

ENVIRONMENT AND CLIMATE CHANGE CANADA: WESTERN CHORUS FROG SURVEYS

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Canadian Wildlife Service – Ontario Region
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Environment and
Climate Change Canada

Environnement et
Changement climatique Canada

Canada

Poll Everywhere

Word Cloud



Why Are We Here Today?

- Context: Status and needs of the Western Chorus Frog
- Survey needs
 - Data gaps
- Overview of survey protocol



Photo: Jennifer Thompson



The Western Chorus Frog (WCF)

Pseudacris triseriata

- Small frog that calls in early Spring
- Mainly breed in “vernal pools” (temporary wetlands)
- In Canada, found in southern Ontario and Quebec

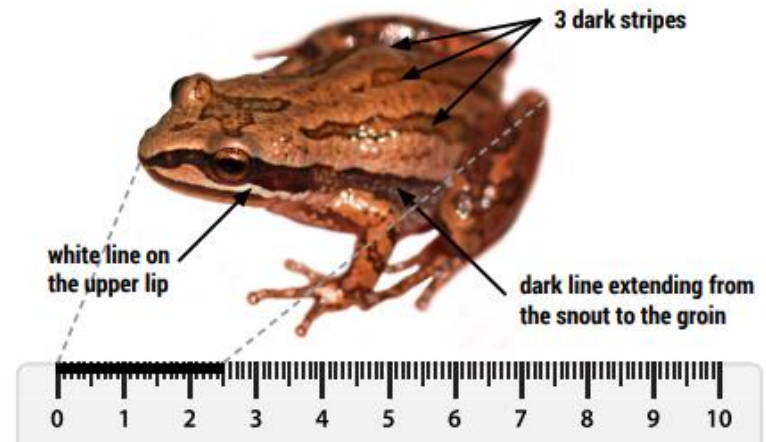
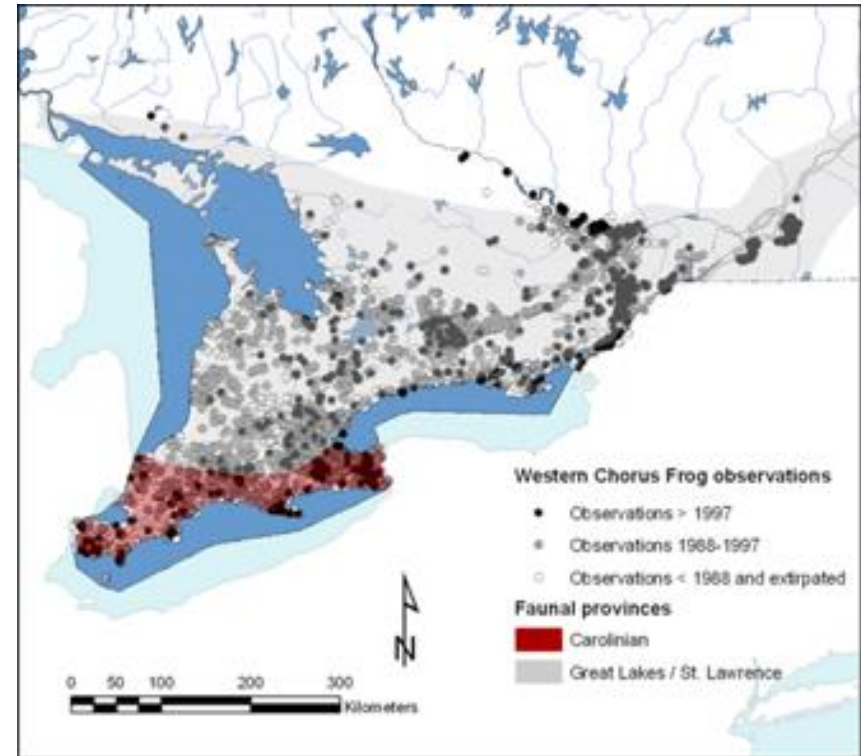


Figure: Frontier Digital Art
in ECCC 2016



WCF Populations

- Two Designatable Units in Canada (COSEWIC 2008)
 - **Great Lakes / St. Lawrence – Canadian Shield (GLSLCS; Threatened)**
 - Carolinian (Not at Risk)
- COSSARO considered them to be a single designatable unit that is Not at Risk, so they are not listed under the Ontario *Endangered Species Act, 2007*



COSEWIC 2008



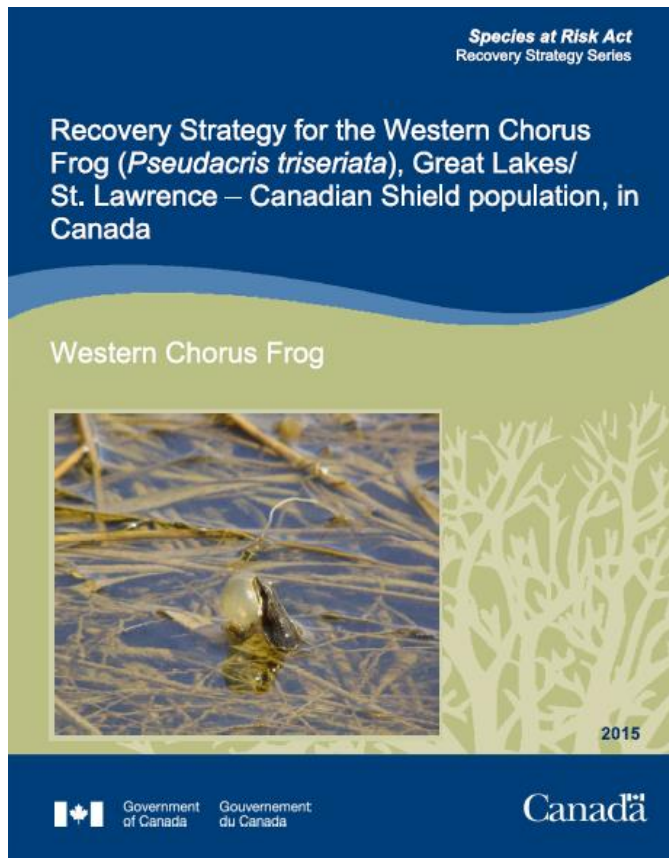
Threats to WCF

Habitat loss, fragmentation, & degradation due to...

- Urban development
- Intensification of agriculture
- Habitat succession
- Pesticides, fertilizers
- Climate Change



2015 Recovery Strategy



Objectives

- Maintain/increase the areas of occupied suitable habitat and the breeding population level within each local population
- Maintain/increase connectivity within a metapopulation
- Where technically and biologically feasible, restore historical or extirpated local populations or create new habitats

Metapopulation: Network of local populations (breeding wetlands) connected by movement of individuals between them



2015 Recovery Strategy

Critical Habitat

Suitable habitat combining:

- breeding wetlands that have been used for at least two years within a 20-year period (including at least once in the past 10 years),
- adjacent terrestrial habitats, and
- the dispersal habitats that connect them

Schedule of Studies

- Conduct surveys in and/or obtain data for areas known to support a local population but **where additional information is required** (e.g., locations containing poor spatial accuracy of information, or only one year of information; locations which only partly meet the identification criteria)
- Conduct surveys in the **Canadian Shield faunal province to clarify the distribution of Chorus Frogs and to identify the northern boundary** for including observations in critical habitat identification



Planning & Protection

Knowledge gathering supports & informs:

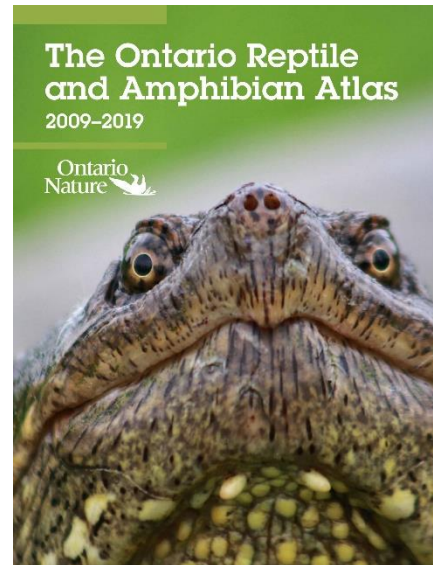
- Land use visioning, planning and mitigation
- Assessment of population trends/status - COSEWIC reassessment in preparation
- Recovery planning: Strategy amendment; incorporating new insights, improved knowledge
 - Species needs e.g. habitat use
 - Geographic areas of Critical Habitat
 - Activities needed to recovery the species in Canada
- Consultation input on regulatory impacts, e.g., *Species at Risk Act*, *Impact Assessment*
- Identification & protection of “Significant Wildlife Habitat” on Ontario provincial lands



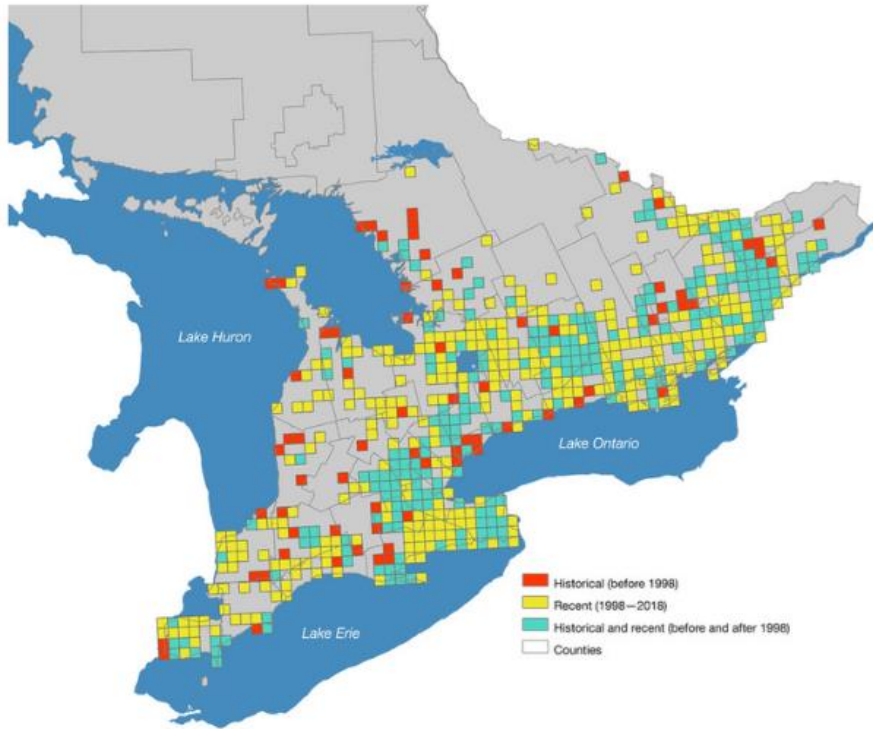
Monitoring Efforts

Contributing information sources:

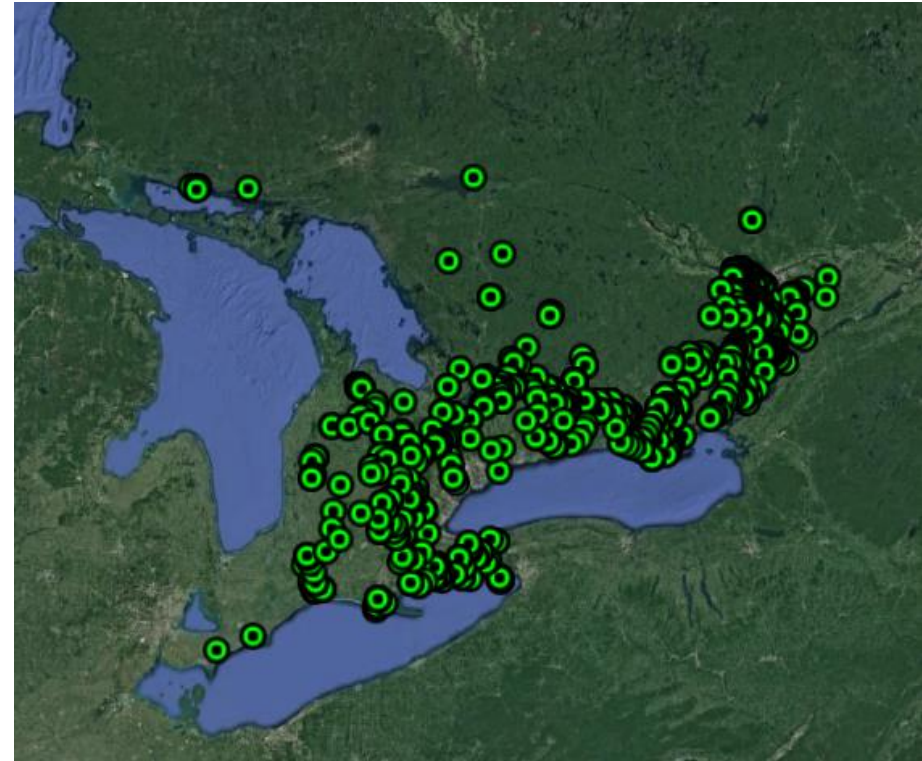
- [Long-term Monitoring Program](#) led by Blazing Star Environmental
- [Ontario Reptile & Amphibian Atlas](#) by Ontario Nature
- Other community science programs/projects e.g. [iNaturalist](#), [FrogWatch](#)
- [Marsh Monitoring Program \(MMP\)](#) led by Birds Canada
- Land managers



Most data from densely populated areas



Ontario Reptile & Amphibian Atlas



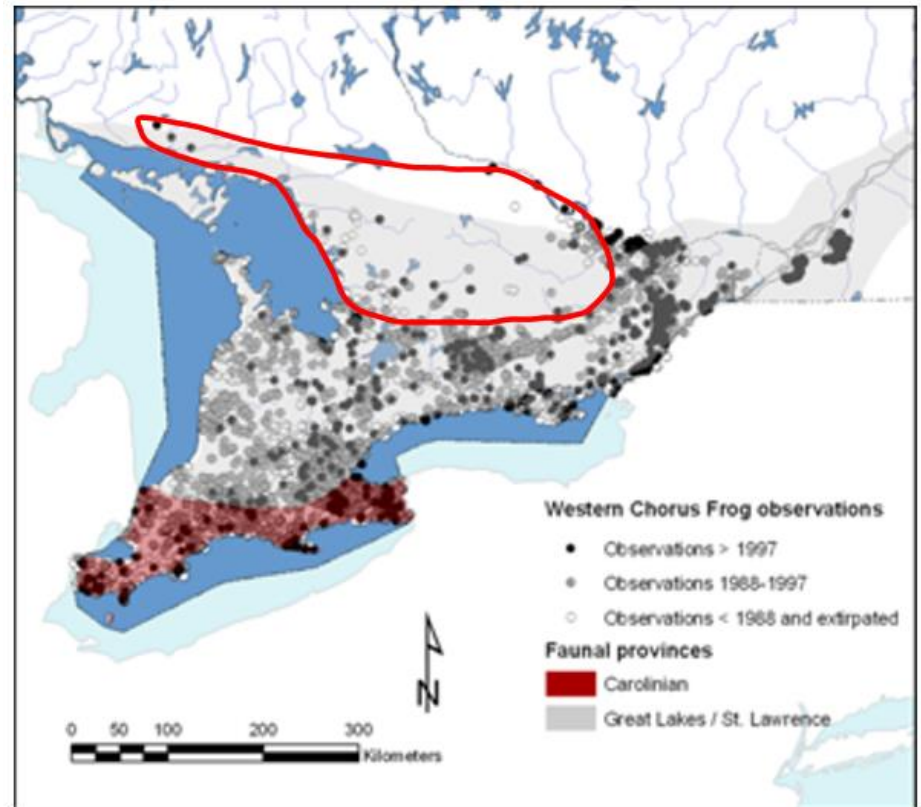
Long term monitoring program 2020-2021



Target areas for surveys

Under-surveyed areas

- Northern portion of historical range
 - Georgian Bay to the Rideau Valley
- The Land Between northwards to ~Lake Nipissing



Approximate; Modified from COSEWIC 2008



Survey Protocol Overview

- Survey protocol used by Long Term Monitoring Program (Blazing Star Environmental)
 - Specific to WCF
 - Standard amphibian protocols (e.g. MMP) can miss WCF due to short calling window
- Following protocol will support range-wide trend analyses while also confirming WCF on First Nation lands and traditional territories
- Sites: Suitable habitat, previous records or proximity, existing monitoring stations



Survey Protocol Overview

Conditions and survey scheme

- When: March to May, earlier in the south
- 10AM – 6PM (10:00-18:00)
- Three visits spaced at least a day apart, within the three week breeding window
- Temperature at least 10°C, wind Beaufort 0-3, no to light precipitation



WCF Habitat

Open-canopy and predator-free



Photo via Hinterland Who's Who

👍 Ponds, marshes, swamps, flooded fields, vernal pools in open forest, ditches, basins/potholes/ruts

👎 Intensive development or agriculture, dense forest, lakes, rivers, wetlands with predators such as bullfrogs or fish





A) Flooded field



B) Swamp



C) Pond



D) Drainage Ditch



E) Marsh

Wind Conditions

The Beaufort Scale

Beaufort Scale	Description
0	Smoke rises vertically
1	Smoke drifts
2	Leaves rustle, wind felt on face
3	Leaves and small twigs in motion, light flag extends
4	Raises dust and loose paper, small branches move



What you'll need

- Permission for land to access any target sites
- Site maps, protocol notes
- Datasheets & pencils
- Device for location (GPS / smartphone)
- Device for timing (watch / stopwatch / smartphone)
- Thermometer
- Audio recording device
- Batteries/chargers



The approach

Reducing disturbance

- Park 50m away
- Listen 40m from water
- Wait 3-5 minutes after disturbance
- Same spot (listening station) every survey



Listen

- Listen for WCF until detected, or 5 min has passed
- Begin 3 minutes from WCF detection

Call Codes

- **1:** Calls not overlapping, can count
- **2:** Some calls overlapping, but can still count
- **3:** Full chorus, can't count



Listen



Western Chorus Frog

- Comb teeth

Recall call codes: Code 1



Boreal Chorus Frog

- Longer & slower, but VERY hard to distinguish
- Different range: Northwestern Ontario



WCF Choruses



Listen

[Calls of Frogs and Toads of the Northeast | Music of Nature](#)



Judy Gallagher

Spring Peeper

- peep peep peep peep peep
- Trill



Wood frog

- ducks



Listen



American Toad
- Monotone trill



Northern Leopard Frog
- Snore + croaks



Listen



Green frog
- Banjo string



Bullfrog
- “jug-o-rum”



What to record

- Date & number of survey
- Primary surveyor name and experience level
- Name(s) of other surveyors present for the survey
- Site ID (if applicable) + description
- Location coordinates of your listening station
- Start time using 24-hour time
- Weather conditions: air temperature (°C), wind (Beaufort Scale), and precipitation
- Highest WCF call code detected
- Background noise
- Other frog species calling + their call code



+ notes!



Background noise

Record main source and index

Index	Description
0	No noise
1	Distant (traffic or animal calls including other frogs in distance)
2	Faint (few cars pass nearby, periodic animal calls, wind rustling grass or cattails)
3	Moderate (fairly consistent noise from cars passing, birds calling, wind rustling vegetation - frogs still heard well)
4	Consistent (continuous noise from animals, traffic or wind - frogs can be heard but not easily)
5	Loud (Continuous loud noise from highway traffic etc. - ability to hear frogs is severely compromised)



Tips & tricks

- Confusion with the Spring Peeper trill
- Too much background noise: wait for noise to subside, or complete as best you can if it won't
- It's valuable to know where they aren't, too
- Variation between years is normal
- Stay safe & have fun!



Afterwards

What to do with survey data & observations

- Share with:
 - Program repository: [Blazing Star Environmental](#)
 - Ontario central repository: [Ontario Natural Heritage Information Centre \(NHIC\)](#)
 - Community reports & incidental observations: [iNaturalist](#)
- Use to better understand and manage lands/wildlife
 - Construction projects, maintenance activities
 - Use with [land visioning tools](#)



Further Training & Resources

- <https://www.blazingstar.ca/western-chorus-frog-volunteer-training-materials>
 - Protocol – written & training video
 - Datasheets
 - Frog call training – quiz & resources
- [Reptile & Amphibian Survey Course](#) (in-person, late May/early June)
- [Description of Residence for the Western Chorus Frog – Great Lakes, St. Lawrence- Canadian Shield Population \(*Pseudacris triseriata*\) in Canada \(registrelep-sararegistry.gc.ca\)](#)
- [Western chorus frog \(*Pseudacris triseriata*\) Canadian Shield population: recovery strategy - Canada.ca](#)

SARA-CCA funding via CIER can be [applied for](#) to support further capacity building e.g. training, equipment, knowledge gathering/sharing



Stewardship & Conservation Actions

Beyond surveys & monitoring

- Pond creation & habitat restoration; improving connectivity
 - Invasive species removal/control: Phragmites, buckthorn
 - Runoff control: Hedgerows; reducing source pollutants
 - Habitat management: Maintaining open habitat

Actions should take place where WCF could reasonably disperse to



Open Discussion

Do you have any questions?



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SARA CONSULTATION, COOPERATION, AND ACCOMMODATION PROJECT



CIER
Centre for Indigenous
Environmental Resources



- Partnership between Environment and Climate Change Canada (ECCC) and the Centre for Indigenous Environmental Resources (CIER) on a National Species At Risk Act (SARA) Consultation, Cooperation, and Accommodation Project



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Suggestions for future Species at Risk workshops



Submitting Species Observations

- Report species observations to conservation data centres, including:
 - The Ontario Natural Heritage Information Centre (<https://www.ontario.ca/page/natural-heritage-information-centre>)
 - eBird (<https://ebird.org>)
 - iNaturalist (<https://www.inaturalist.org/>)
 - eButterfly (<e-butterfly.org>)
- Invasive Species Reporting
 - Invasive Species Centre (info@invasivespeciescentre.ca; 705-541-5790)
 - Call the Ministry of Natural Resources and Forestry (1-800-667-1940)
 - Call the Canadian Food Inspection Agency (1-800-442-2342)



For More Information...

Species at Risk Public Registry

www.canada.ca/species-at-risk-registry

CIER Ontario

Website: <https://yourcier.org/sara/ontario/>

CIER Ontario Contact: Lynn Mallett lmallett@yourcier.org

ECCC, CWS

Ontario SAR Email Account: SpeciesAtRisk.Ontario@ec.gc.ca

ECCC, CWS Ontario Contact: Christina Rohe Christina.Rohe@ec.gc.ca

