WISCONSIN FROG AND TOAD SURVEY

SURVEY MANUAL

Wisconsin Department of Natural Resources
Bureau of Natural Heritage Conservation
Bureau of Science Services

2022

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The Wisconsin Frog and Toad Survey (WFTS) is a volunteer-based program coordinated by the Bureau of Natural Heritage Conservation and the Bureau of Science Services at the Wisconsin Department of Natural Resources (WDNR), in cooperation with the U.S. Geological Survey (USGS) and the North American Amphibian Monitoring Program (NAAMP). The primary purpose of the WFTS is to determine the status, distribution, and long-term population trends of Wisconsin's thirteen frog species. The WFTS was initiated in 1981 in response to known and suspected declines in several Wisconsin species, particularly northern leopard frogs (*Lithobates pipiens*), Blanchard's cricket frogs (*Acris blanchardi*), pickerel frogs (*Lithobates palustris*), and American bullfrogs (*Lithobates catesbeianus*). The WFTS began annual statewide surveys in 1984 and is now one of the longest running amphibian monitoring projects in North America.

WFTS Contact Information: Wisconsin Frog and Toad Survey
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Wisconsin Department of Natural Resources
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WFTS@wisconsin.gov
http://wiatri.net/inventory/frogtoadsurvey/

Acknowledgements:
The original materials for the Wisconsin Frog and Toad Survey ("Instructions" and "Natural History" packets) were written by Ruth Hine and Mike Mossman, based on protocols developed by Ray Anderson and Debra Jansen. These existing WFTS materials were combined and updated into this "Wisconsin Frog and Toad Survey Manual" by Rori Paloski, Tara Bergeson, Mike Mossman, and Bob Hay. We would also like to thank Jill Rosenberg for her assistance with this manual and associated updates to the WFTS website.

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INTRODUCTION

In recent decades, researchers have become concerned with the apparent rarity, decline, and/or population die-offs of amphibians throughout the world. This concern is not only for the species themselves but also for the ecosystems on which they depend. Frogs and toads, like many other aquatic organisms, are sensitive to changes in water quality and adjacent land use practices, and their health undoubtedly serves as an index to environmental quality.

Wisconsin is home to 12 native species of anurans (frogs and toads). Observers have noted declines in several of these species in recent decades as well. The Blanchard's cricket frog was once considered one of the most abundant and widespread frogs in southern Wisconsin, having been reported in 31 counties. However, over the past several decades this species has rapidly declined for unknown reasons, and breeding populations are now found in only seven counties in southwestern Wisconsin. In 1982, the cricket frog was placed on Wisconsin's endangered species list. The northern leopard frog, a species popular with medical laboratories and biology classes, has also experienced significant declines in Wisconsin over the past several decades. The northern leopard frog is still found throughout most of Wisconsin, however this species is not as abundant as it once was and populations continue to decline for unknown reasons. Several other Wisconsin anurans have experienced local declines as well.

As a result of these declines, the Wisconsin Frog and Toad Survey was initiated in 1981 to increase our knowledge of anuran abundance and distribution, and to monitor populations over the long term. Permanent statewide survey routes began in 1984. Each route consists of 10 wetlands that are visited 3 times annually (early spring, late spring, and summer) by a volunteer observer. At each listening site, the observer identifies the species calling and records an estimate of abundance using a call index value of 1, 2, or 3. This long-term cooperative survey, the first of its kind, has and will continue to provide us with valuable information on the status of Wisconsin frog and toad populations, and help us monitor the quality of our environment.

INSTRUCTIONS

If you are interested in volunteering with the Wisconsin Frog and Toad Survey, please first contact the Bureau of Natural Heritage Conservation so we can inform you if we are in need of volunteers in your area. Our survey goal is two routes per county, if there are less than 2 routes being run in your county we will either assign you a previously established route or we will have you establish a new survey route. If you have been asked to set up a new WFTS route please follow the directions below.

ESTABLISHING A NEW SURVEY ROUTE

1. Determine a route consisting of 10 wetland listening sites.
   All listening sites must be easily accessible at night, preferably along roadsides. You do not need to be able to physically reach every stream, wetland, etc., but you do need to be close enough to each site that you are confident you will be able to hear every species calling. Do NOT choose sites that require trespassing on private lands. The route should extend no more than approximately 35 miles, and may be quite short (e.g., it may be contained within a particular State Wildlife Area, arboretum, or city), so long as the observer cannot hear the same individual frogs or toads from 2 different sites. Sites must be ≥0.5 miles apart. Routes should not overlap county boundaries.

   Select a variety of wetland types that represents the range of breeding sites available. Consider large vs. small, open vs. shrubby vs. wooded, stagnant vs. flowing, permanent vs. temporary, natural vs. artificial, and remote vs. agricultural vs. urban sites. Do not avoid ponds that dry up during the year, for they are often very productive throughout the spring. Do avoid swift streams, and deep or denuded shores of lakes. Also avoid areas with heavy background noise such as busy streets or highways, certain industrial sites, or farms with barking dogs.

   Cooperators sometimes discover the first year that one or more of the sites originally chosen turn out to be unsuitable breeding habitat, or are poor sites because of unforeseen background noise, access problems, etc… In these cases it is usually necessary to replace the problem site with a new site sometime after the first survey run, thus voiding the entire first year's monitoring data. To avoid this, it is recommended that you begin with 11 or 12 sites the first year and choose only the 10 most reliable sites for the permanent route. At the end of the first year, report results only for the 10 permanent sites. It is often beneficial to drive the route during the day or at night prior to actually conducting the survey to assess all 12 sites for suitability (e.g. traffic, background noise, site location).

2. Describe your route.
   After choosing your sites, clearly and precisely mark the locations on a county map (provided upon request). We will then provide you with a set of topographic maps for your specific area of the county and a “Survey Route Description” form (“Survey Route Description” form, sample “Survey Route Description” form, and sample maps are located at the end of this manual). Mark the precise locations of your 10 sites on the topographic maps, and describe each listening point and wetland on the "Survey Route Description" form. This form should be precise enough that another observer could use only this form and conduct calling surveys from the exact same locations. Sites should be numbered in a convenient route sequence. Return the maps and route description with your completed data at the end of the field season.

3. Enlist one or more additional observers.
   These observers should become familiar with the frog calls, route, and survey methods, and be able to run the route in the event that you are temporarily or permanently unable to do so. Please include their names and contact information on the data sheet.

SURVEYING A ROUTE:

1. Obtain and review instructional materials and data sheets.
   The primary, designated cooperator for each established route will automatically receive these materials in late March or early April each year. Please contact us if you have not received this information by April 7th. Packets will include:

   a) Cover letter
   b) Route description
   c) Route map (county)
   d) Route map (topographic)
   e) Survey Manual (includes instructions and natural history information)
   f) Field data sheet (2 copies)

2. Know the calls, phenology, and general ranges of Wisconsin anurans.
   All cooperators are required to have listened to and learned the Wisconsin anuran calls prior to conducting their first survey. At no charge, new cooperators can learn calls by visiting the U.S. Geological Survey Frog Quiz Website:

   USGS Frog Quiz
   http://www.pwrc.usgs.gov/frogquiz/index.cfm?fuseaction=main.lookup

   For more information, volunteers can view the Wisconsin Frog and Toad Survey's species videos to learn all of Wisconsin's anuran breeding calls as well as their ecology and statewide distribution:

   Wisconsin Frog & Toad Survey Videos
   http://wiatri.net/inventory/frogtoadsurvey/WIfrogs/

   In addition, if cooperators would also like to receive a CD or cassette tape of "Wisconsin Frogs and Toads," this can be purchased through:

   Madison Audubon Society
   211 S. Paterson St., Suite 340
   Madison, WI 53703
   608-255-2473
   madisonaudubon.org/store/wisconsin-frogs-and-toads-soundtrack-and-guide

   New and experienced observers will find it helpful to review the calls periodically and to take recordings along during surveys to help identify uncertain calls. New observers can learn the calls gradually by starting with those species that may be calling during the early spring survey period (wood frog, boreal chorus frogs, spring peeper, northern leopard frog, and pickerel frog), followed by those that begin calling in late spring (American toad, gray treefrog, and Cope's gray treefrog), and finally by those species that begin to call during the summer (Blanchard's cricket frog, mink frog, green frog, and American bullfrog). It is highly recommended that new observers practice distinguishing calls in the field with the help of a more experienced observer.

   This survey manual includes a "natural history" section that summarizes the geographic range, physical description, breeding habitat, breeding phenology, call, and status of each species in Wisconsin. Use this information to help determine which species are likely to occur in a given region, habitat, or season. Although it is entirely possible that you may find an unusually early or late singer, or a breeding population outside a species' previously documented range, you should be aware that these unusual

occurrences may require special scrutiny or verification. To help us document unusual species in your area, please audio record the calls and submit them for verification.

3. Run each route 3 times, once during each designated period.
   The timing of the survey with the phenology of frog calling is essential. **Calling surveys must be conducted within the designated survey periods** (Table 1). Data collected from outside the designated survey periods are difficult to interpret and impossible to compare between years or areas. Additionally, all 10 sites on a route must be surveyed on the same evening for the data to be considered valid. Be sure to also consider minimum water temperatures, especially for the early spring survey period.

   Table 1. Wisconsin frog calling survey periods.

Survey Period	Range of Dates	Minimum Water Temperature	Species Surveyed*
Early Spring	April 8-30	50°F	wood frog, boreal chorus frog, spring peeper, northern leopard frog, pickerel frog
Late Spring	May 20 - June 5	60°F	American toad, gray treefrog, Cope's gray treefrog
Summer	July 1-15	70°F	Blanchard's cricket frog, mink frog, green frog, American bullfrog

   ** The calling of these species peaks during the given survey period. These species are most commonly encountered during the given period, but may also be heard in other periods.*

4. Run surveys after dark, under favorable weather conditions.
   Choose an evening when water temperatures are at or above the minimums stated above and when wind is less than 12 mph (wind code value of 0, 1, 2, or 3), however a wind speed of 7 mph or less is preferred (wind code value or 0, 1, or 2). Warm, cloudy evenings with little or no wind and high humidity (even drizzle) are ideal. However surveys should not be conducted during a steady rain. Humidity and cloud cover are not critical, but temperature is: a sudden drop in air temperature will cause most anurans to cease calling. If part way through a survey run you find that conditions deteriorate significantly (e.g., rain begins, temperature drops, or wind increases), stop the survey and rerun the entire survey (not just the sites missed on the first try) at the nearest opportunity within the survey period. All 10 sites on a route must be surveyed on the same evening for surveys to be valid.

5. Listen for calls at each site.
   Approach a listening point so as to cause minimal disturbance. The arrival of a car or a person on foot may cause frogs to stop calling for a short time. If this occurs, wait until the frogs begin calling again to start your 5 minute survey. Listen for 5 minutes and record all calls audible from your listening point, not just those emanating from a particular pond, one side of the road, etc. Some calls may be drowned out by others, especially by the full chorus of spring peepers or chorus frogs. Where you suspect this to be the case, and after carefully listening and recording your initial data, you may try to silence the chorus by making a loud noise with the horn, car door, or your voice; and then listen for the less

conspicuous species as the calling gradually resumes. A tape recorder will enable you to record questionable situations that can be listened to and confirmed at a later time or date.

Where feasible, during the early spring survey period, place a thermometer in the water near where the frogs are calling (don't forget to take it when you leave that site!). Water temperatures should be taken at all locations where access to the water is convenient and is possible without trespassing.

6. Record your observations on the field data sheet.
   Include route number, year, county, observers' names and addresses, date, time, weather conditions, temperatures, and additional comments. Additional comments may include information on noise levels, attempts to silence loud choruses, changes in habitat since previous visits, site observations, or additional species observed. Record total mileage (mi) and all volunteer hours (hr/min) that were accumulated for each of your three survey runs. This data will be used to track and summarize all volunteer contributions for the WFTS. At each site record the abundance value for each species heard, according to the call index (Table 2). For species not calling, do not record a 0, instead leave the space blank.

   Table 2. Wisconsin frog call index.

Call Index	Criteria
1	Individuals can be counted; there is space between calls (no overlapping of calls).
2	Calls of individuals can be distinguished but there is some overlapping of calls.
3	Full chorus. Calls are constant, continuous, and overlapping; individual calls cannot be distinguished

7. Verify records of rare or extralimital occurrences.
   Verification is required for all records of the endangered Blanchard's cricket frog and any species found outside its previously documented range as indicated by the range maps. Verification can be accomplished by: a) an audio recording, b) testimony of 2 experienced observers, or c) a photograph. After an observer has verified a species, future verification of that particular species in the area may not be required.

8. Return your completed data sheet(s) by **August 15th**.
   Be sure to keep one copy of the field data sheet for your records (this is especially important if the data are lost in the mail). If you would like copies of other materials, please photocopy them, download information from the WFTS website (http://wiatri.net/inventory/frogtoadsurvey/), or request extra hard copies.

9. Important: Maintain one or more alternate observers.
   These observers should be able to produce results comparable to yours in case you are not able to run the survey temporarily or permanently. The alternate(s) should accompany you on the survey periodically and be familiar with the frog calls, route, and survey methods.

CALLING PHENOLOGY

Male frogs and toads, like male songbirds, advertise their presence to females by singing or "calling". Also like songbirds, each species has a distinctive call. Wisconsin frogs call during one or more of three general breeding periods: early spring (early season breeders), late spring (mid-season breeders), and summer (late season breeders). Wisconsin anurans typically call for 4 to 8 weeks; however, the wood frog is considered a short-term breeder and usually completes its breeding activity within two weeks. The onset and duration of frog calling is determined by local air and water temperatures and may vary considerably from year to year (the extended length of the survey periods accounts for these annual variations). Although air and water temperatures are considered more important than calendar dates for anuran breeding, WFTS surveys must be conducted within the three designated survey periods to be considered valid and to ensure consistency in statistical analyses. The anuran breeding phenology calendar (Figure 1) was determined for Portage County in central Wisconsin. Northern Wisconsin anurans may call a bit later and those in southern Wisconsin may call a bit earlier than the ranges presented in the calendar.

Calling times are closely related to the types of water in which anurans breed. The early season breeders typically use temporary bodies of water for breeding: a slough adjacent to a lake, a pothole that dries up by mid-July, or a roadside ditch. The tadpoles of these species metamorphose rapidly in these warmer, shallower bodies of water. You may often hear spring peepers or other early season breeders calling from what appears to be the shore of a lake but it is likely that they are often in a nearby body of water where the water has warmed more quickly than the lake. Late season breeders, such as the green frog, mink frog, and bullfrog breed only in permanent bodies of water. The tadpoles of these species overwinter and metamorphose the following year.

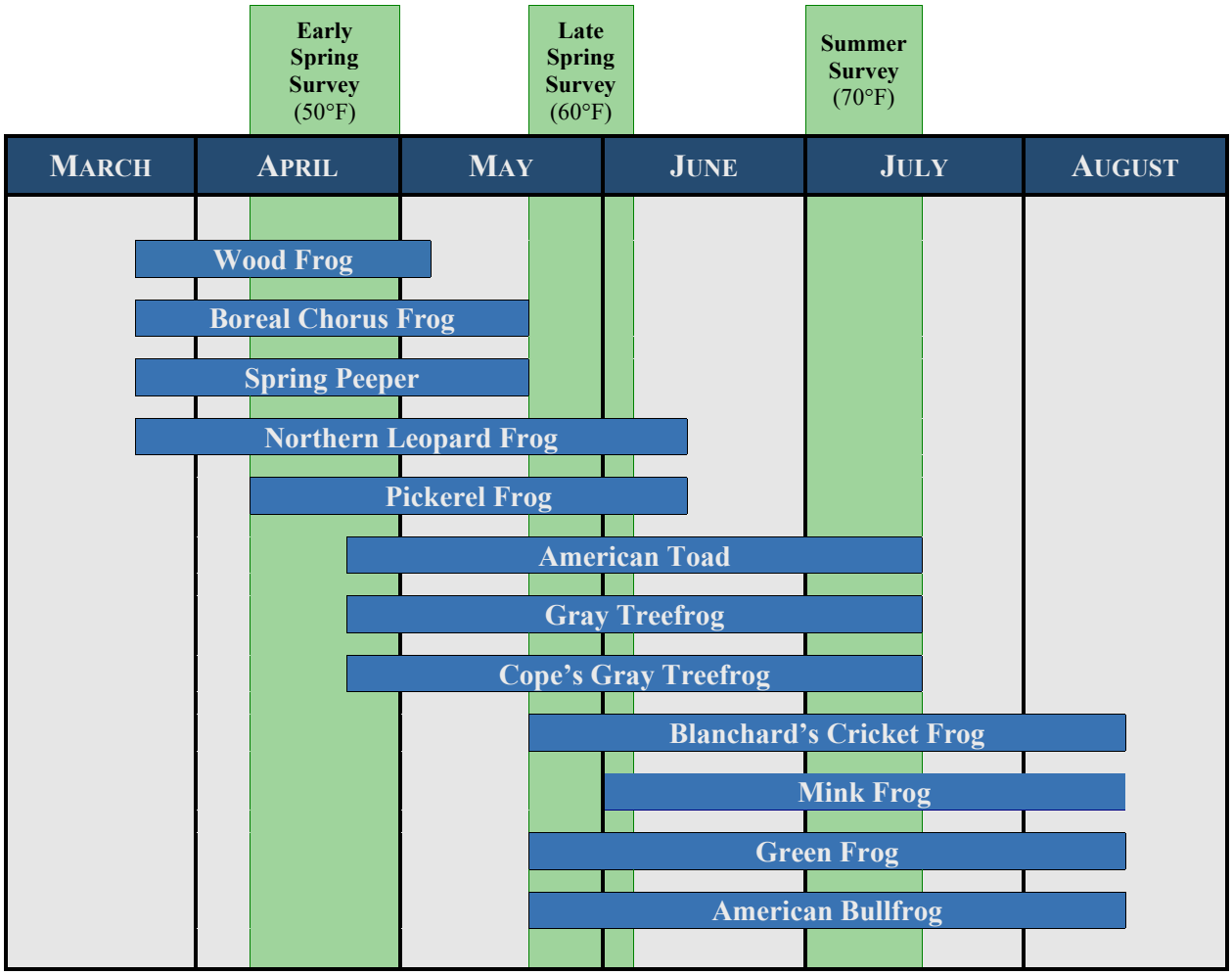


Figure 1. Breeding phenology of Wisconsin anurans with WFTS survey periods and required minimum water temperatures.*

NATURAL HISTORY

CHARACTERISTICS OF WISCONSIN FROGS AND TOADS

There are 12 frog and toad species, collectively called "anurans", native to Wisconsin. Most Wisconsin anurans are generally present throughout the state: American toad, spring peeper, gray treefrog, Cope's gray treefrog, green frog, northern leopard frog, pickerel frog, wood frog, and American bullfrog. However, the mink frog is found only in northern Wisconsin and the Blanchard's cricket frog is found only in southwestern Wisconsin. As of 1989 chorus frogs in Wisconsin were split into two distinct species, western chorus frogs and boreal chorus frogs. More recently (2007), evidence from mitochondrial data has revised the geographic ranges of these two species, suggesting that all chorus frogs in Wisconsin belong to the boreal chorus frog species.

Even though some Wisconsin anurans spend part of their life cycle on land, all 12 species require water for breeding and have specific breeding habitat requirements. Some anurans breed in temporary waters while others require permanent bodies of water. Anurans may utilize woodland pools, cool waters of spring-fed seeps, water that accumulates in agricultural field depressions, cattail marshes, or shallow margins of lakes and streams. Eggs are laid in the water by the female and are fertilized by the male while clasping her. The eggs hatch into tadpoles that metamorphose into young frogs or toads in varying lengths of time, dependent upon the species.

Detailed information on Wisconsin anurans is presented by Vogt (1981). Additional information is also located on our website, http://wiatri.net/inventory/frogtoadsurvey/. For quick reference, a brief general description of each Wisconsin anuran including its status, physical description, breeding habitat, breeding phenology, call description, and distribution is presented here.

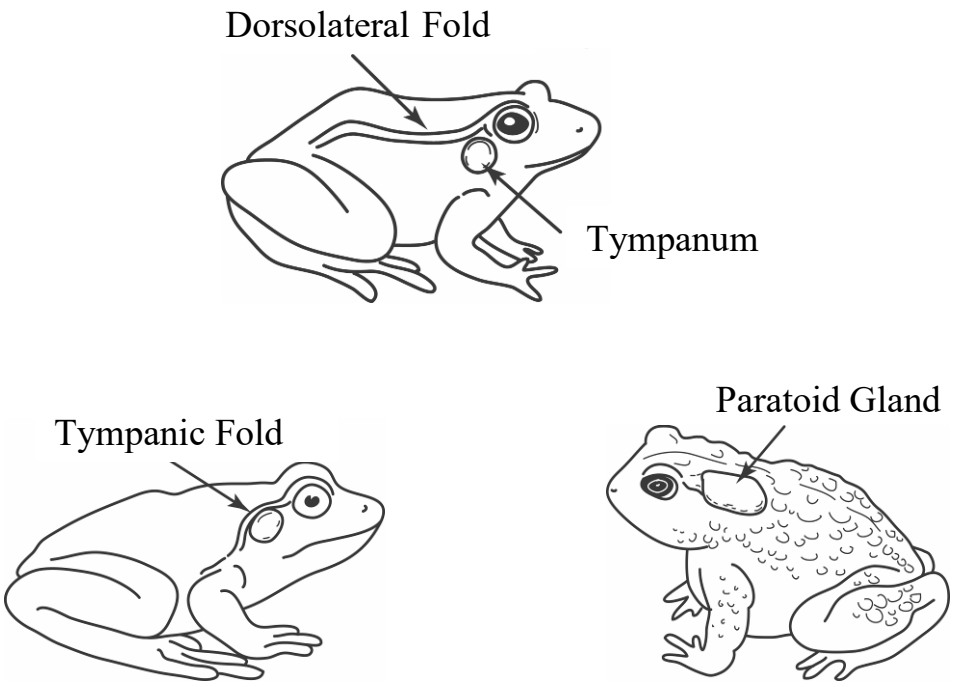
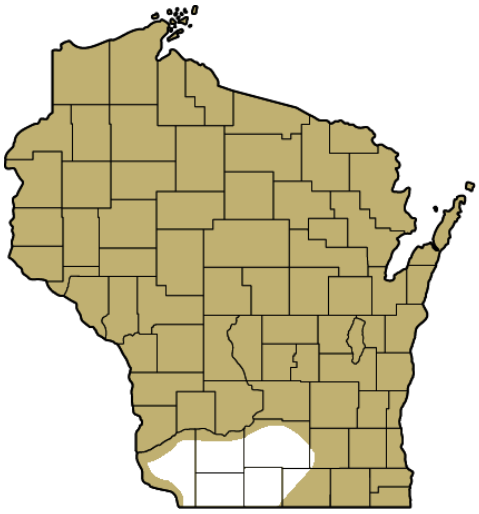


Figure 2. Anuran structures referred to in general descriptions.

WOOD FROG
Lithobates sylvaticus



Status:
Common

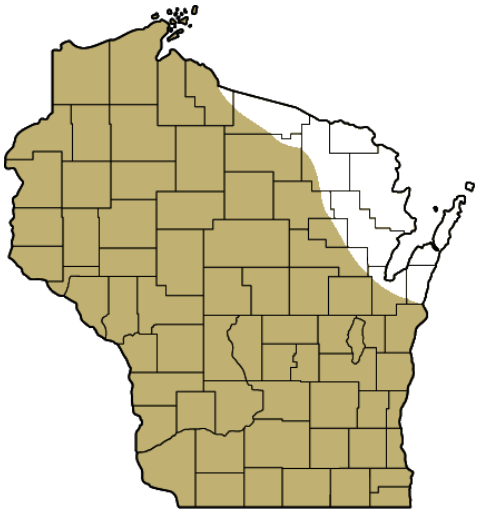
Physical Description:
1.5-2.75 inches (3.8-7.0 cm); pink, tan, or dark brown; dark mask through the eye; prominent dorsolateral ridges; light stripe on upper lip.

Breeding Habitat:
Temporary bodies of water within or adjacent to moist wooded areas.

Breeding Phenology:
Late March through early May (short-term breeder, typically only calls for 2 weeks during this period)

Call:
A hoarse, subtle quacking with little carrying power.

BOREAL CHORUS FROG
Pseudacris maculata



Status:
Common

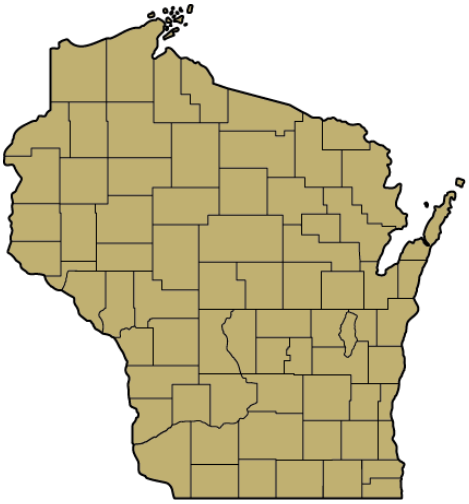
Physical Description:
0.75-1.25 inches (1.9-3.2 cm); greenish-gray to brown; 3 dark stripes down the back; light stripe on upper lip; small, round toe pads.

Breeding Habitat:
A variety of shallow, often temporary, bodies of water.

Breeding Phenology:
Late March through May

Call:
A "creek" lasting 1 or 2 seconds; similar to the sound of a fingernail running along the teeth of a fine-toothed comb.

SPRING PEEPER
Pseudacris crucifer



Status:
Common but declining

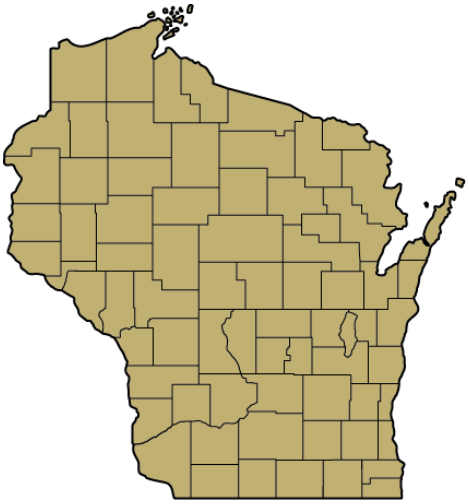
Physical Description:
0.75-1.25 inches (1.9-3.2 cm); tan, brown, or gray; a dark, often imperfect, "X" on the back; modest toe pads.

Breeding Habitat:
Temporary or semi-permanent marshes, swamps, and ponds within or adjacent to wooded areas.

Breeding Phenology:
Late March through May

Call:
A high ascending "peep", sometimes with a short trill; a full chorus resembles the jingling of bells.

NORTHERN LEOPARD FROG
Lithobates pipiens



Status:
Species of special concern, common but significantly declining

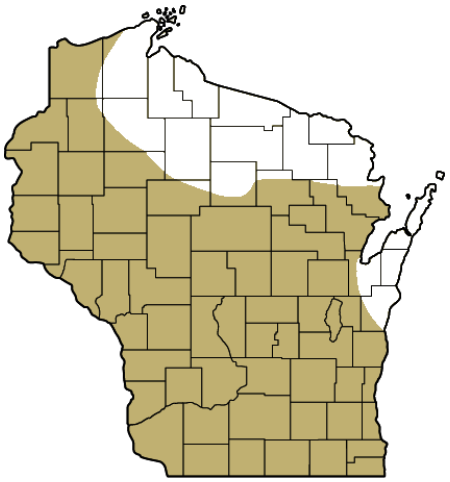
Physical Description:
2.0-3.5 inches (5.1-8.9 cm); green, brown, or tan; rounded dark spots, often with light borders; light stripe on upper lip; dorsolateral ridges extend to the groin.

Breeding Habitat:
Lakes, streams, rivers, ponds; often far from standing water (the "meadow frog") during the summer.

Breeding Phenology:
Late March through mid-June

Call:
A deep, rattling, broken snore interspersed with "chuckling"; resembles the sound of a thumb rubbing against a balloon; somewhat similar to the call of the pickerel frog.

PICKEREL FROG
Lithobates palustris



Status:
Species of special concern

Physical Description:
1.75-3.25 inches (4.4-8.2 cm); brown or tan; rectangular spots, without light borders, in parallel rows down the back; bright yellow or orange coloring on underside hind legs; light stripe on upper lip; dorsolateral ridges extend to the groin.

Breeding Habitat:
Cool, clear waters of spring-fed lakes, ponds, and streams; adjacent warm water habitats.

Breeding Phenology:
Mid-April through mid-June

Call:
A steady, low-pitched, short and constant snore with little carrying power; somewhat similar to the call of the northern leopard frog.

AMERICAN TOAD
Anaxyrus americanus

Status:
Common

Physical Description:
2.0-4.5 inches (5.1-11.4 cm); brown, red, or olive with darker warts; dry, rough skin; paratoid glands located behind each eye.

Breeding Habitat:
A variety of shallow water habitats.

Breeding Phenology:
Late April through mid-July (often an explosive breeder with the majority of individuals breeding in a 1-3 day period)

Call:
A musical trill lasting up to 30 seconds; considerable individual variation in tone.

GRAY TREEFROG*
(*formerly* EASTERN GRAY TREEFROG)
Hyla versicolor

Status:
Common

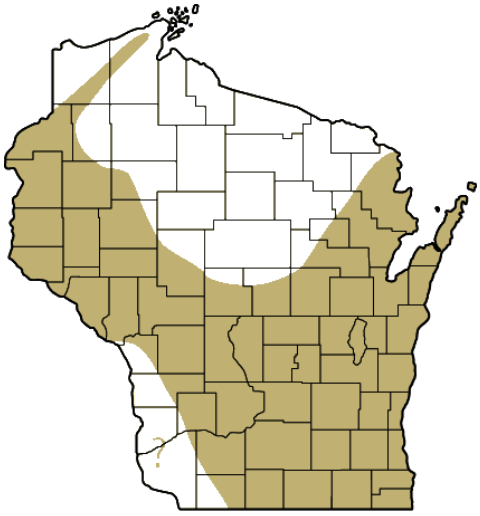
Physical Description:
1.25-2.0 inches (3.2-5.1 cm); green, gray, or brown and capable of changing color based on environmental conditions; darker blotches usually present; bright yellow or orange coloring on inner thighs; large toe pads.

Breeding Habitat:
A variety of permanent and semi-permanent bodies of water within or adjacent to wooded areas.

Breeding Phenology:
Late April through mid-July

Call:
A short, loud trill lasting up to 10 seconds; slower and more melodic than the call of the Cope's gray treefrog.

COPE'S GRAY TREEFROG*
Hyla chrysoscelis



Status:
Common but declining

Physical Description:
1.25-2.0 inches (3.2-5.1 cm); green, gray, or brown and capable of changing color based on environmental conditions; dark blotches often present; bright yellow or orange coloring on inner thighs; large toe pads.

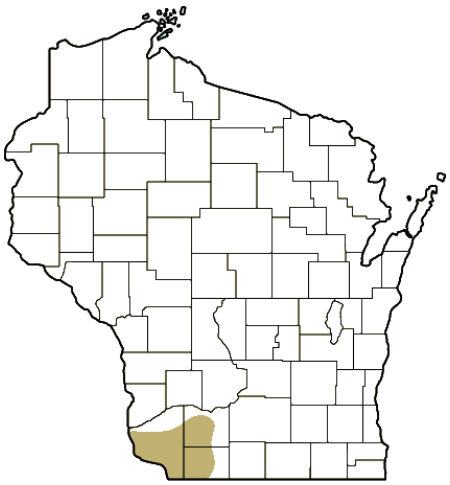
Breeding Habitat:
A variety of permanent and semi-permanent bodies of water in open areas and adjacent to wooded areas.

Breeding Phenology:
Late April through mid-July

Call:
A short, loud, raspy call lasting up to 1 second; faster and harsher than the gray treefrog. A nasally "wa-a-a-a-a".

**Few consistent physical differences exist between the gray treefrog and Cope's gray treefrog, however their calls are distinct.*

BLANCHARD'S CRICKET FROG
Acris blanchardi



Status:
Endangered, extremely rare

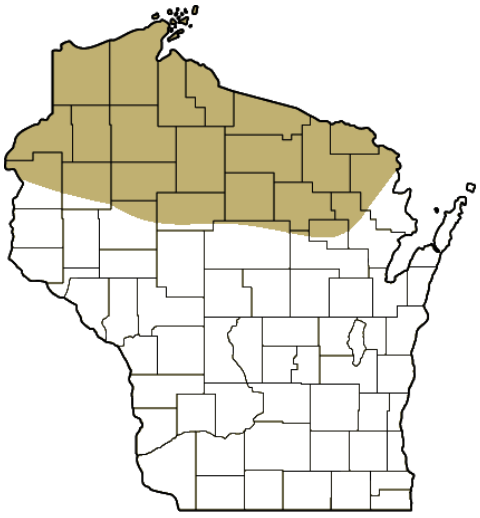
Physical Description:
0.75-1.5 inches (1.9-3.8 cm); brown, tan, gray or green and capable of changing color based on environmental conditions; darker brown, green or red dorsal stripe may be present; dark triangle between eyes sometimes present; rough skin; longitudinal dark stripe on back of thigh.

Breeding Habitat:
A variety of semi-permanent and permanent bodies of water with submergent and emergent vegetation.

Breeding Phenology:
Late May through mid-August

Call:
Resembles the clicking of pebbles or steel marbles; first increasing in speed and then sharply dropping off.

MINK FROG
Lithobates septentrionalis



Status:
Locally common

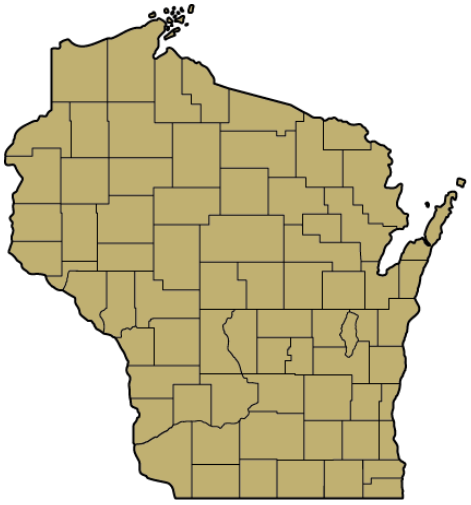
Physical Description:
1.75-2.75 inches (4.4-7.0 cm); green to brown often with spots or mottling on the back, sides, and legs; dorsolateral ridges absent; skin produces a musky, mink-like odor.

Breeding Habitat:
Cool, permanent water with abundant vegetation; often associated with bogs along lakes and streams.

Breeding Phenology:
June through mid-August

Call:
Resembles the sound of horses' hooves trotting over a cobblestone street.

GREEN FROG
Lithobates clamitans



Status:
Common

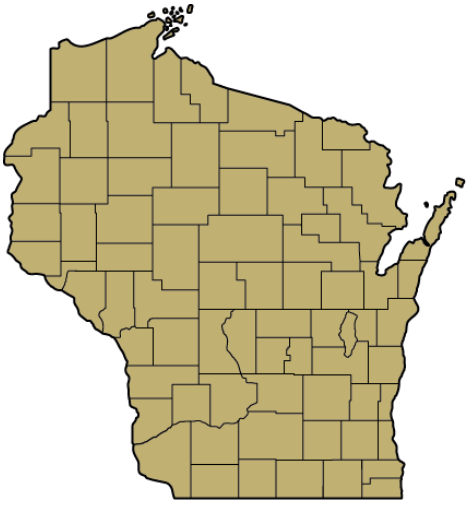
Physical Description:
2.25-3.5 inches (5.7-8.9 cm); green to brown; small dark spots often present on back, especially in younger individuals; dorsolateral ridges end on the body, do not reach groin; green on upper lip.

Breeding Habitat:
All types of permanent bodies of water.

Breeding Phenology:
Late May through mid-August

Call:
Similar to the twang of a loose banjo string; usually given as a single note.

AMERICAN BULLFROG
Lithobates catesbeianus



Status:
Species of special concern, locally common

Physical Description:
3.5-6.0 inches (8.9-15.2 cm); green to brown; dark markings often present on body; no dorsolateral ridges on the back, but obvious tympanic ridge.

Breeding Habitat:
All types of permanent bodies of water.

Breeding Phenology:
Late May through mid-August

Call:
Deep bass notes similar to a foghorn; resembles the sound made by drawing a bow across a bass fiddle; "jug-o-rum".

WISCONSIN FROG AND TOAD SURVEY (WFTS) -- Field Data Sheet

IMPORTANT -- Please return at the end of the season to:

Bureau of Natural Heritage Conservation
Wisconsin Department of Natural Resources
P.O. Box 7921
Madison, Wisconsin 53707-7921

Observer name(s): Run 1: _____ Route Number: _____

Year: _____

Run 2: _____ County(s): _____

Run 3: _____

Instructions: Use this voluntary form to record data at each of the 10 listening points along a WFTS route. Surveys are repeated 3 times during the breeding season according to the minimum water temperatures and ranges of dates given below for each survey run. Conduct surveys after dark when wind speed is less than 12 mph. Listen for 5 minutes at each site and record a call index value* of 1, 2, or 3 for each species calling. **See back of data sheet to obtain wind and sky codes and record additional comments.** Return data sheet to above address by **August 15th.**

	FIRST RUN Water Temp 50°F+; April 8-30	SECOND RUN Water Temp 60°F+; May 20 - June 5	THIRD RUN Water Temp 70°F+; July 1-15
DATE:			
BEGIN: Time: / Wind: / Sky: / Air Temp (°F):			
END: Time: / Wind: / Sky: / Air Temp (°F):			
CALL INDEX*			

SITE NAME	Site Number	Water Temp (°F)	Wood frog	Boreal chorus frog	Spring peeper	Northern leopard frog	Pickerel frog	American toad	Gray treefrog	Cope's gray treefrog	Blanchard's cricket frog	Mink frog	Green frog	American bullfrog
1.	1.													
2.	2.													
3.	3.													
4.	4.													
5.	5.													
6.	6.													
7.	7.													
8.	8.													
9.	9.													
10.	10.													

	FIRST RUN:	SECOND RUN:	THIRD RUN:
Total Miles Driven (Round-Trip)**			
Total Survey Time (Round-Trip)**			

* The call index is a rough estimate of the number of calling males of a particular species, according to the following index values:
1 = Individuals can be counted; there is space between calls (no overlapping of calls).
2 = Calls of individuals can be distinguished but there is some overlapping of calls.
3 = Full chorus. Calls are constant, continuous, and overlapping; individual calls cannot be distinguished.

**Round-trip mileage (mi) and survey time (hr/min) for all active participants helps track volunteer contributions for the WFTS.

Form 1700-008
Revised April 2022

Please provide names, addresses, and phone numbers of all observers
Place asterisk by name of cooperator who should receive materials next spring

Route Number: _____
Year: _____
County: _____

Name: _____ _____ _____ _____
Address: _____ _____ _____ _____
_____ _____ _____ _____
Phone: _____ _____ _____ _____
Email: _____ _____ _____ _____

Enter sky and wind codes on front of data sheet:

Wind Code	Wind Speed (miles per hour)	Indicators of Wind Speed
0	less than 1	Smoke rises vertically
1	1-3	Wind direction shown by smoke drift
2	4-7	Wind felt on face; leaves rustle
3	8-12	Leaves and small twigs in constant motion; wind extends light flag
4	13-18	Wind raises dust and loose paper; small branches moved

Sky Code	Sky Condition
0	Clear or a few clouds
1	Partly cloudy or variable
2	Cloudy (broken) or overcast
4	Fog
5	Drizzle
6	Showers

Comments (difficulties, background noise levels, uncertain calls, habitat changes since previous run or previous year, etc.):
IMPORTANT: Documentation required for all records of the Blanchard's cricket frog and any species outside known range -- see instructional materials for details

Site	Run 1	Run 2	Run 3
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Miscellaneous comments:

WISCONSIN FROG AND TOAD SURVEY (WFTS) -- Field Data Sheet

IMPORTANT -- Please return at the end of the season to:

Bureau of Natural Heritage Conservation
Wisconsin Department of Natural Resources
P.O. Box 7921
Madison, Wisconsin 53707-7921

Observer name(s): Run 1: Jane Smith
Run 2: Jane Smith, Joe Smith
Run 3: Jane Smith

Route Number: 134
Year: 2006
County(s): Dane

Instructions: Use this voluntary form to record data at each of the 10 listening points along a WFTS route. Surveys are repeated 3 times during the breeding season according to the minimum water temperatures and ranges of dates given below for each survey run. Conduct surveys after dark when wind speed is less than 12 mph. Listen for 5 minutes at each site and record a call index value* of 1, 2, or 3 for each species calling. **See back of data sheet to obtain wind and sky codes and record additional comments.** Return data sheet to above address by **August 15th.**

	FIRST RUN	SECOND RUN	THIRD RUN
	Water Temp 50°F+; April 8-30	Water Temp 60°F+; May 20 - June 5	Water Temp 70°F+; July 1-15
DATE:	4/17/2006	6/2/2006	7/5/2006
BEGIN: Time	8:15	9:30	9:30
Wind:	0	1	2
Sky:	1	2	0
Air Temp (°F):	60	61	88
END: Time	10:00	10:45	11:15
Wind:	1	1	1
Sky:	2	1	4
Air Temp (°F):	53	56	72

CALL INDEX*

SITE NAME	Site Number	Water Temp (°F)	Wood frog	Boreal chorus frog	Spring peeper	Northern leopard frog	Pickerel frog	American toad	Gray treefrog	Cope's gray treefrog	Blanchard's cricket frog	Mink frog	Green frog	American bullfrog
1. Pine Lake	1	50	1	1	2									
	1	60												
	1	75						1				2		
2. Hwy Y Pond	2	-												
	2	-												
	2	-												
3. Oak Rd Pond	3	-												
	3	-												
	3	72										1		
4. Oak Rd Wetland	4	51		1	3									
	4	69		1				1	2	1				
	4	76												2
5. Silver Creek	5	53		1	2									
	5	61									1			
	5	75												
6. Hwy P Wetland	6	60	1	2	3	1		1						
	6	66		1	1			1	3	2				
	6	80						1				2	1	
7. Sunset Lake	7	55		2	2									
	7	65						1	1					
	7	71												
8. Hwy SS Pond	8	60			2									
	8	61		1					2					
	8	-												
9. Phillips Rd Pond	9	-												
	9	-												
	9	73										1	1	
10. Adams Lake	10	51	2	2	2									
	10	62			1				2	2				
	10	74												

	FIRST RUN:	SECOND RUN:	THIRD RUN:
Total Miles Driven (Round-Trip)**	43 mi	43 mi	43 mi
Total Survey Time (Round-Trip)**	2:15 (hr/min)	3:30 (hr/min)	2:15 (hr/min)

* The call index is a rough estimate of the number of calling males of a particular species, according to the following index values:
1 = Individuals can be counted; there is space between calls (no overlapping of calls).
2 = Calls of individuals can be distinguished but there is some overlapping of calls.
3 = Full chorus. Calls are constant, continuous, and overlapping; individual calls cannot be distinguished.

**Round-trip mileage (mi) and survey time (hr/min) for all active participants helps track volunteer contributions for the WFTS.

Form 1700-008
Revised April 2022

Please provide names, addresses, and phone numbers of all observers

Place asterisk by name of cooperator who should receive materials next spring

Route Number: 134
Year: 2006
County: Dane

Name:	Jane Smith*	Joe Smith		
Address:	101 S. Webster Street	101 S. Webster Street		
	Madison, WI 53707	Madison, WI 53707		
Phone:	608-555-1234	608-555-1234		
Email:	Jane.Smith@unknown.com			

Enter sky and wind codes on front of data sheet:

Wind Code	Wind Speed (miles per hour)	Indicators of Wind Speed
0	less than 1	Smoke rises vertically
1	1-3	Wind direction shown by smoke drift
2	4-7	Wind felt on face; leaves rustle
3	8-12	Leaves and small twigs in constant motion; wind extends light flag
4	13-18	Wind raises dust and loose paper; small branches moved

Sky Code	Sky Condition
0	Clear or a few clouds
1	Partly cloudy or variable
2	Cloudy (broken) or overcast
4	Fog
5	Drizzle
6	Showers

Comments (difficulties, background noise levels, uncertain calls, habitat changes since previous run or previous year, etc.):

IMPORTANT: Documentation required for all records of the Blanchard's cricket frog and any species outside known range -- see instructional materials for details

Site	Run 1	Run 2	Run 3
1		Surprisingly quiet site tonight	
2	Pond filled in for subdivision, no frogs calling	Pond filled in for subdivision, no frogs calling	Pond filled in for subdivision, no frogs calling
3	Site dry, no frogs calling	Site dry, no frogs calling	
4			Heard barred owl in the distance
5			Creek appeared much muddier than usual
6	Very productive wetland, many species calling		
7			No standing water; site overrun by reed canary grass
8	Traffic loud tonight		Had to walk down highway to site due to construction
9	Site dry, no frogs calling	Site dry, no frogs calling	
10		Observed one sora and one water snake	

Miscellaneous comments: Many thunderstorms throughout the afternoon of the third survey day.

SURVEY ROUTE DESCRIPTION FORM
Wisconsin Frog and Toad Survey (WFTS)
Wisconsin Department of Natural Resources

Form 1700-010
Revised April 2022

These site descriptions (along with your maps) should be precise enough that another observer could use only these materials and conduct calling surveys from the exact same locations.

County	**Name of Observer(s) Completing this Form**
Route	
Year	

SITE DESCRIPTIONS

Site #	**Location of Listening Point** (Latitude/Longitude(Decimal Degrees)/Road Names/Where to stand)	**Name and Description of Wetland**
1.	Lat(DD): N_____ Long(DD): W-_____	
2.	Lat(DD): N_____ Long(DD): W-_____	
3.	Lat(DD): N_____ Long(DD): W-_____	
4.	Lat(DD): N_____ Long(DD): W-_____	
5.	Lat(DD): N_____ Long(DD): W-_____	
6.	Lat(DD): N_____ Long(DD): W-_____	
7.	Lat(DD): N_____ Long(DD): W-_____	
8.	Lat(DD): N_____ Long(DD): W-_____	
9.	Lat(DD): N_____ Long(DD): W-_____	
10.	Lat(DD): N_____ Long(DD): W-_____	

*GPS (in Decimal Degrees) locations can be obtained through personal GPS units. They may also be obtained through right clicking a listening location on Google Maps. The Lat/Long reading in Decimal Degrees will then display on the screen.

SURVEY ROUTE DESCRIPTION FORM
Wisconsin Frog and Toad Survey (WFTS)
Wisconsin Department of Natural Resources

Form 1700-010
Revised April 2022

These site descriptions (along with your maps) should be precise enough that another observer could use only these materials and conduct calling surveys from the exact same locations.

County	Dodge	Name of Observer(s) Completing this Form
Route #	142	Jane Smith
Year	2006	Joe Smith

SITE DESCRIPTIONS

Site #	Location of Listening Point (Latitude/Longitude(Decimal Degrees)/Road Names/Where to stand)	Name and Description of Wetland
1.	Lat(DD): N 43.45886 Long(DD): W -88.620646 Listen from Hwy 28 roadside, 1/4 mile north of Raaschs Hill Road/Hwy 28 intersection, just north of Horicon.	"Horicon Marsh 1 – Hwy 28" Open water on west side of road.
2.	Lat(DD): N 43.466637 Long(DD): W -88.609414 Located 1 mile northeast of Horicon, near the Hwy 28/access road intersection. Listen from access road just east of Hwy 28.	"Horicon Marsh 2 – Hwy 28" Open water on east side of road.
3.	Lat(DD): N 43.505314 Long(DD): W -88.591994 Located on unnamed road north of Bay View Road. Listen from boat landing on south side of river.	"Horicon Marsh Wildlife Area - East Branch Rock River" - small river.
4.	Lat(DD): N 43.512553 Long(DD): W -88.59134 Listen from the end of Northern Road (runs along the west side of the river).	"Horicon Marsh Wildlife Area – end of Northern Road" – small river.
5.	Lat(DD): N 43.518374 Long(DD): W -88.587068 Located on Northern Rd, 1/3 mile south of the intersection with Dike Rd at first bend in the road. Listen from the road at the edge of the marsh.	"Horicon Marsh Wildlife Area – Northern Road marsh" – large marsh.
6.	Lat(DD): N 43.523489 Long(DD): W -88.59094 Located on Dike Road, 1/2 mile west of intersection with Rockvale Rd. Listen from roadside at culvert near bend in the road.	"Horicon Marsh Wildlife Area – Dike Road" - small marsh.
7.	Lat(DD): N 43.549256 Long(DD): W -88.588297 Located on Cnty Hwy Z, 1/8 mile south of intersection with Kantin Rd. Listen from Hwy Z roadside.	"Horicon NWR Marsh" Marsh located on both sides of road.
8.	Lat(DD): N 43.597065 Long(DD): W -88.644185 Listen from end of Ledge Road, at Strooks Ditch.	"Horicon NWR – Strooks Ditch" Several small areas of open water.
9.	Lat(DD): N 43.611775 Long(DD): W -88.644133 Located on Old Marsh Rd, 1.5 miles west of Point Rd at northerly bend in road. Listen from Old Marsh Road at the Main Ditch control structure.	"Horicon NWR – Main Ditch" – small marsh.
10.	Lat(DD): N 43.63284 Long(DD): W -88.621204 Located on Hwy 49, 1/8 mile west of intersection with Stumpf Rd. Listen from Hwy 49 roadside. (Fond du Lac/Dodge County line)	"Horicon NWR – Hwy 49" – small marsh.

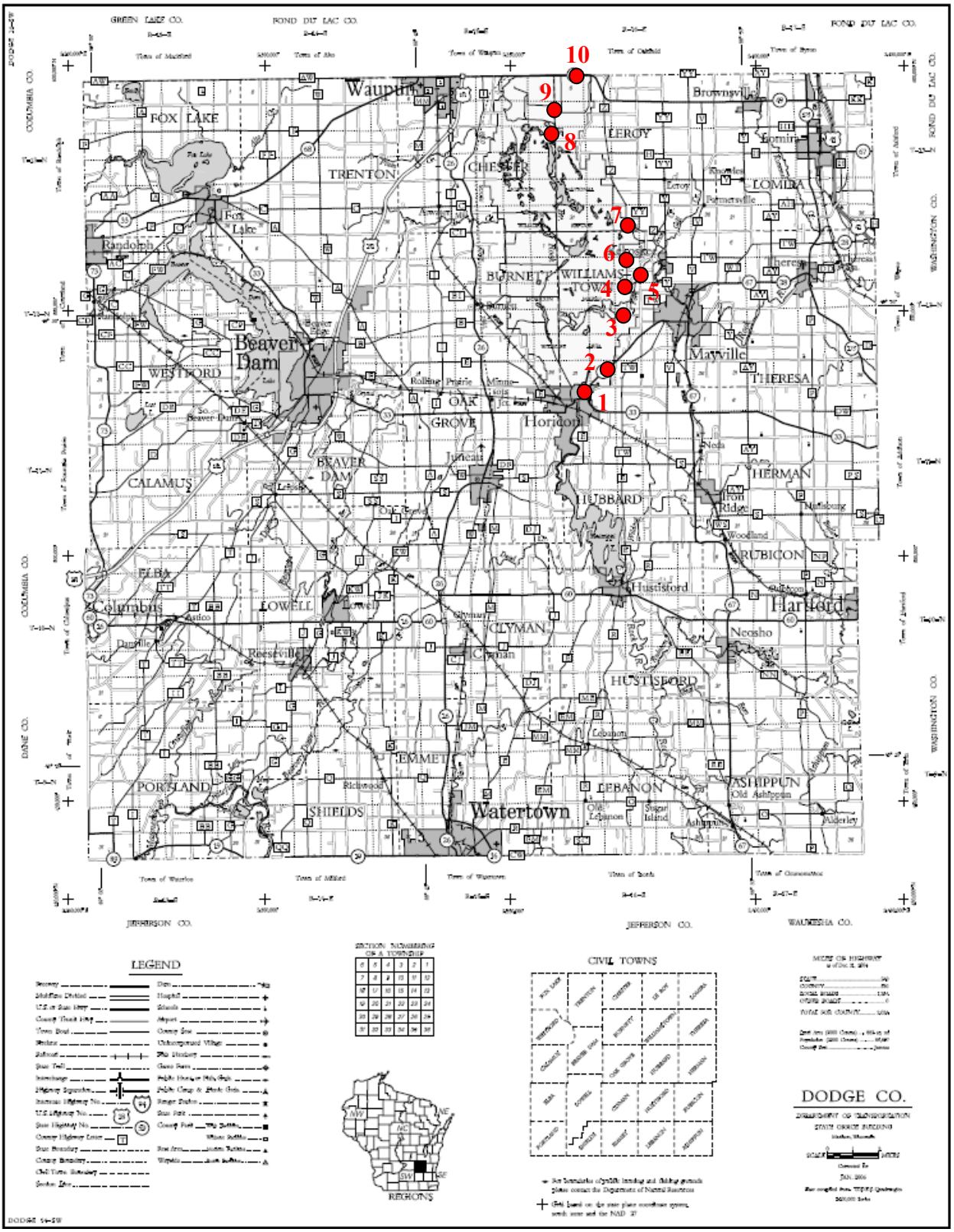


Figure 3. Sample county map used for setting up and mapping new routes.

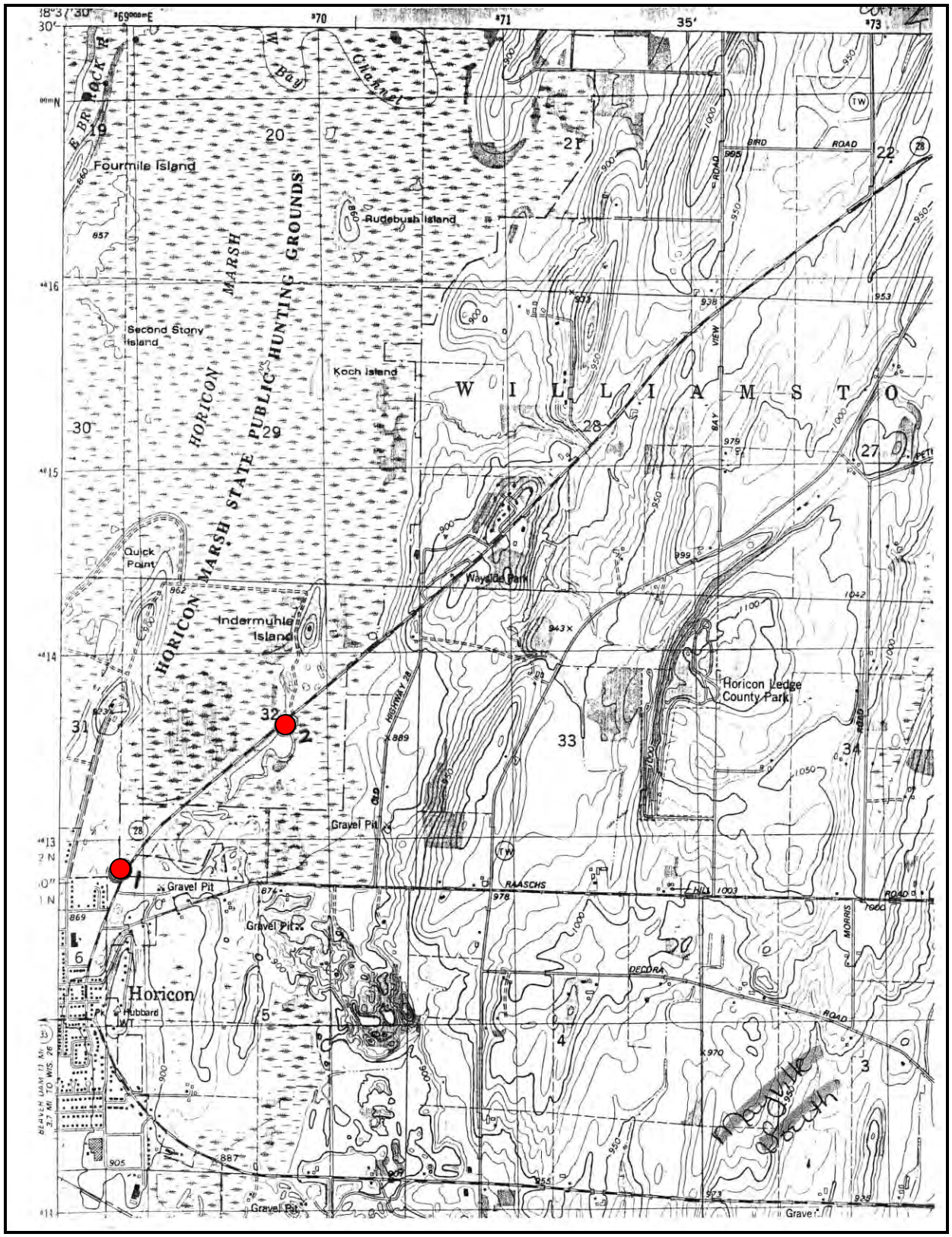


Figure 4. Sample topographic map used for setting up and mapping new routes, showing more detail than the overview county map (Figure 3).

RESOURCES

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Korb, R. M. 2001. Wisconsin Frogs: Places to Hear Frogs and Toads Near Our Urban Areas. Northeastern Audubon Society, Inc., Green Bay, Wisconsin. (**book** and **CD**)

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Wisconsin Frog and Toad Survey Website:
http://wiatri.net/inventory/frogtoadsurvey/

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