Housatonic River, but there is no evidence that these animals represented populations. Bog turtles are secretive, inhabiting specialized subclimax open canopy areas within large, dynamic wetland systems. Within these dynamic systems, patches of wetlands are opened up by beaver, fire, and browsing. Once habitats are fragmented, many of these ecosystem-scale processes are disrupted, and bog turtle habitats are lost through canopy closure. Bog turtles are near their northeastern range limit in Connecticut and have suffered greatly from habitat loss, alteration, and degradation (including invasive plants), as well as collection. Although bog turtles inhabit small, highly special-

Robert Cook



Northern Diamondback Terrapin

ized wetland patches, those areas are dependent upon a much larger wetland landscape. Populations of this species are confirmed from five towns, two in Litchfield County and three in Fairfield County. Craig's (1979) figure of nine towns included single specimens and verbal reports not accepted as representative of populations by Klemens and Warner (1983). The remaining populations of bog turtles in northwestern Connecticut are small, with limited viability. Unless aggressive actions are taken within the next decade, the bog turtle could be the first reptile to become extinct in Connecticut (Klemens, 1998b). The bog turtle is listed as an "Endangered Species" in the state and capture is prohibited (Conn. Code Sec. 26-66-14-A). Bog turtles are also listed as "Threatened" under the provisions of the Federal Endangered Species Act, which protects both the turtle and its habitat. International commerce in this species is strictly prohibited by CITES.

### Northern Diamondback Terrapin (*Malaclemys t. terrapin*)

**IDENTIFICATION:** *A medium-size turtle with a moderately domed, gray, keeled carapace, with each scute possessing concentric grooves. The plastron is orange-brown, and may be vividly patterned. The body coloration is quite variable, ranging from uniform slate gray to cream with dark black*

speckles. There is a distinctive white area above and below the cusps of the jaw. Females are much larger than males, adult carapace length 100-230 mm.

**T**errapins are restricted to salt marshes, tidal creeks, and estuaries. This species requires brackish water and has been reported along the entire Connecticut shoreline, though it is less common between the Thames River and the Rhode Island state line. Once decimated by collection for human consumption, this species has made a strong comeback in many areas of the northeast including Connecticut. Road kills, mortality from motorboat strikes, and loss of nesting areas threaten its survival. Terrapins are incidentally captured and drowned in crab pots. The take of terrapins is restricted to an open season from August 1 to April 30 (Conn. Code Sec. 26-66-14C). During this open season, take is limited to individuals with a straight line upper shell length of between 4 and 7 inches. These may be captured by hand, net, seine, and traps that ensure turtles do not drown. Possession limit is five turtles and collection of eggs is prohibited. The collection of terrapins is regulated throughout the northeast by the various range states.

### Eastern Box Turtle

(*Terrapene c. carolina*)

**IDENTIFICATION:** *A medium-size turtle readily distinguished by its high domed shell, and hinged plastron, with moveable front and rear lobes that enable the turtle to completely enclose itself within its shell. The carapace coloration is highly variable, with a pattern of yellow or orange on a brown to black background. New England box turtles are quite large when compared to those found further south, adult carapace length 125-175 mm.*

**C**onnecticut is near the northeastern range limit of this species. Box turtles are restricted to the low-lying sections of the state, and rarely are found above 700 feet (Klemens, 1993). Deciduous woodland and overgrown old fields where turtles have ample cover and sunlight are

Peter R. Werry



Eastern Box Turtle

avored. Although a terrestrial turtle, it is still wetland-dependent, returning to water to drink, and to escape heat and drought. Box turtles are often encountered near the edges of wetlands and, in many areas, box turtles retreat into low-lying wet woodland to hibernate. This is a long-lived species and animals over 100 years old have been reported (Klemens, 1993). Box turtles take well over a decade to reach maturity and have low egg outputs. Therefore, the increase in adult mortality is a critical issue affecting sustainability of turtle population. Whether this loss occurs through road mortality, collection, or even such seemingly benign activities as "rescuing" a turtle crossing the road and releasing it a few miles away, the steady erosion of the viability of many populations in Connecticut is evident. The low-lying sections of the state also have been subject to the most intense development, further challenging the survival of this species. Connecticut law limits possession of box turtles to a single animal (Conn. Code Sec. 26-55-3-D), however box turtles cannot be collected from the wild within Connecticut (Conn. Code Sec. 26-66-14-A). Box turtles are a Connecticut "Special Concern" species, and in 1994 were placed under international trade regulatory protection administered by CITES. The box turtle is of conservation concern in all the states where it occurs at its northeastern range limit, which includes southern New England and southeastern New York.

Robert W. Fritsch II



*Timber Rattlesnake*

portions of Litchfield County, as well as Tolland and Windham Counties. Although large copperhead populations still exist, they have declined precipitously in Fairfield County, where they are now rare, and the encroachment of development to their den sites in the Central Connecticut Lowland has resulted in increased mortality near several of the major denning areas. Copperheads are considered a species of conservation concern in both Massachusetts and New York.

**Timber Rattlesnake**  
(*Crotalus horridus*)

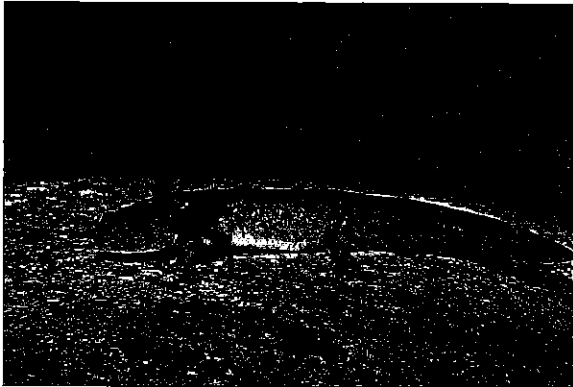
**IDENTIFICATION:** *A large, heavy-bodied snake distinguished by its keeled scales, variable dorsal pattern of dark bands on a black, brown, or yellow background. The venter is light yellow, the head dark, distinctly larger than the neck, with a nostril and heat sensitive pit on each side. The pupil of the eye is vertical. The rattle on the tail tip is distinctive; however, many harmless snakes, when aroused, will vibrate their tails rapidly in dry leaves, making a sound than can be mistaken for a rattlesnake. Adult total length up to 1525 mm.*

**T**he rattlesnake's decline in Connecticut since colonial times is well documented (Petersen and Fritsch 1986; Klemens, 1993). It is presently confined to small areas of northwestern and central Connecticut, where the greatest threat to its survival is depredation by humans. Although many dens are in state forests, rattlesnakes are killed both at the dens and when they forage on private property during the summer. Rattlesnakes are a landscape species, requiring large tracts of unfragmented forest. Individuals typically forage a mile or more from their dens during the summer months. Heavy collecting pressure at well known den sites threatens the viability of many rattlesnake populations. The increasing development in areas that surround rattlesnake dens results in significant road mortality, and an increase in incidental kills associated with human encounter. This is a major contributing factor to the decline of this species, especially in the areas of southeastern Hartford County adjoining the Meshomasic State Forest. The timber rattlesnake is an "Endangered Species" in Connecticut and strictly protected on public lands from persecution and collection. Timber rattlesnakes are considered a high conservation concern throughout the northeast where most of the range states have afforded them some form of statutory protection.

## SALAMANDER LARVAE

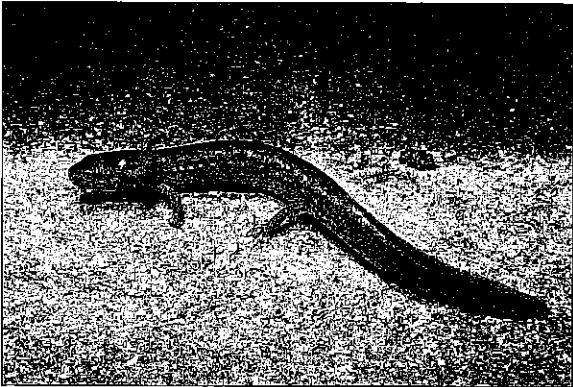
Salamander larvae also come in various sizes, but follow one of two basic forms.

Geoff A. Hammerson



*Vernal pool and pond dwelling larvae, as evidenced by this SPOTTED SALAMANDER, have bushy gills, an adaptation for oxygen poor waters.*

Geoff A. Hammerson



*Contrast this to this TWO-LINED SALAMANDER, a stream dwelling species characterized by very small gills because it lives in highly oxygenated water*

## FROG REPRODUCTION

Connecticut's toads and frogs all reproduce in a similar manner as illustrated by these photographs of the Eastern American Toad.

Geoff A. Hammerson



*CALLING MALES gather, often in large numbers, forming choruses in wetlands. These choruses attract females to the males.*

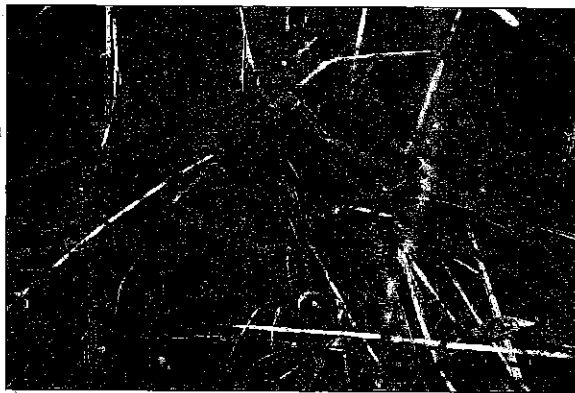
Paul J. Fusco/CT DEP



*Once the females are near the males, the male grasps the female in AMPLEXUS.*

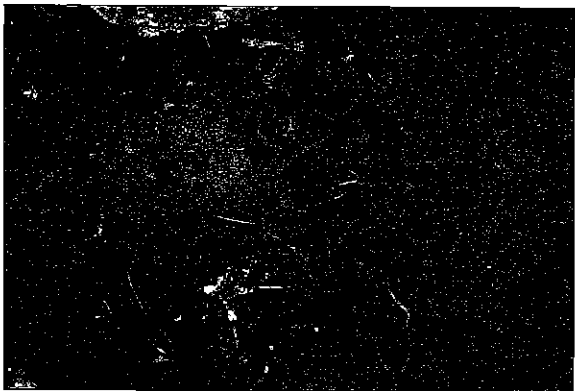


Geoff A. Hammerson



Coupled pairs deposit EGGS. The male fertilizes the eggs as they are extruded from the female's vent. These eggs are laid in strings, characteristic of toads. Most frogs lay clumps of eggs on the surface of the pond, some lay single eggs.

Geoff A. Hammerson

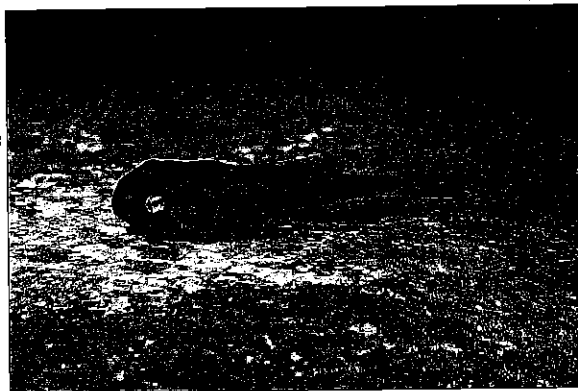


TADPOLES hatch. They can, depending on species, take several weeks to several years to transform. Note the MUSK TURTLE superbly camouflaged at the edge of this shallow pond.

## TADPOLES

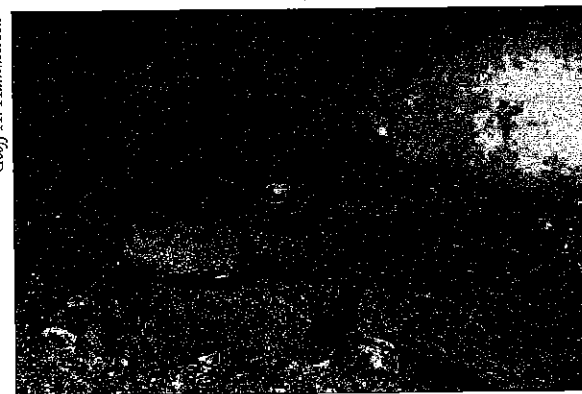
Tadpoles come in various sizes, but generally follow one of two basic forms.

Geoff A. Hammerson



Tadpoles of the SPRING PEEPER, gray treefrog, and wood frog are adapted for living in shallow, still water. Their caudal fins are high compared to their overall body length.

Geoff A. Hammerson



Most tadpoles, like this BULLFROG, are elongate and streamlined, adapted for living in deeper aquatic environments.

CHECKLIST

TABLE 1

CONSERVATION STATUS  
CHECKLIST  
AMPHIBIANS and REPTILES  
of CONNECTICUT

- E = Endangered (CT statutory designation)  
 T = Threatened (CT statutory designation)  
 SC = Special Concern (CT statutory designation)  
 D = Declining  
 [Note: All E/T/SC species are, by definition,  
 "Declining"]  
 S = Secure  
 U = Uncertain Status  
 I = Possibly Introduced

**SALAMANDERS**

- |   |    |
|---|----|
| <input type="checkbox"/> <i>Ambystoma jeffersonianum</i> complex<br>Jefferson Salamander Complex  | SC |
| <input type="checkbox"/> <i>Ambystoma laterale</i> complex<br>Blue-spotted Salamander Complex     | SC |
| <input type="checkbox"/> <i>Ambystoma laterale</i><br>Blue-spotted Salamander Diploid Populations | T  |
| <input type="checkbox"/> <i>Ambystoma maculatum</i><br>Spotted Salamander                         | D  |
| <input type="checkbox"/> <i>Ambystoma opacum</i><br>Marbled Salamander                            | D  |
| <input type="checkbox"/> <i>Desmognathus fuscus</i><br>Northern Dusky Salamander                  | D  |
| <input type="checkbox"/> <i>Eurycea bislineata</i><br>Northern Two-lined Salamander               | S  |
| <input type="checkbox"/> <i>Gyrinophilus p. porphyriticus</i><br>Northern Spring Salamander       | T  |

AMPHIBIANS AND REPTILES IN CONNECTICUT

- |   |   |
|---|---|
| <input type="checkbox"/> <i>Hemidactylium scutatum</i><br>Four-toed Salamander    | S |
| <input type="checkbox"/> <i>Plethodon cinereus</i><br>Northern Redback Salamander | S |
| <input type="checkbox"/> <i>Plethodon glutinosus</i><br>Northern Slimy Salamander | T |
| <input type="checkbox"/> <i>Necturus maculosus</i><br>Common Mudpuppy             | I |
| <input type="checkbox"/> <i>Notophthalmus v. viridescens</i><br>Red-spotted Newt  | S |

**FROGS**

- |  |    |
|--|----|
| <input type="checkbox"/> <i>Bufo a. americanus</i><br>Eastern American Toad      | S  |
| <input type="checkbox"/> <i>Bufo fowleri</i><br>Fowler's Toad                    | S  |
| <input type="checkbox"/> <i>Hyla versicolor</i><br>Gray Treefrog                 | D  |
| <input type="checkbox"/> <i>Pseudacris c. crucifer</i><br>Northern Spring Peeper | S  |
| <input type="checkbox"/> <i>Rana catesbeiana</i><br>Bullfrog                     | S  |
| <input type="checkbox"/> <i>Rana clamitans melanota</i><br>Green Frog            | S  |
| <input type="checkbox"/> <i>Rana palustris</i><br>Pickerel Frog                  | SC |
| <input type="checkbox"/> <i>Rana pipiens</i><br>Northern Leopard Frog            | D  |
| <input type="checkbox"/> <i>Rana sylvatica</i><br>Wood Frog                      | D  |
| <input type="checkbox"/> <i>Scaphiopus holbrookii</i><br>Eastern Spadefoot       | E  |

## CHECKLIST

**TURTLES**

- |   |    |
|---|----|
| <input type="checkbox"/> <i>Caretta caretta</i><br>Loggerhead                           | T  |
| <input type="checkbox"/> <i>Chelonia mydas</i><br>Green Turtle                          | T  |
| <input type="checkbox"/> <i>Lepidochelys kempii</i><br>Atlantic Ridley                  | E  |
| <input type="checkbox"/> <i>Chelydra s. serpentina</i><br>Common Snapping Turtle        | S  |
| <input type="checkbox"/> <i>Dermochelys coriacea</i><br>Leatherback                     | E  |
| <input type="checkbox"/> <i>Chrysemys picta ssp.</i><br>Painted Turtle                  | S  |
| <input type="checkbox"/> <i>Clemmys guttata</i><br>Spotted Turtle                       | D  |
| <input type="checkbox"/> <i>Clemmys insculpta</i><br>Wood Turtle                        | SC |
| <input type="checkbox"/> <i>Clemmys mublenbergii</i><br>Bog Turtle                      | E  |
| <input type="checkbox"/> <i>Malaclemys t. terrapin</i><br>Northern Diamondback Terrapin | S  |
| <input type="checkbox"/> <i>Terrapene c. carolina</i><br>Eastern Box Turtle             | SC |
| <input type="checkbox"/> <i>Sternotherus odoratus</i><br>Common Musk Turtle             | S  |

**LIZARDS**

- |   |   |
|---|---|
| <input type="checkbox"/> <i>Eumeces fasciatus</i><br>Five-lined Skink | T |
|---|---|

## AMPHIBIANS AND REPTILES IN CONNECTICUT

**SNAKES**

- |  |    |
|--|----|
| <input type="checkbox"/> <i>Carpophis a. amoenus</i><br>Eastern Worm Snake               | S  |
| <input type="checkbox"/> <i>Coluber c. constrictor</i><br>Northern Black Racer           | D  |
| <input type="checkbox"/> <i>Diadophis punctatus edwardsii</i><br>Northern Ringneck Snake | S  |
| <input type="checkbox"/> <i>Elaphe o. obsoleta</i><br>Black Rat Snake                    | U  |
| <input type="checkbox"/> <i>Heterodon platirhinos</i><br>Eastern Hognose Snake           | SC |
| <input type="checkbox"/> <i>Lampropeltis t. triangulum</i><br>Eastern Milk Snake         | S  |
| <input type="checkbox"/> <i>Lioclorophis vernalis</i><br>Smooth Green Snake              | U  |
| <input type="checkbox"/> <i>Nerodia s. sipedon</i><br>Northern Water Snake               | S  |
| <input type="checkbox"/> <i>Storeria d. dekayi</i><br>Northern Brown Snake               | S  |
| <input type="checkbox"/> <i>Storeria o. occipitamaculata</i><br>Northern Redbelly Snake  | S  |
| <input type="checkbox"/> <i>Thamnophis s. sauritus</i><br>Eastern Ribbon Snake           | SC |
| <input type="checkbox"/> <i>Thamnophis s. sirtalis</i><br>Eastern Garter Snake           | S  |
| <input type="checkbox"/> <i>Agkistrodon contortrix mokasen</i><br>Northern Copperhead    | D  |
| <input type="checkbox"/> <i>Crotalus horridus</i><br>Timber Rattlesnake                  | E  |

TABLE 2

AMPHIBIANS and REPTILES  
ERRONEOUSLY REPORTED  
as INDIGENOUS to CONNECTICUT

## SALAMANDERS

<i>Ambystoma tigrinum</i>	Eastern Tiger Salamander
<i>Pseudotriton r. ruber</i>	Northern Red Salamander

## FROGS

<i>Acris c. crepitans</i>	Northern Cricket Frog
<i>Pseudacris feriarum</i>	Upland Chorus Frog
<i>Rana septentrionalis</i>	Mink Frog

## TURTLES

<i>Apalone s. spinifera</i>	Eastern Spiny Softshell
<i>Emydoidea blandingii</i>	Blanding's Turtle
<i>Kinosternon s. subrubrum</i>	Eastern Mud Turtle

## SNAKES

<i>Opheodrys aestivus</i>	Rough Green Snake
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Dr. Klemens has spent over two decades studying amphibians and reptiles in the northeastern United States and in east Africa. He is on the scientific staff of the Department of Herpetology at the American Museum of Natural History and is the author of numerous papers and several books on herpetology and conservation. Dr. Klemens has promoted awareness of amphibians and reptiles through his scientific papers, lectures, popular articles, and television appearances. He has worked tirelessly to conserve amphibians and reptiles in his own backyard and around the world.



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WCS's Metropolitan Conservation Alliance develops innovative, locally-based strategies that tackle ecosystem loss and urban sprawl in the tri-state New York City region. Founded in 1997 by Dr. Michael Klemens, a WCS conservation zoologist and local land-use planner, the Alliance brings together a wide array of stakeholders and experts to understand the biological, social, economic, and legal aspects of land-use planning systems. Through the Alliance, these groups work together to create land-use plans that protect wildlife and the habitats upon which they depend, while recognizing the need to promote ecologically responsible development.

For more information about the Wildlife Conservation Society and its programs contact:

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