

**Ontario Species at Risk Evaluation Report for
Blanchard's Cricket Frog
Rainette grillon de Blanchard
(*Acris blanchardi*)**

Committee on the Status of Species at Risk in Ontario
(COSSARO)

Assessed by COSSARO as Extirpated

October 2024

Final

Executive summary

Blanchard's Cricket Frog (*Acris blanchardi*) is a small frog found from Minnesota and Wisconsin eastward through Illinois, Indiana, Michigan and Ohio south to Kentucky and West Virginia. It is semi-aquatic and remains in, or close to, permanent water bodies. It is found in a wide variety of permanent water bodies including lakes, ponds, rivers and streams, especially in shallow water near shore where there is substantial vegetative cover. The species has declined throughout the northern portion of its range in the United States and shows no sign of recovery. This species was found in extreme southwest Ontario on Pelee Island and also on Point Pelee. Other records from Ontario are unconfirmed. There are 8 occurrences in the NHIC Element Occurrence database, all of which are either historic or extirpated. The last confirmed observation in Canada was 47 years ago despite considerable search effort, and it has been reassessed and continues to be classified as Extirpated from Ontario.

1. Eligibility for Ontario status assessment

1.1. Eligibility conditions

1.1.1. Taxonomic distinctness

Blanchard's Cricket Frog is a taxonomically distinct species. The taxonomic status has been confirmed recently in several studies (COSEWIC 2011). The species was previously known as *Acris crepitans blanchardi* (Brodrribb and Oldham 2001).

1.1.2. Designatable units

There is only one designatable unit for Blanchard's Cricket Frog. There is no evidence of population structure, and all populations were restricted to a limited area of southwestern Ontario.

1.1.3. Native status

The species is native to Ontario as it has been recorded in Ontario for over a century (COSEWIC 2011, IN PRESS; COSEWIC 2024).

1.1.4. Occurrence

Blanchard's Cricket Frog has not been confirmed in Canada in more than 30 years (Environment Canada 2011b; COSEWIC 2011; Oldham 2011). This species is relatively easy to detect because it has a loud distinctive mating call at a predictable time of year and its last known occurrences in Ontario were confined to limited habitat on Pelee Island and Point Pelee. Despite prolonged targeted searches over decades, no records of occurrence have been confirmed since the 1970s.

1.2. Eligibility results

Blanchard's Cricket Frog is eligible for status assessment in Ontario.

2. Background information

2.1. Current designations

- GRANK: G5 (NatureServe 2024)
- IUCN: Least Concern (2024)
- NRANK Canada: NX (NatureServe 2024)
- COSEWIC: Extirpated (May 2024, addendum to 2011)
- SARA: Endangered (Schedule 1 in 2003 – under consideration for status change)
- ESA 2007: Extirpated (June 2011)
- SRANK: SX (ranked in 2011)

2.2. Distribution in Ontario

This species was found on several sites on Pelee Island and also on Point Pelee. Other records from Ontario are unconfirmed. It has not been confirmed anywhere in Ontario since the late 1970s, but unconfirmed records occurred into the 1990s (COSEWIC 2001; Environment Canada 2011b; Oldham 2011). Extensive wildlife surveys conducted from 2015 to 2021 on Pelee Island (Hathaway pers. comm. 2022; Hossie pers. comm. 2022; Wolfe pers. comm. 2022) and extensive citizen science programs (Choquette and Jolin 2018) have failed to produce a reliable observation since the previous status assessment.

2.3. Distribution, status and the broader biologically relevant geographic range outside Ontario

Blanchard's Cricket Frog is found from Minnesota and Wisconsin eastward through Illinois, Indiana, Michigan and Ohio south to Kentucky and West Virginia. This frog has declined in the northern part of its distribution but remains apparently stable and common in most of its range. It has declined not only in Ontario, but also southeastern Michigan (Lehtinen 2002), Wisconsin (Jung 1992; Hay 1998; Lannoo 1998), Minnesota (Oldfield and Moriarty 1994), Indiana (Brodman et al. 2002), Illinois (Mierzwa, in Lannoo 1998), Iowa (Hemesath, in Lannoo 1998), Colorado (Hammerson and Livo 1999), and probably elsewhere. In southeastern Michigan, it is apparently extirpated in 58 of 60 historical locations (Lehtinen 2002) (but species is extant in at least a few dozen sites in southwestern Michigan). Thus, the broader biologically relevant geographic range outside Ontario is limited due to declines in species occurrences in those populations.

Table 1. Condition of the Species in Adjacent Jurisdictions and Broader Biologically Relevant Geographic Range

Adjacent Jurisdictions	Biologically Relevant to Ontario (n/a, yes, no)	Condition	Notes & Sources
Quebec	n/a	-	COSEWIC
Manitoba	n/a	-	-
Michigan	Yes	S2S3	NatureServe (2024)
Minnesota	Yes	S1	NatureServe (2024)
Nunavut	n/a	-	-
New York	n/a	-	-
Ohio	Yes	S3	NatureServe (2024)
Pennsylvania	n/a	-	-
Wisconsin	Yes	S1	NatureServe (2024)

2.4. Ontario conservation responsibility

No known population exists in Ontario. Records of the species occurs elsewhere in North America.

2.5. Direct threats

The direct threats to the species are loss of habitat and the very small population size (0 in Ontario).

There is further information concerning a variety of potential threats facing U.S. populations (Gray and Brown 2005). Based on studies of cricket frog populations in Illinois, Beasley et al. (2005) concluded that the tendency for landowners to alter naturally occurring shallow-banked ponds by excavating the banks to make them deeper deprives the frogs of the gently sloping banks they require and allows predatory fish to become established more easily (see also Irwin 2005). Furthermore, the widespread practice of removing aquatic vegetation from ponds both contaminates sites with herbicides and is associated with increased parasitic trematode infections among the frogs. Russell et al. (2002) have implicated chemical contamination by chlorinated organic pesticides, such as hexachlorobenzene, heptachlor epoxide, dieldrin and DDE, in declines in cricket frogs in northern Ohio. Reeder et al. (2005) showed that endocrine disruption attributable to the presence of organochloride pesticides and PCBs likely contributed to the decline of cricket frogs in Illinois. Steiner and Lehtinen (2008) have found infection by the lethal amphibian fungal pathogen, *Batrachochytrium dendrobatidis*, in Blanchard's Cricket Frogs in the U.S. Midwest.

2.6. Specialized life history or habitat use characteristics



Figure 1: Blanchard's Cricket Frog

Blanchard's Cricket Frog is a small, semi-aquatic frog with rough warty skin and a pointed snout. Adults rarely reach more than 38 millimetres in length. They are brown or grey and have a V-shaped mark between the eyes and a jagged dark stripe on their back legs. The Blanchard's Cricket Frog's call resembles the sound of two pebbles being clicked together.

Blanchard's Cricket Frog prefers habitat around the edges of lakes, ponds, rivers, and streams with dense aquatic vegetation and muddy shorelines. On Pelee Island, it has even been found in ditches, flooded fields and drainage canals used for agriculture. Blanchard's Cricket Frog hibernates away from the water under rocks or logs, or in holes and cracks in the shoreline.

Blanchard's Cricket Frog has a short longevity and generation time (1-2 years).

3. Ontario status assessment

3.1. Application of endangered/threatened status in Ontario

3.1.1. Criterion A – Decline in total number of mature individuals

Does not apply. There are no data available on trends of abundance.

3.1.2. Criterion B – Small distribution range and decline or fluctuation

Does not apply. Extent of occurrence (EOO) and index of area of occupancy (IAO) cannot be calculated as no mature individuals have been recorded in Ontario since 1977.

Extensive surveys have been conducted at suitable and known Blanchard's Cricket Frog sites. Pelee Island Bird Observatory (PIBO) and the Toronto Zoo conducted a remote survey using 12 automated sound recorders placed around Pelee Island at sites deemed to be suitable habitats for Blanchard's Cricket Frog. While there were potential, inconclusive calls, which may have been Blanchard's Cricket Frog, the report suggests that Blanchard's Cricket Frog persistence in the areas surveyed was "unlikely" with "no obvious recordings of their calls" (Henderson 2012). Amphibian (salamander) surveys were conducted from 2015 to 2021 on Pelee Island (excluding 2020 because of COVID). One to two week-long trips were conducted each month from March to August at a variety of wetlands including eight with historical occurrences of Blanchard's Cricket Frog (Hossie pers. comm. 2022). Reptile (specifically Blue Racer (*Coluber constrictor foxii*)) surveys have brought many surveyors to Pelee Island with knowledge of Blanchard's Cricket Frog to the area during the breeding season, although the amount of search effort in the correct habitat is difficult to determine (Hathaway pers. comm. 2022; Wolfe pers. comm. 2022). Citizen science programs such as the Ontario Reptile and Amphibian Atlas have also failed to produce any observations (Choquette and Jolin 2018). There have been no sightings reported to iNaturalist or to the Ontario Natural Heritage Information Centre. There are no recent collections (nothing since the early 1970s) at the Museum of Nature (COSEWIC 2024, IN PRESS).

3.1.3. Criterion C – Small and declining number of mature individuals

Does not apply. No population abundance data available.

3.1.4. Criterion D – Very small or restricted total population

Does not apply. The total number of mature individuals cannot be calculated as no mature individuals have been observed in Ontario since 1977.

3.1.5. Criterion E – Quantitative analysis

Does not apply.

3.2. Application of Special Concern in Ontario

Does not apply.

3.3. Status category modifiers

3.3.1. Ontario's conservation responsibility

Does not apply.

3.3.2. Status modification based on level of risk in broader biologically relevant geographic range

Does not apply.

3.3.3. Rescue Effect

Does not apply. Adjacent U.S. populations have continued to decline (Brodman et al. 2002; Gray and Brown 2005; Lehtinen 2002; Lehtinen and Skinner 2006), making rescue entirely unlikely.

3.4. Other status categories

3.4.1. Data deficient

Does not apply.

3.4.2. Extinct or extirpated

Blanchard's Cricket Frog has not been confirmed on the Ontario mainland since 1961 (COSEWIC 2001; COSEWIC 2011; Environment Canada 2011a; COSEWIC, 2024, IN PRESS). It was last confirmed from Pelee Island in 1977 (Oldham and Campbell 1990), but unconfirmed records occurred in the 1990s (Kellar et al. 1997; see Environment Canada 2011b and Oldham 2011 for a complete list of observations). Records were considered unconfirmed as there were no photographs, audio recordings of calling frogs, or voucher specimens, and subsequent searches at these locations yielded no further records.

The Committee on the Status of Species at Risk in Ontario (COSSARO 2011) declared Blanchard's Cricket Frog extirpated in 2011 based on the lack of observations despite extensive search effort. Given the short lifespan (Dodd 2013), widespread population declines, and tiny fragmented range in Canada with no possibility of rescue effect from the US, it is extremely unlikely that Blanchard's Cricket Frog persists in Canada. It is

likely extirpated from Ontario given its short-lived life history, lack of recent records, and loss of habitat (COSEWIC 2024, IN PRESS).

3.4.3. Not at risk

Does not apply.

4. Summary of Ontario status

Blanchard's Cricket Frog (*Acris blanchardi*) is classified as Extirpated in Ontario based on a lack of confirmed records of the species for several decades despite frequent and recent surveys.

This status of this species is consistent with the definition of Extirpated under the *Endangered Species Act, 2007*.

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Appendix 1: Technical summary for Ontario

Species: Blanchard's Cricket Frog (*Acris blanchardi*)

Demographic information

Demographic attribute	Value
Generation time. Based on average age of breeding adult: age at first breeding = X year; average life span = Y years.	1-2 years
Is there an observed, inferred, or projected continuing decline in number of mature individuals?	Not applicable (no recent records)
Estimated percent of continuing decline in total number of mature individuals within 5 years or 2 generations.	Not applicable
Observed, estimated, inferred, or suspected percent reduction or increase in total number of mature individuals over the last 10 years or 3 generations.	Not applicable
Projected or suspected percent reduction or increase in total number of mature individuals over the next 10 years or 3 generations.	Not applicable
Observed, estimated, inferred, or suspected percent reduction or increase in total number of mature individuals over any 10 years, or 3 generations, over a time period including both the past and the future.	Not applicable
Are the causes of the decline (a) clearly reversible, and (b) understood, and (c) ceased?	Not applicable
Are there extreme fluctuations in number of mature individuals?	Not applicable

Extent and occupancy information in Ontario

Extent and occupancy attributes	Value
Estimated extent of occurrence (EOO).	0 km ²
Index of area of occupancy (IAO).	0 km ²
Is the total population severely fragmented? i.e., is >50% of its total area of occupancy in habitat patches that are: (a) smaller than would be required to support a viable population, and (b) separated from other habitat patches by a distance larger than the species can be expected to disperse?	Not applicable
Number of locations.	0

Extent and occupancy attributes	Value
Number of NHIC Element Occurrences	Not applicable
Is there an observed, inferred, or projected continuing decline in extent of occurrence?	Not applicable
Is there an observed, inferred, or projected continuing decline in index of area of occupancy?	Not applicable
Is there an observed, inferred, or projected continuing decline in number of sub-populations or EOs?	Not applicable
Is there an observed, inferred, or projected continuing decline in number of locations?	Not applicable
Is there an observed, inferred, or projected continuing decline in [area, extent and/or quality] of habitat?	Not applicable
Are there extreme fluctuations in number of populations?	Not applicable
Are there extreme fluctuations in number of locations?	Not applicable
Are there extreme fluctuations in extent of occurrence?	Not applicable
Are there extreme fluctuations in index of area of occupancy?	Not applicable

Number of mature individuals in each sub-population or total population (if known)

Number of mature individuals in Ontario is 0.

Quantitative analysis (population viability analysis conducted)

Probability of extinction in the wild is not applicable.

Threats

Historically, loss of habitat and pollution from multiple anthropogenic sources, potential climate shifts, chytridiomycosis, range expansion of large fish, invasive non-native *Phragmites australis* (Common Reed) reeds in breeding sites, and trophic shift/cascades. There are no additional data on Canadian populations since the previous assessment, and thus the nature and severity of threats in Ontario must be considered unchanged. (COSEWIC 2011; COSEWIC 2024, IN PRESS).

Rescue effect

Rescue effect attribute	Value
Does the broader biologically relevant geographic range for this species extend beyond Ontario?	Yes
Status of outside population(s) most likely to provide immigrants to Ontario	Ohio (S2 – imperilled); Michigan (S2 – imperilled); Immigration/rescue is impossible given the isolation by

Rescue effect attribute	Value
Does the broader biologically relevant geographic range for this species extend beyond Ontario?	Yes
	water and/or agriculture between persistent population in the US and the formerly occupied sites in Ontario.
Is immigration of individuals and/or propagules between Ontario and outside populations known or possible?	No
Would immigrants be adapted to survive in Ontario?	Yes
Is there sufficient suitable habitat for immigrants in Ontario?	Unknown
Are conditions deteriorating in Ontario?	Yes
Is the species of conservation concern in bordering jurisdictions?	Yes
Is the Ontario population considered to be a sink?	No
Is rescue from outside populations likely?	No

Sensitive species

Blanchard's Cricket Frog is not a data sensitive species.

Acronyms

BBRGR: Broader Biological Relevant Geographic Range
COSEWIC: Committee on the Status of Endangered Wildlife in Canada
COSSARO: Committee on the Status of Species at Risk in Ontario
ESA: Endangered Species Act
EO: Element occurrence (as defined by NHIC)
EOO: extent of occurrence
GRANK: global conservation status assessments
IAO: index of area of occupancy
IUCN: International Union for Conservation of Nature and Natural Resources
MNR: Ministry of Natural Resources
NHIC: Natural Heritage Information Centre
NNR: Unranked
NRANK: National conservation status assessment
SARA: Species at Risk Act
SNR: unranked
SRANK: subnational conservation status assessment
S1: Critically Imperiled
S2: Imperiled
S3: Vulnerable
S4: Apparently Secure
S5: Secure
IUCN: International Union for Conservation of Nature and Natural Resources
CDSEPO: Le Comité de détermination du statut des espèces en péril en Ontario