
Common Name: Common mudpuppy *SGCN*
Scientific Name: *Necturus maculosus maculosus*
Taxon: Amphibians

Federal Status: Not Listed **Natural Heritage Program Rank:**
New York Status: Not Listed Global: G5
New York: S4
Tracked: No

Synopsis:

The common mudpuppy is a large, fully-aquatic salamander that occurs in much of the eastern United States, though not as far south as the coastal states. A subspecies, the red river mudpuppy or “waterdog” (*N. m. louisianensis*), occurs in Arkansas and Missouri. In New York, the common mudpuppy occurs in rivers and lakes throughout the state except in the southern tier counties and on Long Island. Rangewide, populations appear to be stable despite pollution and siltation of streams (Petranka 1998).

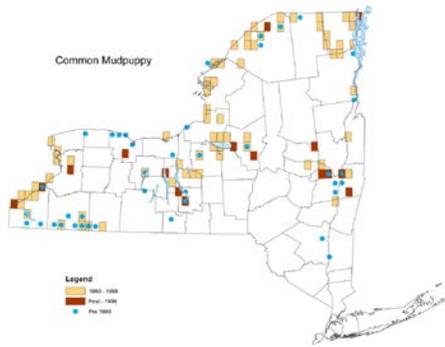
Distribution (% of NY where species occurs)		Abundance (within NY distribution)		NY Distribution Trend	NY Abundance Trend
0% to 5%		Abundant		Stable	Unknown
6% to 10%	X	Common			
11% to 25%		Fairly common	X		
26% to 50%		Uncommon			
> 50%		Rare			

Habitat Discussion:

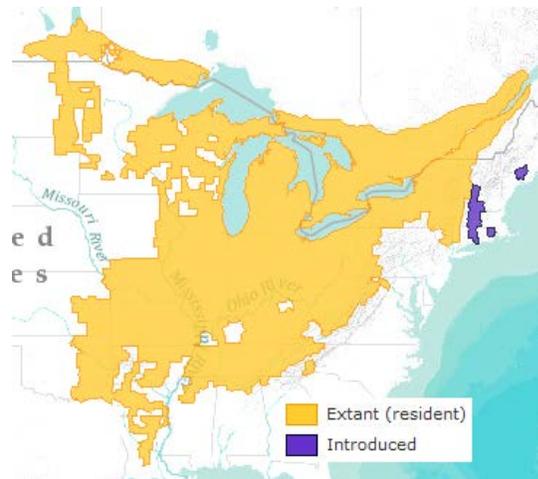
Mudpuppies are found in a variety of permanent water bodies—both standing and moving—including the largest waterways, deep cold lakes, shallow weedy ponds, and fast-moving clean streams (Gibbs et al. 2007). In all habitats, they are associated with some form of submerged cover where they feed and rest. They are frequently found beneath cover during daylight hours, but in waters with high turbidity they may be active during the day as well (Hulse et al. 2001).

Primary Habitat Type
Headwater/Creek
Lake
Large/Great River
Medium River
Small River

Distribution:



NYSDEC (2013)



IUCN (2013)

Threats to NY Populations				
Threat Category	Threat	Scope	Severity	Irreversibility
1. Invasive & Other Problematic Species	Invasive Non-Native/Alien Species (lampricide treatments)	R	L	L
2. Invasive & Other Problematic Species	Invasive Non-Native/Alien Species (botulism e)	R	M	V
3. Human Intrusions & Disturbance	Recreational Activities (fishing)	P	L	L
4. Natural System Modifications	Dams & Water Management/Use (change in water flow from dams)	N	L	H
5. Invasive & Other Problematic Species & Genes	Invasive Non-Native/Alien Species (disease)	P	L	V

References Cited:

Gibbs, J. P., A. R. Breisch, P. K. Ducey, G. Johnson, J. L. Behler, and R. C. Bothner. 2007. The amphibians and reptiles of New York State. Oxford University Press, New York. xv + 422 pp.

Harding, J.H. 1997. Amphibians and reptiles of the Great Lakes region. The University of Michigan Press, Ann Arbor. xvi + 378 pp.

Hulse, A.C., C.J. McCoy, and E. Censky. 2001. Amphibians and reptiles of Pennsylvania and the Northeast. Cornell University Press, Ithaca, NY.

Petranka, J.W. 1998. Salamanders of the United States and Canada. Smithsonian Institution Press, Washington and London. 587 pages.

Common Name: Eastern spadefoot *SGCN*
Scientific Name: *Scaphiopus holbrookii*
Taxon: Amphibians

Federal Status: Not Listed **Natural Heritage Program Rank:**
New York Status: Special Concern Global: G5
New York: S2S3
Tracked: Yes

Synopsis:

The eastern spadefoot occurs in much of the eastern United States, from Alabama eastward and northward to Saratoga County in New York. Populations in New York are scattered through sandy uplands in the eastern part of the state. Although not easily detected because it spends most of the year underground, spadefoot toads occur in large numbers where habitat characteristics are appropriate, apparently limited more by its need for sandy soils than any other factor. While long-term trends are unknown due to the absence of baseline data, it is thought that habitat loss—especially loss of vernal pools and adjacent uplands from development—has resulted in a negative short-term trend.

Distribution (% of NY where species occurs)		Abundance (within NY distribution)		NY Distribution Trend	NY Abundance Trend
0% to 5%	X	Abundant		Stable	Unknown
6% to 10%		Common	X		
11% to 25%		Fairly common			
26% to 50%		Uncommon			
> 50%		Rare			

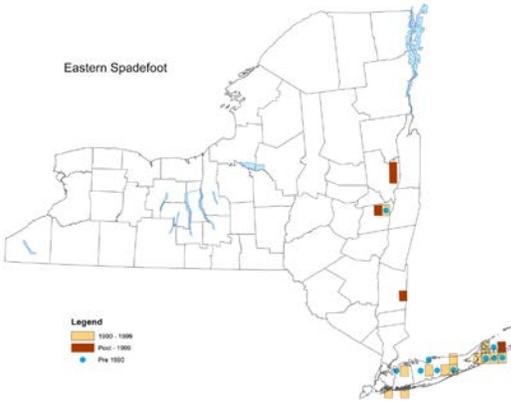
Habitat Discussion:

Due to their multistage lifecycle, eastern spadefoot toads require a matrix of habitat types. They are found primarily in uplands of varying cover types, including open forest, shrubland, brushy areas, and occasionally old fields and farmlands (Gibbs et al. 2007), interspersed with ephemeral or vernal pools with open canopies. As a species that spends most of its time burrowed underground, the spadefoot requires dry soils that are easy to burrow in: either sand or sandy loam. These soils are characteristic of pitch pine/scrub oak natural communities and coastal oak woodlands, with sparse shrub growth and scattered temporary pools. Areas with leaf litter are preferred, in order to prevent desiccation and avoid predation (Baughman and Todd 2007). Spadefoot toads also prefer to burrow under shrubs, particularly are the edges of forested areas, which provide higher prey abundance, increased soil moisture, and protection from predators (Timm 2013). Upland areas with high root density or unnatural substrates, such as sod or gravel, are generally avoided (Jansen 2001). In New York, remaining populations are found in pine barrens habitats.

Primary Habitat Type
Coastal Coniferous Barrens
Coastal Plain Pond
Oak-Pine Forest
Pine Barrens
Vernal Pool

Distribution:

Populations are known in areas where sandy soils provide appropriate habitat: on Long Island and in the sand plains of Albany and Saratoga counties. An additional population occurs in the Dover Plains area, halfway between Albany and New York City.



NYSDEC (2013)



IUCN (2013)

Threats to NY Populations				
Threat Category	Threat	Scope	Severity	Irreversibility
1. Residential & Commercial Development	Housing & Urban Areas (loss/degradation of habitat to development)	W	L	H
2. Transportation & Service Corridors	Roads & Railroads (roadkill)	W	L	H
3. Invasive & Other Problematic Species & Genes	Invasive Non-Native/Alien Species (disease: ranavirus, chytrid fungus)	W	L	V
4. Biological Resource Use	Hunting & Collecting Terrestrial Animals (illegal collecting)	N	L	M
5. Pollution	Agricultural & Forestry Effluents (vulnerable to pesticides)	N	L	M

References Cited:

Baughman, B. and B. Todd. 2007. Role of substrate cues in habitat selection by recently metamorphosed *Bufo terrestris* and *Scaphiopus holbrookii*. *Journal of Herpetology* 41:154-157.

Gibbs, J. P., A.R. Breisch, P.K. Ducey, G. Johnson, J.L. Behler and R.C. Bothner. 2007. *The Amphibians and Reptiles of New York State: Identification, Natural History and Conservation*. New York; Oxford University Press.

Jansen, K. P., A. P. Summers, and P. R. Delis. 2001. Spadefoot toads (*Scaphiopus holbrookii holbrookii*) in an urban landscape: effects of nonnatural substrates on burrowing in adults and juveniles. *Journal of Herpetology* 35(1): 141-145.

Timm, B. 2013. The Ecology and Conservation of the Eastern Spadefoot (*Scaphiopus holbrookii*) in the Province Lands of Cape Cod National Seashore, U.S.A. Ph.D. Dissertation, University of Massachusetts Amherst.

Common Name: Fowler's toad *SGCN*
Scientific Name: *Anaxyrus fowleri*
Taxon: Amphibians

Federal Status: Not Listed **Natural Heritage Program Rank:**
New York Status: Not Listed Global: G5
New York: S4
Tracked: No

Synopsis:

Until 1996, Fowler's toad was considered an eastern subspecies of the Woodhouse's toad (*Bufo woodhousii*) (Sullivan et al. 1996). It was again reclassified in 2006, when it was reclassified from the genus *Bufo* to the genus *Anaxyrus* (Frost et al. 2006). Fowler's toads occur in lowland habitats that have dry, sandy soils. They are found in most of the eastern United States and along the northern shore of Lake Erie in Ontario, though the species is absent from northern New England and the Florida peninsula (Conant and Collins 1991). In New York, this toad occurs primarily on Long Island. Populations are scattered northward along the Hudson Valley to the sand plains of Albany, Saratoga, and Warren counties, where the species is near the northern extent of its range in the United States. North American populations are stable but local extirpations have occurred in Ontario and Massachusetts, at the edges of its range.

Distribution (% of NY where species occurs)		Abundance (within NY distribution)		NY Distribution Trend	NY Abundance Trend
0% to 5%		Abundant		Moderate Decline	Moderate Decline
6% to 10%	X	Common	X		
11% to 25%		Fairly common			
26% to 50%		Uncommon			
> 50%		Rare			

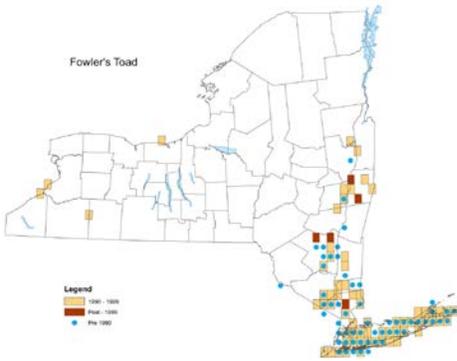
Habitat Discussion:

Fowler's toads are found in wooded lowlands, river valleys and floodplains, and agricultural areas, and are typically associated with dry, friable soils. Dry soils facilitate underground burrowing during times of inactivity, though this toad may also hide under rocks, plants, or other cover when inactive. Breeding occurs in shallow water of marshes, ponds, lakes, reservoirs, flooded areas, and other bodies of water lacking a strong current including ephemeral pools, ditches, and borrow pits. Fowler's toads do not avoid disturbed areas and can occur in suburban areas, as they do on Long Island.

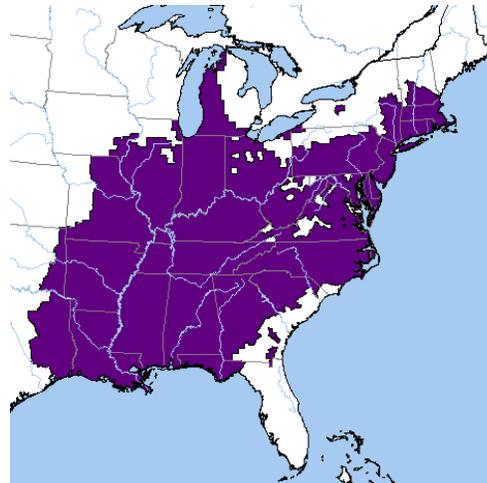
Primary Habitat Type
Coastal Coniferous Barrens
Coastal Plain Pond
Floodplain Forest
Pine Barrens
Vernal Pool

Distribution:

Fowler's toads are locally common in New York, occurring on Long Island, the Hudson Valley northward to the sand plains, and in two locations in western New York (Gibbs et al. 2007).



NYSDEC (2013)



NatureServe (2013)

Threats to NY Populations				
Threat Category	Threat	Scope	Severity	Irreversibility
1. Residential & Commercial Development	Housing & Urban Areas (loss/degradation of habitat to development)	W	L	M
2. Human Intrusions & Disturbance	Recreational Activities (ATV use in sandy areas)	N	L	M
3. Transportation & Service Corridors	Roads & Railroads (road mortality)	W	L	H
4. Invasive & Other Problematic Species & Genes	Invasive Non-Native/Alien Species (e. g., Phragmites)	N	L	H
5. Climate Change & Severe Weather	Droughts	N	L	V
6. Climate Change & Severe Weather	Temperature Extremes (rapid)	N	L	V
7. Pollution	Air-borne Pollutants (mercury)	W	L	H
8. Pollution	Agricultural & Forestry Effluents (pesticides including DDT, West Nile control)	W	L	H

See [insert location for Sc, Sev, Irr] for description of Scope, Severity, and Irreversibility (N = narrow; R = restricted; W = widespread; P = Pervasive; L = low; M = medium; H = high; V = very high).

References Cited:

Conant, R. and J. T. Collins. 1991. A field guide to the amphibians and reptiles of eastern and central North America. Houghton Mifflin Co., Boston, MA.

Frost, D. R., T. Grant, J. Falvovich, R. Bain, A. Haas, R. de Sá, A. Green, and W. Wheeler. 2006. The amphibian tree of life. *Bulletin American Museum Natural History* 297:1-370.

Gibbs, J. P., A. R. Breisch, P. K. Ducey, G. Johnson, J. L. Behler, and R. C. Bothner. 2007. The amphibians and reptiles of New York State. Oxford University Press, New York. xv + 422 pp.

Sullivan, B. K., K. B. Malmos, and M. F. Given. 1996. Systematics of the *Bufo woodhousii* complex (Anura: Bufonidae): advertisement call variation. *Copeia*. 1996(2): pp. 274-280.

Common Name: Marbled salamander *SGCN*
Scientific Name: *Ambystoma opacum*
Taxon: Amphibians

Federal Status: Not Listed **Natural Heritage Program Rank:**
New York Status: Special Concern Global: G5
New York: S3
Tracked: No

Synopsis:

The marbled salamander occurs in the southeastern part of the United States and reaches its northern extent in southeastern New York. Adults are found in upland or floodplain deciduous forests and seem to prefer areas with dry or friable soil. Breeding occurs during the fall when eggs laid in forest depressions are protected by the female until rains flood them and initiate hatching. Populations are thought to be declining, primarily due to loss and fragmentation of habitat resulting from urbanization.

Distribution (% of NY where species occurs)		Abundance (within NY distribution)		NY Distribution Trend	NY Abundance Trend
0% to 5%	X	Abundant		Moderate Decline	Moderate Decline
6% to 10%		Common			
11% to 25%		Fairly common			
26% to 50%		Uncommon	X		
> 50%		Rare			

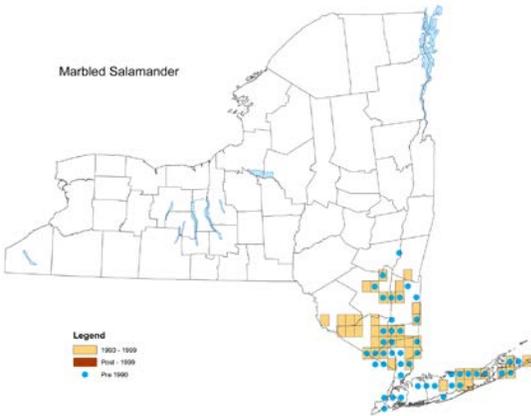
Habitat Discussion:

From Gibbs et al. (2007): Marbled salamanders are found in upland and floodplain deciduous forests with wet depressions that provide fall breeding pools. Bishop (1941) noted that this salamander seems to prefer forests with dry, friable soils and well-drained slopes as long as moist areas are nearby. Breeding occurs during the fall in forest depressions that contain water during the fall, winter, and spring but dry up during summer. Merovich and Howard (2000) note that constructed pools will be used for breeding but that pools older than 30 years are preferred. Streambeds may be used for migration routes (Gibbs 1998).

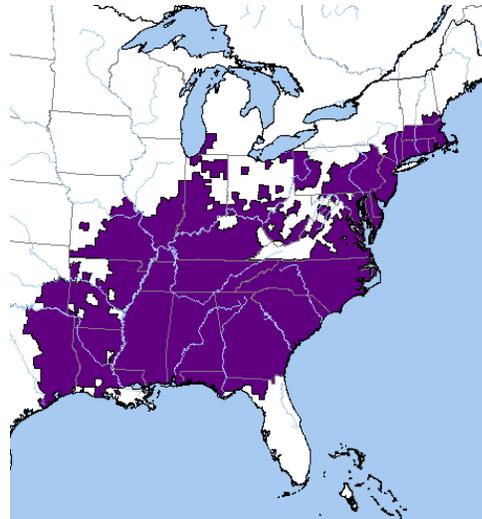
Primary Habitat Type
Coastal Hardwoods
Coastal Plain Pond
Floodplain Forest
Hardwood Swamp
Oak Forest
Vernal Pool

Distribution:

Marbled salamanders are concentrated in the southeastern part of the state including eastern Long Island. There is a noticeable gap in western Long Island where development is extensive (Gibbs et al. 2007).



NYSDEC (2013)



NatureServe (2013)

Threats to NY Populations				
Threat Category	Threat	Scope	Severity	Irreversibility
1. Residential & Commercial Development	Housing & Urban Areas (loss/degradation of habitat to development)	W	L	H
2. Transportation & Service Corridors	Roads & Railroads (roadkill)	W	L	H
3. Invasive & Other Problematic Species & Genes	Invasive Non-Native/Alien Species (disease: ranavirus, chytrid fungus)	P	L	V
4. Biological Resource Use	Hunting & Collecting Terrestrial Animals (illegal collecting)	R	L	M
5. Pollution	Air-Borne Pollutants (acid rain; though studies are contradictory, mercury)	P	L	H
6. Climate Change & Severe Weather	Habitat Shifting & Alteration (precipitation timing)	W	L	V

References Cited:

Bishop, S.C. 1941. The salamanders of New York. New York State Museum Bulletin No. 324. Albany, NY.

Gibbs, J.P. 1998. Amphibian movements in response to forest edges, roads, and streambeds in southern New England. *Journal of Wildlife Management* 62:584–589.

Gibbs, J. P., A. R. Breisch, P. K. Ducey, G. Johnson, J. L. Behler, R. Bothner. 2007. *Amphibians and reptiles of New York State: Identification, natural history, and conservation*. Oxford University Press. 504 pages.

Merovich, C.E. and J.H. Howard. 2000. Amphibian use of constructed ponds on Maryland's eastern shore. *Journal of the Iowa Academy of Science* 107:151–159.

Common Name: Western chorus frog *SGCN*
Scientific Name: *Pseudacris triseriata*
Taxon: Amphibians

Federal Status: Not Listed **Natural Heritage Program Rank:**
New York Status: Not Listed Global: G5
New York: S4
Tracked: No

Synopsis:

This assessment includes the proposed boreal chorus frog (*P. borealis*) until more information is available. The western chorus frog occurs in the east-central United States and southeastern Canada including parts of Ontario, Quebec, Michigan, Illinois, New York, Pennsylvania, Indiana, Kentucky, and Tennessee. It is at the northern extent of its range in New York where it occurs in low-lying areas of the Great Lakes Plain, St. Lawrence Plain, and Champlain Valley. Western chorus frogs are found in open country with damp meadows, bottomland swamps, and temporal pools (Minton 2001, Gibbs et al. 2007). Despite being tolerant of some disturbance, populations in northern New York (Gibbs et al. 2005) and the Great Lakes region declined from 1970-2000 (Weeber and Vallianatos 2000), and are thought to be declining across the range as well (Moriarty and Lanoo in Lanoo 2005).

The taxonomy of this species has been the subject of debate. Though not universally accepted, *P. triseriata* is considered a monotypic species in the definitive list by Crothier et al. (2012). Populations in western and northern New York may represent two distinct species, the other being the boreal chorus frog, *P. maculata* (Moriarty and Cannatella 2004, Lemmon et al. 2007).

Distribution (% of NY where species occurs)		Abundance (within NY distribution)		NY Distribution Trend	NY Abundance Trend
0% to 5%		Abundant		Moderate Decline	Moderate Decline
6% to 10%		Common	X		
11% to 25%	X	Fairly common			
26% to 50%		Uncommon			
> 50%		Rare			

Habitat Discussion:

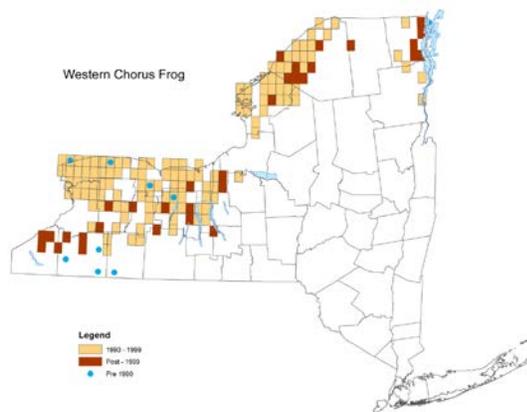
Western chorus frogs occur in open grasslands, meadows, and along forest edges. Within these habitats, adults are found in damp meadows and shallow pools with low shrubs and grasses (Kolozsvarly and Swihart 1999). Breeding occurs in any shallow temporary water bodies with at least 10 cm of water (Skelly 1996) including flooded fields, ditches, and rain pools.

Gibbs et al. (2005) found western chorus frogs in New York thrive in areas with less acidic soils and in areas with more pasture, less cultivated grasses, and less forests of all types.

Primary Habitat Type
Freshwater Marsh
Great Lakes Freshwater Estuary Marsh
Native Barrens and Savanna
Vernal Pool
Wet Meadow/Shrub Marsh

Distribution:

Western chorus frogs occur on the eastern Great Lakes Plain and the St. Lawrence Valley. A separate population occurs in Clinton and Essex counties in the Champlain Valley. The NYS Herp Atlas (1990-99) documented the species in 122 out of 979 survey quads (12%). Since 2000, records have been added to the NY Herpetology database in an additional 32 quads.



NYSDEC (2013)



Todd (2013)

Threats to NY Populations				
Threat Category	Threat	Scope	Severity	Irreversibility
1. Residential & Commercial Development	Housing & Urban Areas (habitat loss/degradation)	N	L	H
2. Agriculture & Aquaculture	Annual & Perennial Non-Timber Crops (habitat loss/degradation; agricultural intensification)	N	L	M
3. Climate Change & Severe Weather	Temperature Extremes	W	L	V
4. Climate Change & Severe Weather	Drought	W	L	V
5. Invasive & Other Problematic Species & Genes	Invasive Non-Native/Alien Species (chytrid pathogen; ranavirus, West Nile control)	N	L	V
6. Pollution	Excess Light & Energy (UV radiation)	P	L	V
7. Natural System Modifications	Other Ecosystem Modifications (succession)	R	L	M
8. Pollution	Agriculture & Forestry Effluents	W	L	M
9. Invasive & Other Problematic Species & Genes	Invasive Non-Native/Alien Species (Triple E)	N	L	H

References Cited:

Gibbs, J. P., A. R. Breisch, P. K. Ducey, G. Johnson, J. L. Behler, and R. C. Bothner. 2007. The amphibians and reptiles of New York State. Oxford University Press, New York. xv + 422 pp.

Gibbs, J.P., K.K. Whiteleather, and F.W. Schueler. 2005. Changes in frog and toad populations over 30 years in New York State. *Ecological Applications* 15:1148-57.

Kolozsvary, M.B. and R.K. Swihart. 1999. Habitat fragmentation and the distribution of amphibians: patch and landscape correlates in farmland. *Canadian Journal of Zoology* 77:1288-99.

Lemmon, E. M., A. R. Lemmon, J. T. Collins, J. A. Lee-Yaw, and D. C. Cannatella. 2007. Phylogeny-based delimitation of species boundaries and contact zones in the trilling chorus frogs (*Pseudacris*). *Molecular Phylogenetics and Evolution* 44: 1068-1082.

Minton Jr, S.A. 2001. Amphibians and Reptiles of Indiana, revised second edition. Indiana Academy of Science, Indianapolis, IN, USA.

Moriarty, E. C. and D. C. Cannatella. 2004. Phylogenetic relationships of the North American chorus frogs (*Pseudacris*: Hylidae). *Molecular Phylogenetics and Evolution* 30(2):409-420.

Skelly, D. K. 1996. Pond drying, predators, and the distribution of *Pseudacris* tadpoles. *Copeia* 1996:599-605.

Todd, K. C. 2013. *Frogs of the United States and Canada*, vol. 1. The Johns Hopkins University Press, Baltimore, MD.

Weeber, R.C. and M. Vallianatos. 2000. *The Marsh Monitoring Program 1995-99: Monitoring Great Lakes wetlands and their amphibian and bird inhabitants*. Bird Studies Canada, Port Rowan, Ontario, Canada.