

# Field Marks

Genus	Species Common Name	Adult Size (cm)	Dorsal-lateral Ridges?	Adhesive Discs?	Dorsal Background Coloration	Dorsal Pattern	Ventral Notes	Skin Notes	Leg Notes
Anaxyrus	American Toad	5-11	No	No	Brown, black, white	<u>One or two large brown warts per black spot, often mixed with small warts</u>	White belly <u>with black markings</u>	Rough warty	Short and stocky, can only make short hops or walk
	Fowler's Toad	5-9	No	No	Brown, black, white	<u>Multiple small warts per black spot but no large warts</u>	Plain white belly or a <u>single central black spot</u>	Rough warty	Short and stocky, can only make short hops or walk
Hyla	Gray Treefrog	3-7	No	Yes, large	White, gray, or green; <u>white patch under the eye</u>	<u>Lichenate</u> (looks like lichen on a rock or a tree), solid green when very young	<u>Yellow inside hind legs</u>	Rough bumpy	Dark stripes across hind legs
Lithobates	American Bullfrog	9-17	No	No	<u>Green upper lip and snout; brown/green</u>	Ranges from no pattern to many dark spots; <u>no dorsolateral ridges</u> ; uniform color of skin/tympanum ridge (no horizontal green line behind eye that stands out)	White; yellow throat on breeding males		<u>Dark stripes across hind legs</u>
	Green Frog	6-12	Yes	No	<u>Green upper lip and snout; brown/green</u>	Ranges from no pattern to many dark spots; <u>dorsolateral ridges; may have horizontal green line behind eye (above tympanum)</u> , but this often blends in with background color of dorsolateral ridges or tympanum ridge	White; yellow throat on breeding males		<u>Dark stripes across hind legs; third toe longer than first (hind foot); less extensive webbing on toes than Mink Frog</u>
	Pickerel Frog	4-8	Yes	No	Brown bordered by lighter yellow to brown dorsolateral ridges	Dark brown <u>rectangular</u> spots bordered in black <u>in two rows</u> between yellowish dorsolateral folds, and on sides. Spots behind eye <u>fused to dorsolateral folds</u> .	<u>Bright yellow inside hind legs and waist</u>		Dark stripes across hind legs
	Northern Leopard Frog	5-12	Yes	No	Green to brown bordered by gold to brown dorsolateral ridges	<u>Brown round spots (randomly located)</u> between yellowish dorsolateral folds, and on sides. Spots behind eye <u>not touching dorsolateral folds</u> .	<u>White; no yellow</u> inside hind legs and waist		Dark stripes across hind legs
	Mink Frog	4-6.5	Some-times	No	<u>Green upper lip and snout; brown/green</u>	Dark with green reticulations, or olive with dark blotching; <u>may have dorsolateral ridges</u> ; often has a horizontal <u>green line behind eye (above tympanum)</u> that contrasts with background color	White or yellowish; yellow throat on breeding males	Release <u>scent of garlic</u> when irritated	<u>Oval spots oriented lengthwise along the hind legs (not across); third toe similar or shorter than first (hind foot); webbing extends to toe tips on 3<sup>rd</sup> and 5<sup>th</sup> toes and last joint of 4<sup>th</sup> toe</u>
	Wood Frog	4-7	Yes	No	Variable shades of brown (tan to dark brown or reddish)	Usually none, but sometimes some black mottling; <u>black mask behind eye and white upper lip</u>	White, pale orange-yellow under legs		Dark stripes across hind legs; black "backpack straps" on the front of each shoulder
Pseudacris	Spring Peeper	2-3.9	No	Yes, small	Brown	<u>Dark X, dark bar between eyes, and dark stripe from nostril through eye and onto side of body</u>	Cream/white, light yellow under upper leg		Dark stripes across hind legs
	Boreal Chorus Frog	2-4	No	Yes, small	Brown	<u>Three dark stripes or rows of spots</u> , bright white line along upper lip, dark mask	Whitish		Dark stripes across hind legs

# Eggs

Genus	Species Common Name	Age* at Sexual Maturity	Egg Size when Laid**	Eggs per Mass	No. Masses/Female	Shape of Mass	Size of Mass	Location (all use still water)	Egg Membranes	Egg Color
Anaxyrus	<a href="#">American Toad</a>	male: 1, female: 2	1.5 mm	1,840-20,000	NA	Long strings (paired)	6-20 meters long	Shallows	Bi-layered tube; partitions between eggs (single rows)	Black above, white to cream below
	<a href="#">Fowler's Toad</a>	male: 1-2, female: 2-3	1.2-3.4 mm	4,000-16,000	NA	Long strings (single or paired)	several meters long	Shallows	Uni-layered tube; no partition between eggs (1 or 2 rows)	Black above, tan to yellow below
Hyla	<a href="#">Gray Treefrog</a>	male: 1, female: 1-2	1.1-2 mm	10-40 eggs ( <u>15-22</u> in VT)	Many (25-260 given ranges of eggs per mass and per female)	Loose surface film or singly	1.3-5 cm diameter (estimated from individual egg size & eggs/mass)	Emergent vegetation, on or near surface	2 gelatinous envelopes (outer envelope indistinct)	Brown above, white to cream below
Lithobates	<a href="#">American Bullfrog</a>	male: 2-3, female: 3-5	1.2-1.8 mm	1,000-47,800 (usually <u>10-12k</u> )	Unknown - likely 1	Foamy film (may be multilayered)	max. diameter 45-61 cm (0.5-1.5 m <sup>2</sup> )	Emergent vegetation, on surface before sinking shortly after laying	1 gelatinous envelope (no inner envelope)	Black above, whitish below
	<a href="#">Green Frog</a>	1	1.0-1.8 mm	<u>1,000-7,000</u>	Unknown - likely 1	Film	12 x 17 cm to max. diameter 30-50 cm	Float on surface or hang from emergent vegetation	2 gelatinous envelopes (elliptical inner envelope)	Black above, whitish below
	<a href="#">Pickerel Frog</a>	2-3	1.6-2.0 mm	700-3,000	Unknown - likely 1	Spherical dense clump	7.5-10 cm	Submerged tree branches/vegetation in permanent or temporary ponds	2 gelatinous envelopes (inner one distinct)	Brown above, and yellow below
	<a href="#">Northern Leopard Frog</a>	male: 1-2, female: 2-3	1.0-2.2 mm	300-6,500 (usually several thousand)	1	Dense clump; not as firm as those of Wood and Pickerel Frogs	4-15 cm	Submerged vegetation near surface (within 5-20 cm), occasionally free	2 gelatinous envelopes	Black above, white below
	<a href="#">Mink Frog</a>	male: 1, female: 1-2	1.3-1.6 mm	500-1,700	Unknown - likely 1	Rounded cluster	5 x 5 x 2.5 cm to 15 x 7.5 x 5 cm	Under water, will sink to bottom	2 gelatinous envelopes	Brown to black above, creamy yellow below
	<a href="#">Wood Frog</a>	male: 1, female: 2	1.5-3.3 mm	42-3000 (~450 in VT)	~1	Globular, won't hold shape out of water	6-13 cm	Attached to branch/vegetation, or free, near the surface	2 gelatinous envelopes (inner one indistinct)	Black above, whitish below
	<a href="#">Spring Peeper</a>	1-2	0.9-1.5 mm	1 (usually) or 4-10	N/A	Single or small bunches	N/A	Submerged vegetation	1 gelatinous layer	Brown above, cream below
Pseudacris	<a href="#">Boreal Chorus Frog</a>	male: 1, female: 2	0.8-1.3 mm	15-190	2-100 given ranges of eggs per mass and per female	Small loose masses	10-20 x 30-40 cm	Grasses or twigs in shallows	1 gelatinous layer	Tan to black above, cream below

\*years post-metamorphosis

\*\*Size of the embryo when laid; jelly layers surrounding the embryo expand after laying to protect the egg.

# Mating & Larvae

Genus	Species Common Name	Timing of Oviposition	Incubation Time*	Size of Larvae**	Larvae (all with dorsal eye orientation unless otherwise noted)	Length of Larval Stage*	Interesting Notes
Anaxyrus	<a href="#">American Toad</a>	Apr-June (primarily May)	3-12 days	10 to 28	Black dorsum with gold iridophores; tail muscle bicolored ( <u>lower quarter white</u> ); tail fin low, clear, rounded tip	40-70 days	Tadpoles swarm with kin; move to deeper water overnight.
	<a href="#">Fowler's Toad</a>	Late June-mid July	2-7 days	10 to 30	Dark to black dorsum, larger tadpoles bronzy/mottled; tail muscle bicolored, <u>lower half white</u> ; tail fin low, clear, rounded tip	30-40 days	Tadpoles aggregate in shallow water; move to deeper water overnight
Hyla	<a href="#">Gray Treefrog</a>	Late May - mid July	2-7 days	15 to 45	Relatively <u>deep tails, eyes on sides of head (lateral eye orientation)</u> ; small: dark, golden striping/splotches; mid-phase: gray, faint mottling on tail fin; larger: tail fin deeper and bright orange-red with dark blotches that overlap tail musculature, or largely clear; green color when forelimbs erupt	30-60 days	1,000-2,600 eggs/female; high prevalence of insect predators leads to red tail fin in tadpoles
Lithobates	<a href="#">American Bullfrog</a>	May - August	3-5 days	7 to 170	Small: black with abundant blotches of gold, fins clear; large: muted green dorsum, <u>distinct black dots on dorsum and dorsal part of tail</u> ; once large hind legs show: toe webbing curved downward between separated toes and <u>does not extend to toe tips</u>	3 years	May overwinter once or twice in the north; females may reproduce more than once per year
	<a href="#">Green Frog</a>	Late May - July	3-7 days	10 to 100	Brownish dorsum, <u>scattered dark spots with diffuse borders</u> ; <u>fin pigmented throughout</u> , irregular <u>dark marks on posterior third of tail</u> ; large (once large hind legs show): <u>first and third toes on hind legs about the same length</u> and <u>webbing stops well short of toe tips</u>	3-22 months	Usually overwinter in north; females may reproduce more than once per year
Pseudacris	<a href="#">Pickerel Frog</a>	End April - mid May	7-24 days	6.2*** to 76	Brownish uniform, sometimes purplish tint, usually <u>yellow wash on sides of body</u> ; venter with pink iridescence, <u>gut often visible</u>	87-95 days	May overwinter at northern edge of range
	<a href="#">Northern Leopard Frog</a>	April - early May	7-21 days	6.2 to 83	Dark uniform dorsum, subtle marbling; throat is <u>more extensive &amp; translucent than Pickerel Frog</u> , dorsal tail fin is rounded and generally lighter than the body; venter with pink iridescence, <u>gut often visible</u>	70-110 days	
Pseudacris	<a href="#">Mink Frog</a>	Late May - August	5-13 days	8 to 99	Greenish dorsum, tail sometimes with pinkish spots; large (once large hind legs show): <u>third toe much shorter than first on hind legs</u> and <u>webbing extends to toe tips of 3<sup>rd</sup> and 5<sup>th</sup> toes</u> , complex mottling of dark, yellow, and green <u>without discrete dots on dorsum or black marks or posterior third of tail</u>	4 months to two years	
	<a href="#">Wood Frog</a>	Mid March - May (June at high elev.)	5-30 days	9.8 to 28	Uniform dark brown to black dorsum with gold flecking; <u>pale lip line</u> ; sides sometimes bronzy or pinkish; <u>gut not usually visible</u> ; tail musculature may be bicolored	65-130 days	
Pseudacris	<a href="#">Spring Peeper</a>	Late March - early July (April - May)	2-21 days	4 to 39	<u>Eyes on sides of head</u> ; small: <u>tan</u> with ruddy mottling; medium to large: beige/tan with golden or brassy flecking, stippling on top of head, dark markings along <u>edges of tail fins only</u>	45-90 days	250-1,300 eggs per female
	<a href="#">Boreal Chorus Frog</a>	Late April - early May	3-14 days	4.5 to 43	<u>Eyes on sides of head</u> ; small: <u>dark</u> , may have golden striping or markings on top of head, clear tail fins, tail musculature bicolored; medium to large: may develop <u>fine webbing or blotches on tail fin</u> , may be gray, olive or brown with stippling on top of head, bicolored tail musculature	40-90 days	500-1,500 eggs per female

\*varies based on environmental factors (temperature, oxygen/desiccation, predators, pathogens, etc.)

\*\*in mm total length, from size at hatching to size at metamorphosis

\*\*\*size at hatching unknown, therefore based on its closest relative, Northern Leopard Frog

# Sexual Dimorphism

Genus	Species Common Name	Size	Color	Enlarged Thumbs/Forelimbs	Enlarged Tympana	Dark or Yellow Throat	Notes
Anaxyrus	<a href="#">American Toad</a>	F > M		Y		Dark	Dark horny pads on first toe and thumb
	<a href="#">Fowler's Toad</a>	F > M		Y		Dark	Cornified patches on thumbs
Hyla	<a href="#">Gray Treefrog</a>	F > M				Dark	
Lithobates	<a href="#">American Bullfrog</a>	M > F		Y	Y	Yellow	
	<a href="#">Green Frog</a>	same		Y	Y	Yellow	
	<a href="#">Pickerel Frog</a>	F > M		Y			
	<a href="#">Northern Leopard Frog</a>	F > M		Y			
	<a href="#">Mink Frog</a>	F > M		Y	Y	Yellow	
	<a href="#">Wood Frog</a>	F > M	Females more red, males brown	Y			Color dimorphism appears shortly after metamorphosis (not just during breeding season)
Pseudacris	<a href="#">Spring Peeper</a>	F > M	Males usually darker			Dark	Dark testes, visible eggs
	<a href="#">Boreal Chorus Frog</a>	F > M		Y		Dark	Pad on inside of the thumb

# References

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