

# 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

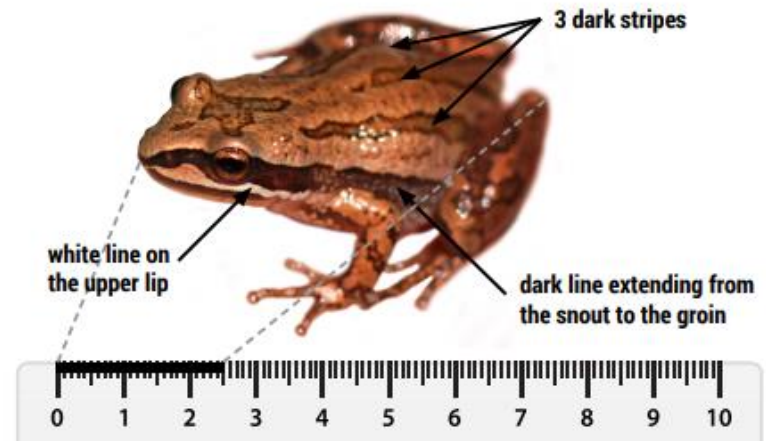
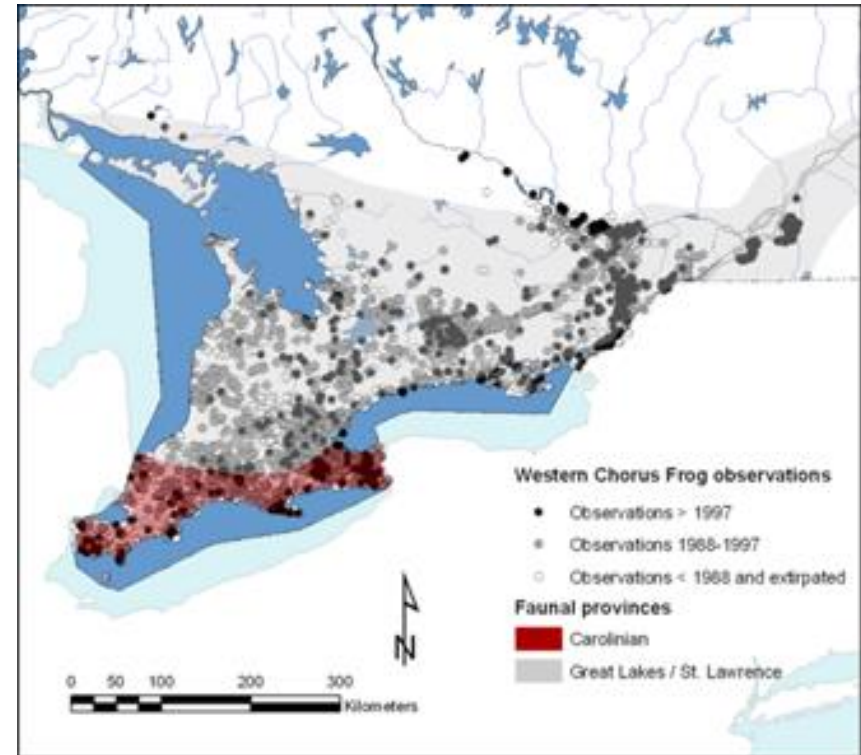


Figure: Frontier Digital Art  
in ECCC 2016



# 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



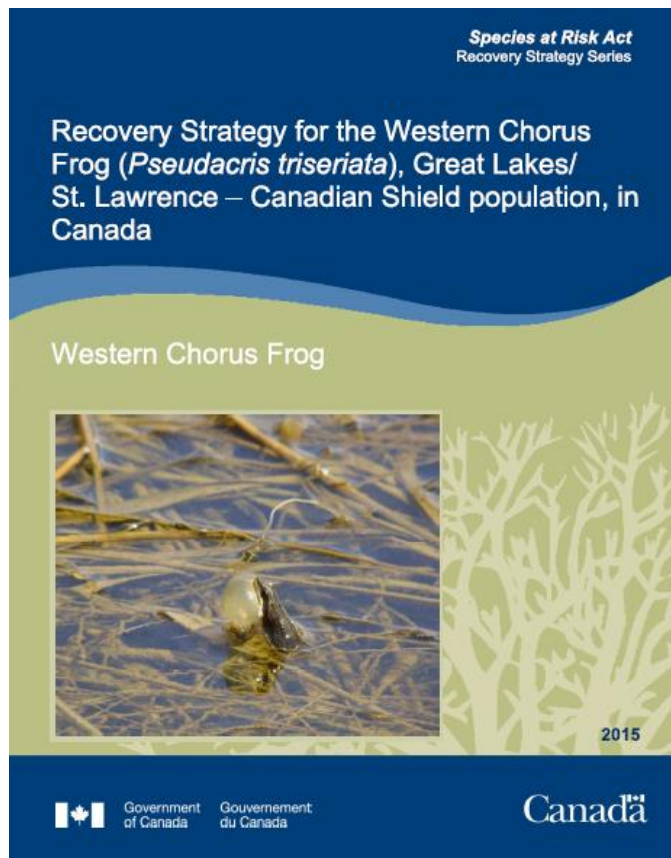
# Threats to WCF

## 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:

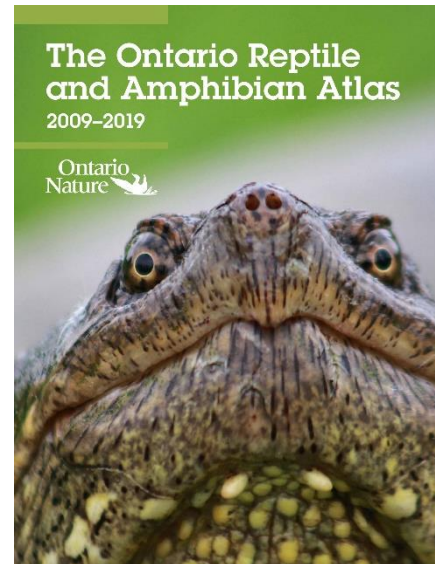
- Land use visioning, planning and mitigation
- Assessment of population trends/status - COSEWIC reassessment in preparation
- Recovery planning: Strategy amendment; incorporating new insights, improved knowledge
  - Species needs e.g. habitat use
  - Geographic areas of Critical Habitat
  - Activities 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



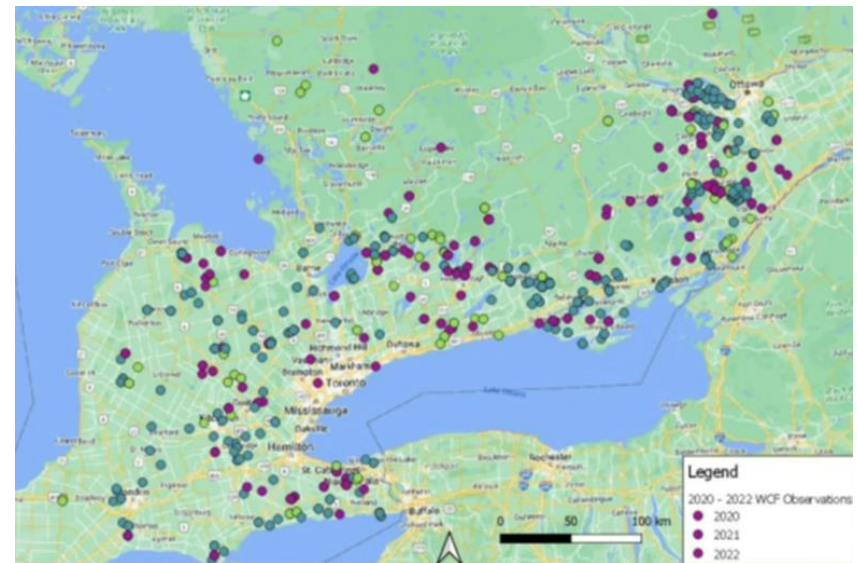
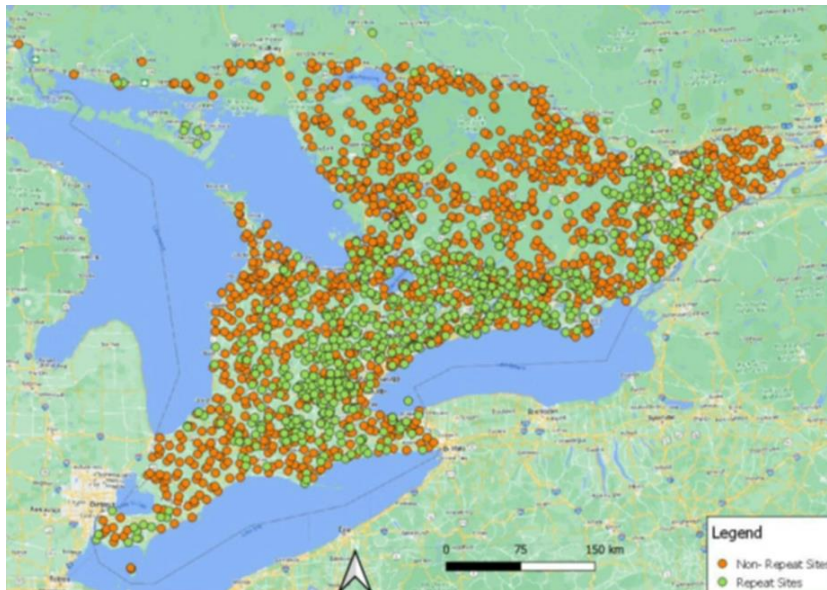
# Monitoring Efforts

## 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



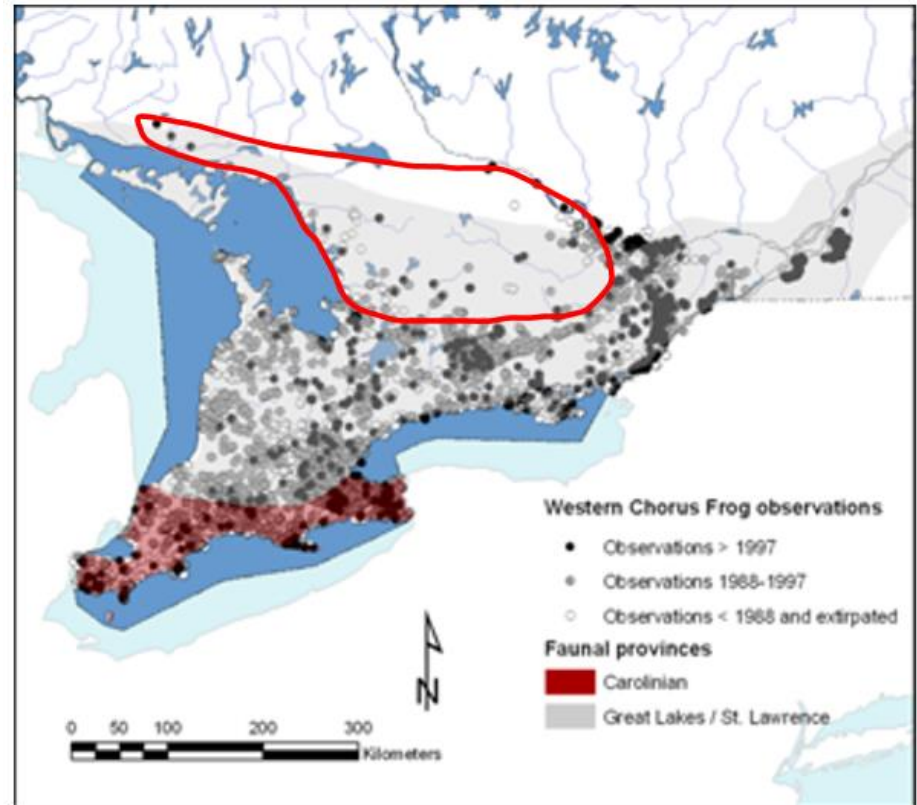
Long term monitoring program 2020-2022  
(Draft figures courtesy of Blazing Star Environmental)



# 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

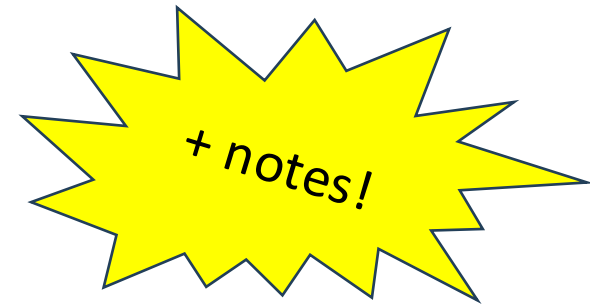


Bullfrog  
- “jug-o-rum”



# 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



# 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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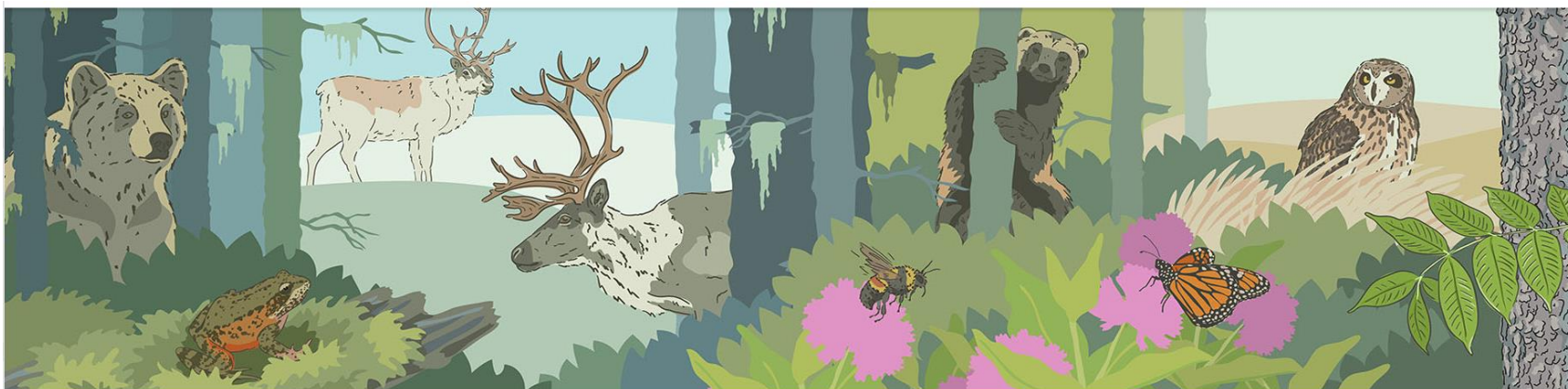
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# SARA CONSULTATION, COOPERATION, AND ACCOMMODATION PROJECT



**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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# Word Cloud

## 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](http://e-butterfly.org))
- Invasive Species Reporting
  - Invasive Species Centre ([info@invasivespeciescentre.ca](mailto: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](http://www.canada.ca/species-at-risk-registry)

## CIER Ontario

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

CIER Ontario Contact: Lynn Mallett [lmallett@yourcier.org](mailto:lmallett@yourcier.org)

## ECCC, CWS

Ontario SAR Email Account: [SpeciesAtRisk.Ontario@ec.gc.ca](mailto:SpeciesAtRisk.Ontario@ec.gc.ca)

ECCC, CWS Ontario Contact: Christina Rohe [Christina.Rohe@ec.gc.ca](mailto:Christina.Rohe@ec.gc.ca)

