

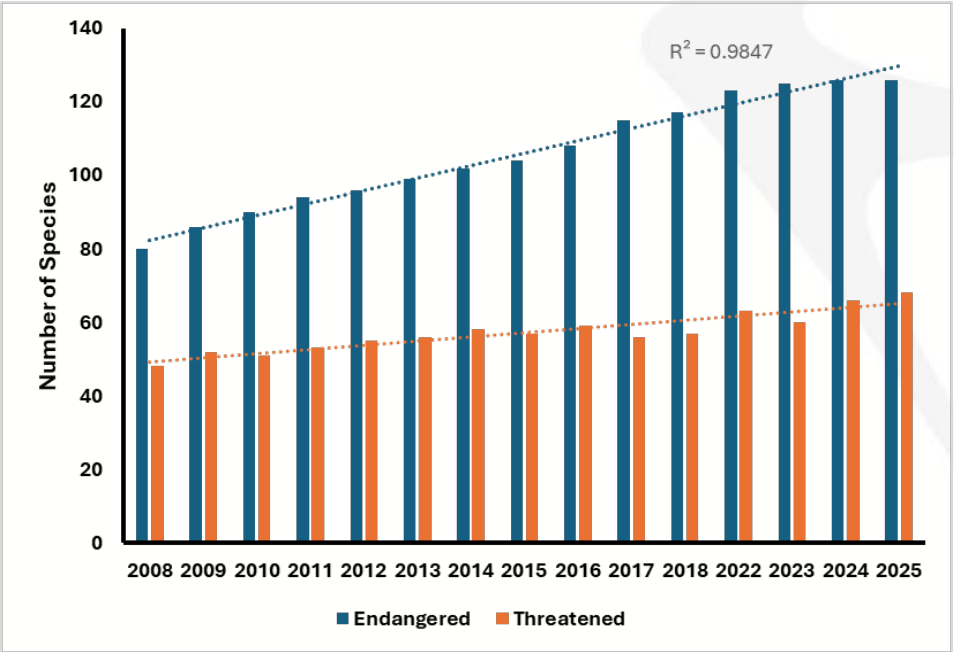
ARE WE KEEPING PACE?

Integrating Species at Risk Habitat into Brownfield and Excess Soil Management

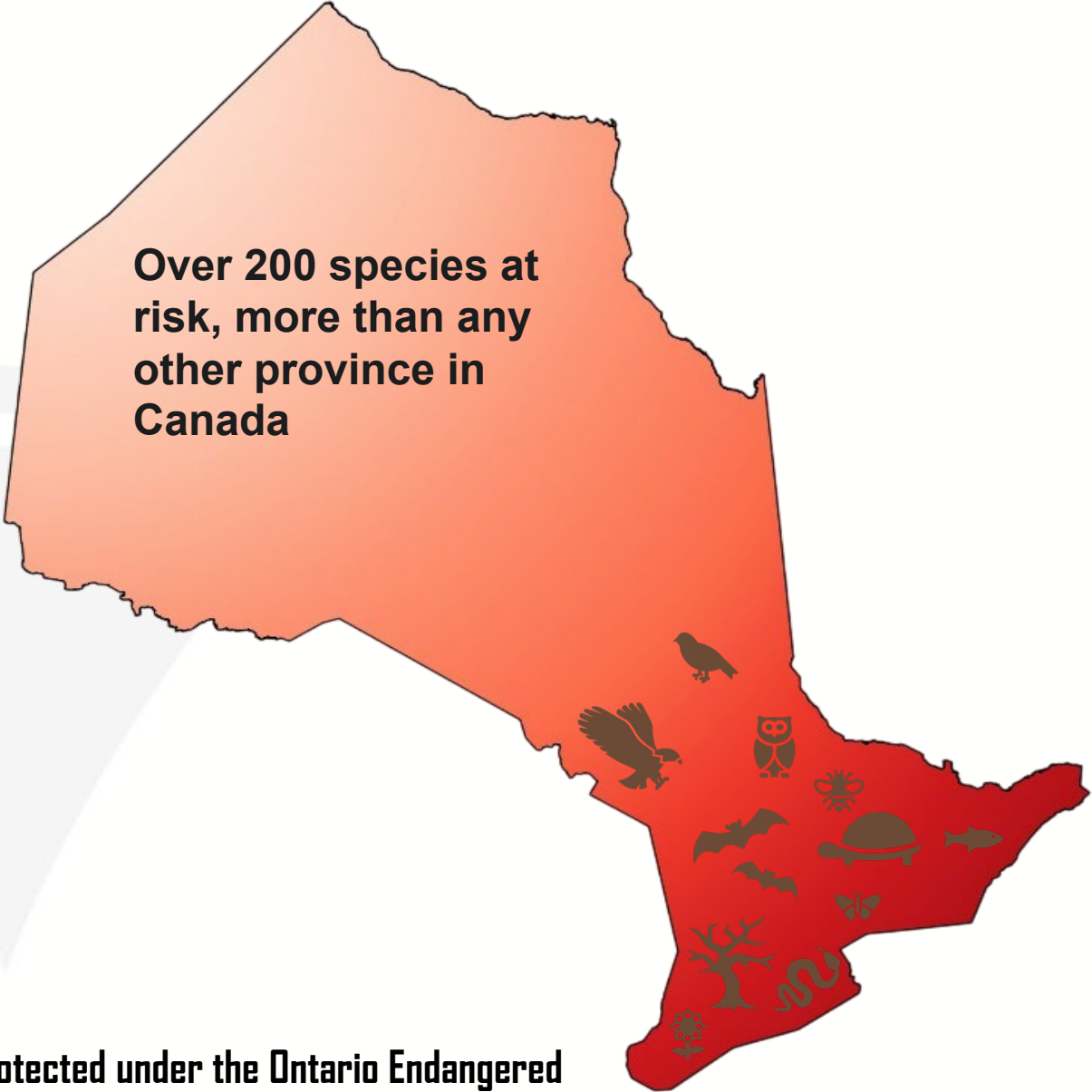
Terrapex Environmental Ltd.
Roxana Khoshnavesh; Michelle Letourneau
Liz Madden; Ollie Owens

Why This Matters

52% growth over 17 years



Over 200 species at risk, more than any other province in Canada



Endangered: 126

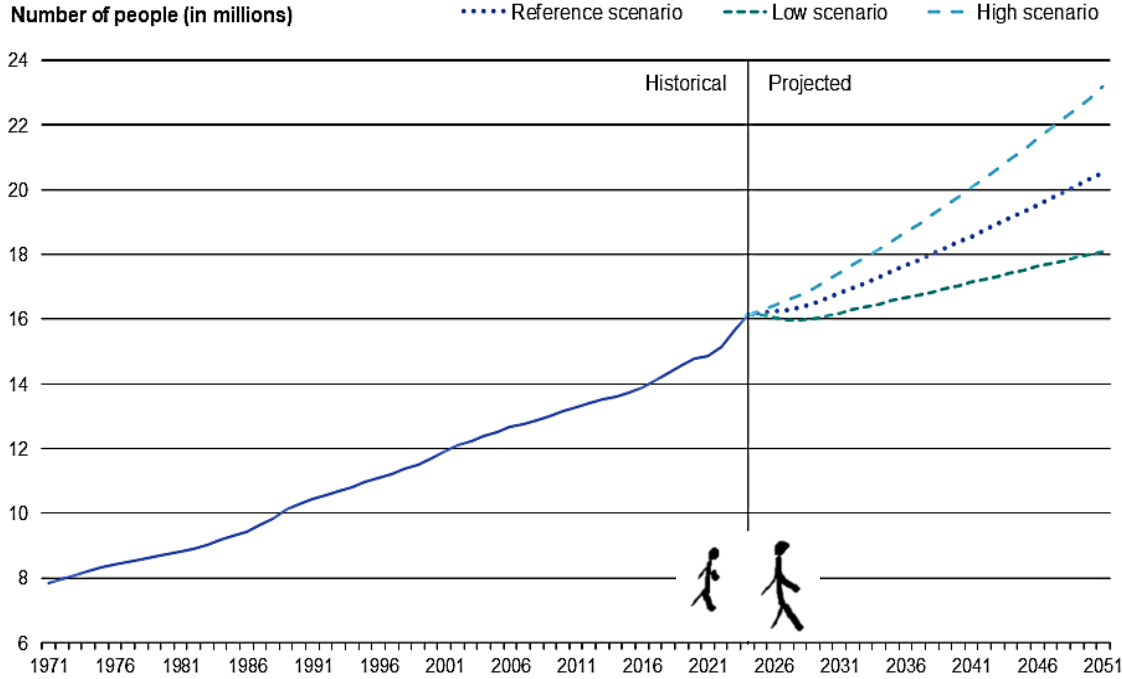
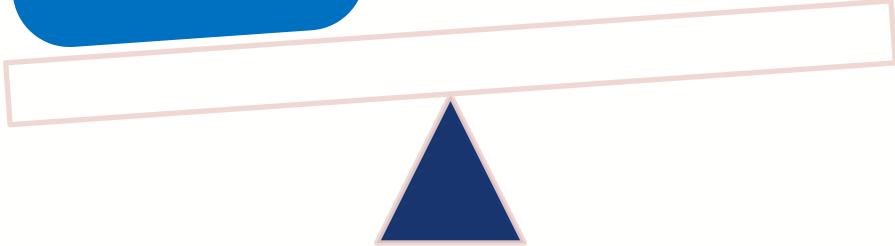
Threatened: 86

Habitat of 194 (0.7 %) of Ontario species is protected under the Ontario Endangered Species Act

Why This Matters



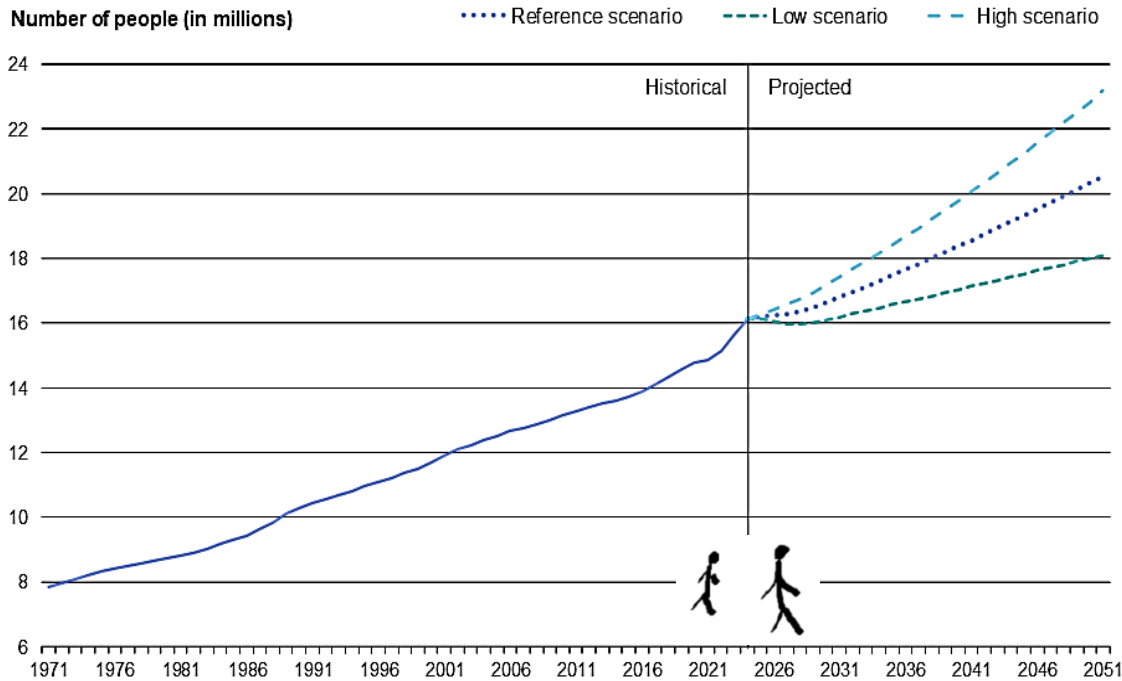
Meeting the needs of growing population



Sources: Statistics Canada for 1971–2024, and Ontario Ministry of Finance projections.

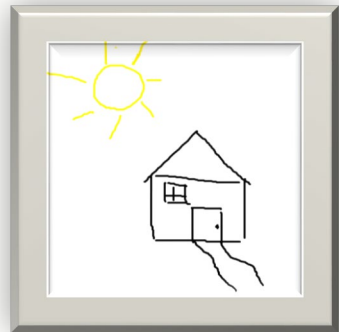
<https://www.ontario.ca/page/ontario-population-projections>

Why This Matters



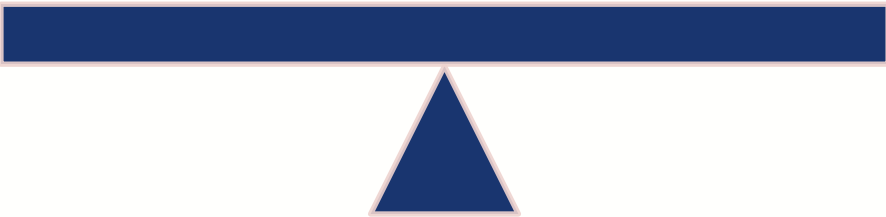
Sources: Statistics Canada for 1971–2024, and Ontario Ministry of Finance projections.

<https://www.ontario.ca/page/ontario-population-projections>



Meeting the needs of growing population

Developing in lands safe for the intended purpose





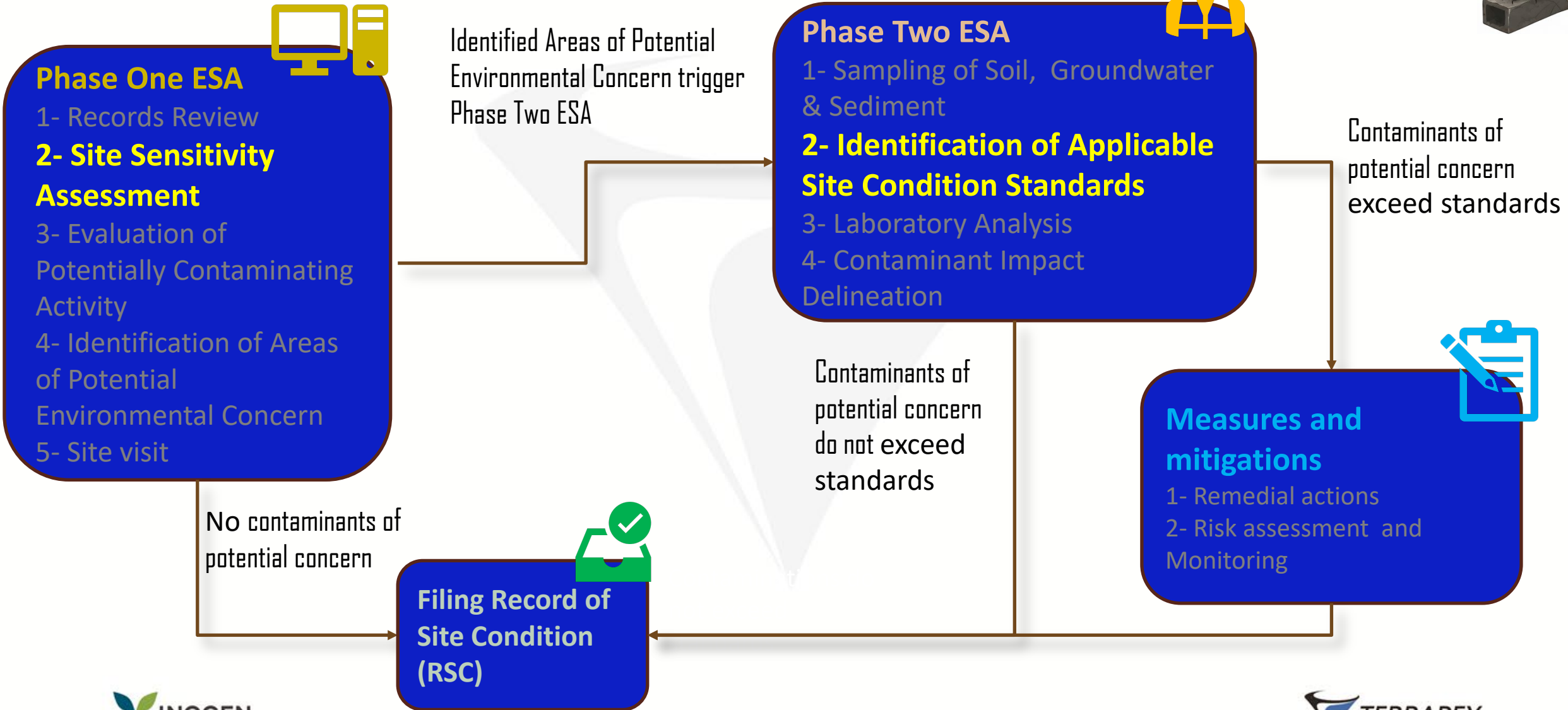
Species at Risk
Sanctuary

Excess soil
movement

Record of
Site
Condition

Species at Risk Conservation Intersects with the Brownfield and Excess Soil Industry

Environmental Site Assessment (ESA)



Regulatory Landscape

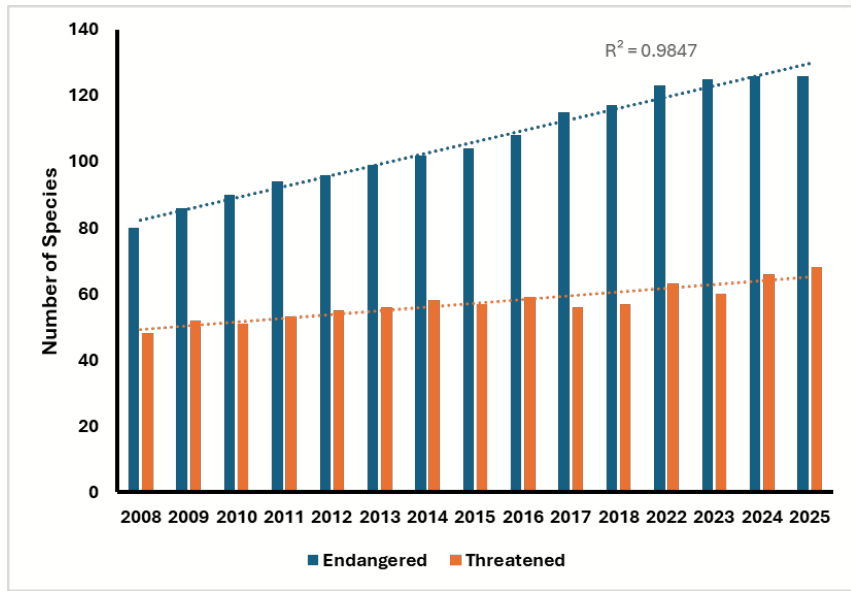


Presence of potential habitat for Species at Risk should be evaluated within a study area of:

- ✓ *The subject property and its 30 m*
 - ✓ *"area of natural significance"* under O. Reg 153/04.
- ✓ *The subject property*
 - ✓ *"environmentally sensitive area"* under Ontario Rules for Soil Management and Excess Soil Quality Standards



Frequent updates to species at risk lists create moving targets





Real-World Example: Responding to Changes and Challenges



In January 2025, three bats were designated as endangered in Ontario.

Biologists' knowledge of bats is still evolving.

Identifying bats and their habitat is a complex, multi-step process.

Snag identification does not provide information for foliage-roosting bats.

Big Brown Bat and Silver-haired Bat have overlapping calls.

Regulatory Ambiguity



O.Reg 153/04 Section 1(1) Definitions of Natural Significance

6. An area identified by the Ministry of Natural Resources as **significant habitat of a threatened or endangered species.**

→ This phrase is carried on from PPS 2014

7. An area which is **habitat** of a species that is classified under section 7 of the *Endangered Species Act, 2007* as a threatened or endangered species.

→ The definition of habitat in the Endangered Species Act of Ontario is ambiguous

Risks of Overlooking Ecological Expertise



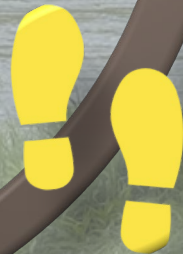
Omitting SAR expertise
in ESA can lead to:



Non-compliance, invalid
RSC



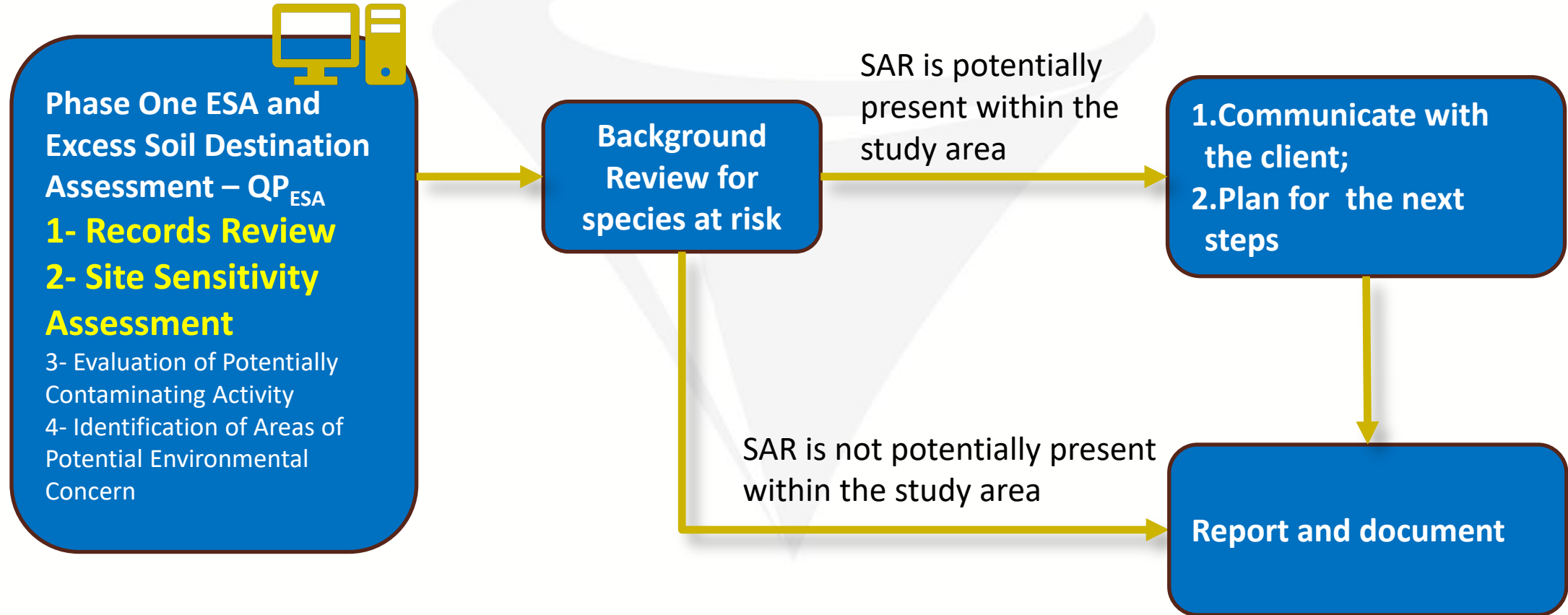
Delays and costly project
revisions



Unintended habitat
destruction

Misidentifying or
missing SAR habitat
puts projects and the
species at risk

Terrapex's Approach: Interdisciplinary Collaboration in Action

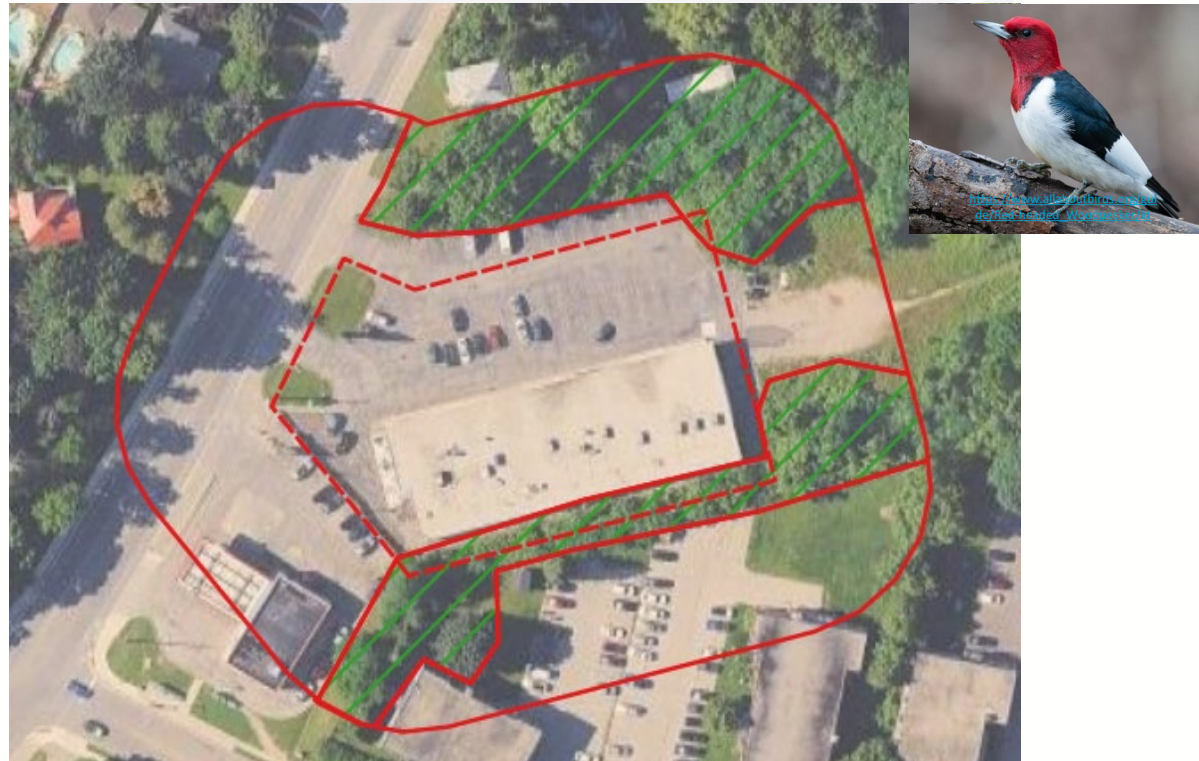


Follow-Up Actions After Flagging a Species at Risk in a Project's Study Area



Scenario 1- SAR was flagged; SCS was set based on multiple lines of evidence, or no contaminants of potential concern were found => species at risk was not the primary driving factor

Scenario 2- SAR was flagged, follow-up field work confirmed no suitable habitat=> species at risk was not a concern



West Ontario

Follow-Up Actions After Flagging a Species at Risk in a Project's Study Area

Scenario 3- SAR was flagged, follow-up field work confirmed suitable habitat=> further steps were taken



Mid-town Toronto

Follow-Up Actions After Flagging a Species at Risk in a Project's Study Area



Scenario 3- SAR was flagged, follow-up field work confirmed suitable habitat=> further steps were taken



- Terrapex conducted a follow-up habitat assessment snag evaluation.
- The results identified 29 trees with the potential to function as bat maternity roost habitat.
- A Terrapex biologist conducted a preliminary bat acoustic survey.

Date	Species	Total Passes recorded
8 July 2024	Hoary Bat (<i>Lasiurus cinereus</i>)	23
	Big Brown Bat / Silver-haired Bat	20
	Unidentified	24
18 July 2024	Hoary Bat (<i>Lasiurus cinereus</i>)	3
	Big Brown Bat / Silver-haired Bat	17
	Unidentified	10

Scenario 3- SAR was flagged, follow-up field work confirmed suitable habitat=> further steps were taken



- ✓ The client proceeded with RSC (with the support of a risk assessment)
- ✓ Applied the most stringent Table 1 - Background Site Condition Standards - to evaluate soil and groundwater chemistry within the 30-m buffer.



Has Species at Risk been flagged here?



Northeast of Sudbury

Has Species at Risk been flagged here?



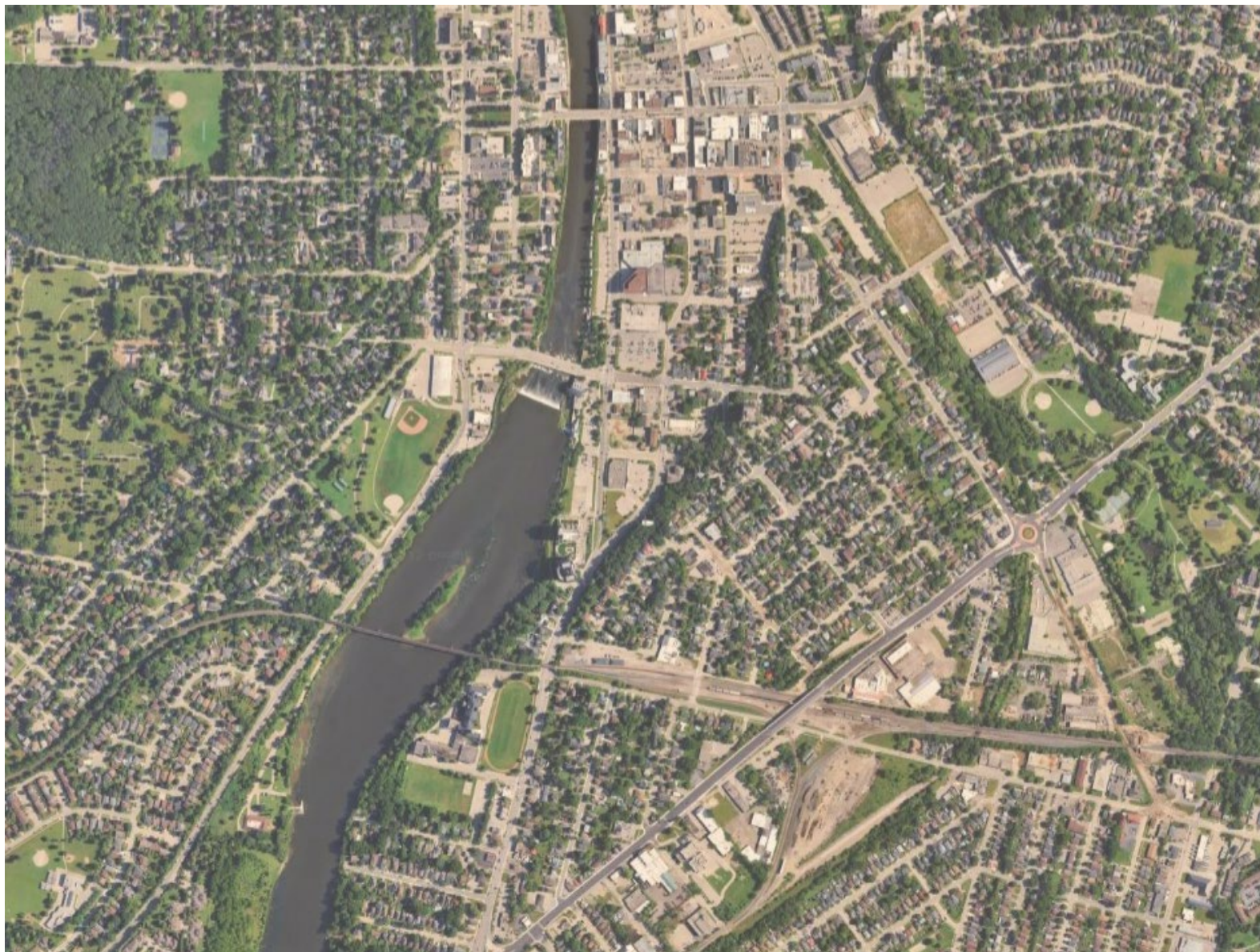
Short-eared Owl
Bobolink
Eastern Meadowlark

North of Sudbury

Has Species at Risk been flagged here?

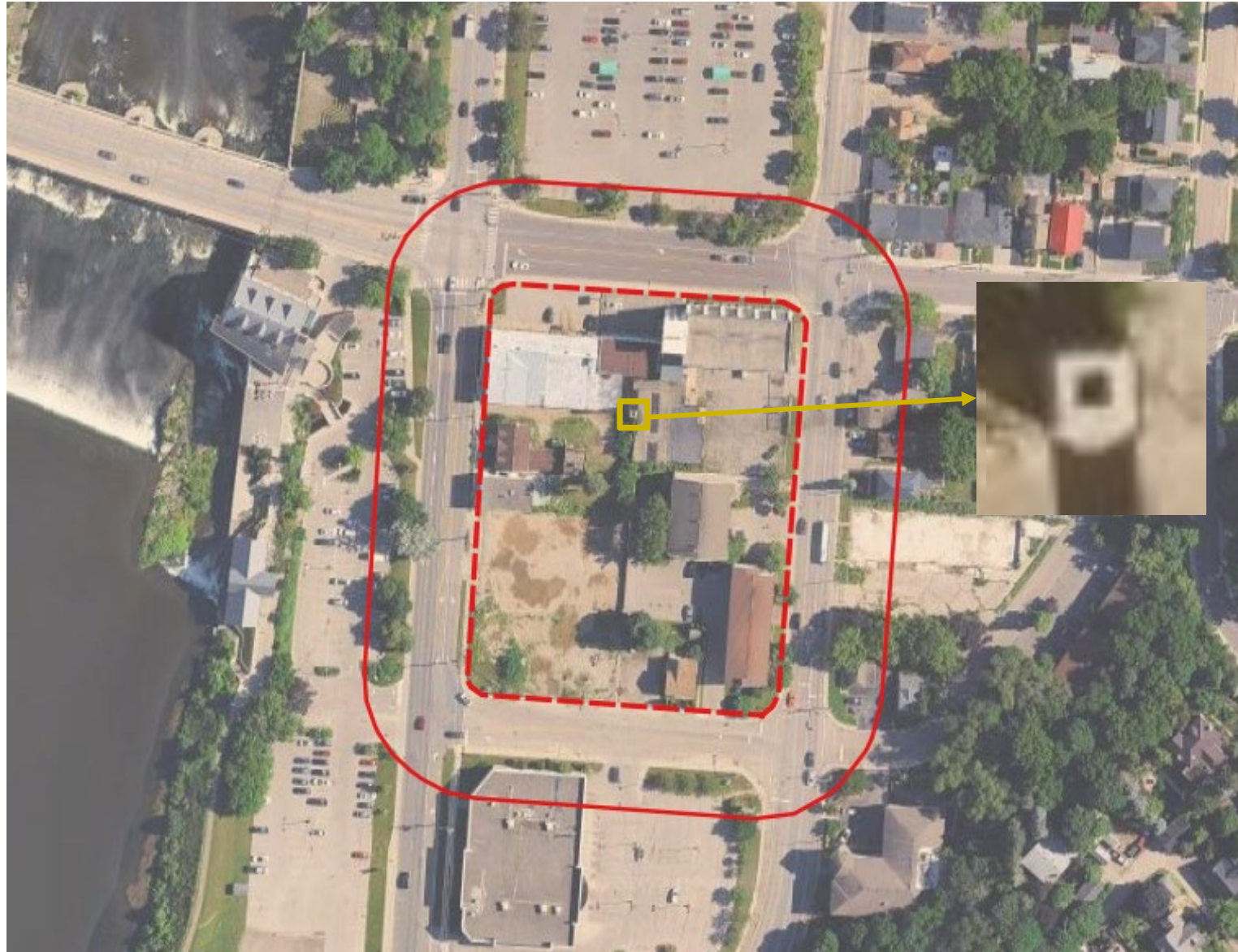


West of Ontario

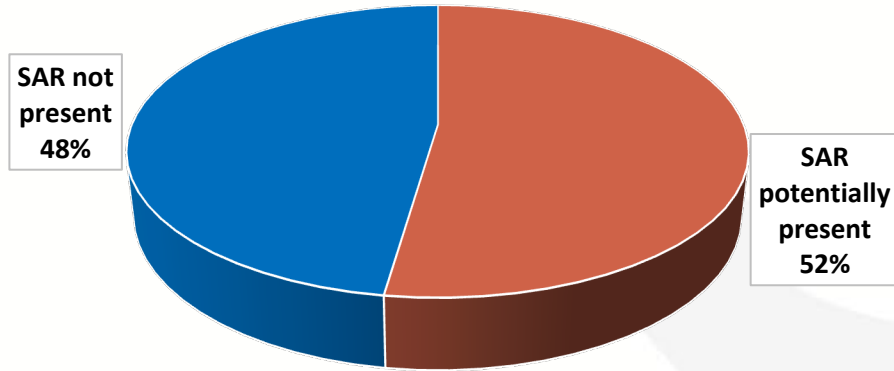


Has Species at Risk been flagged here?

West of Ontario

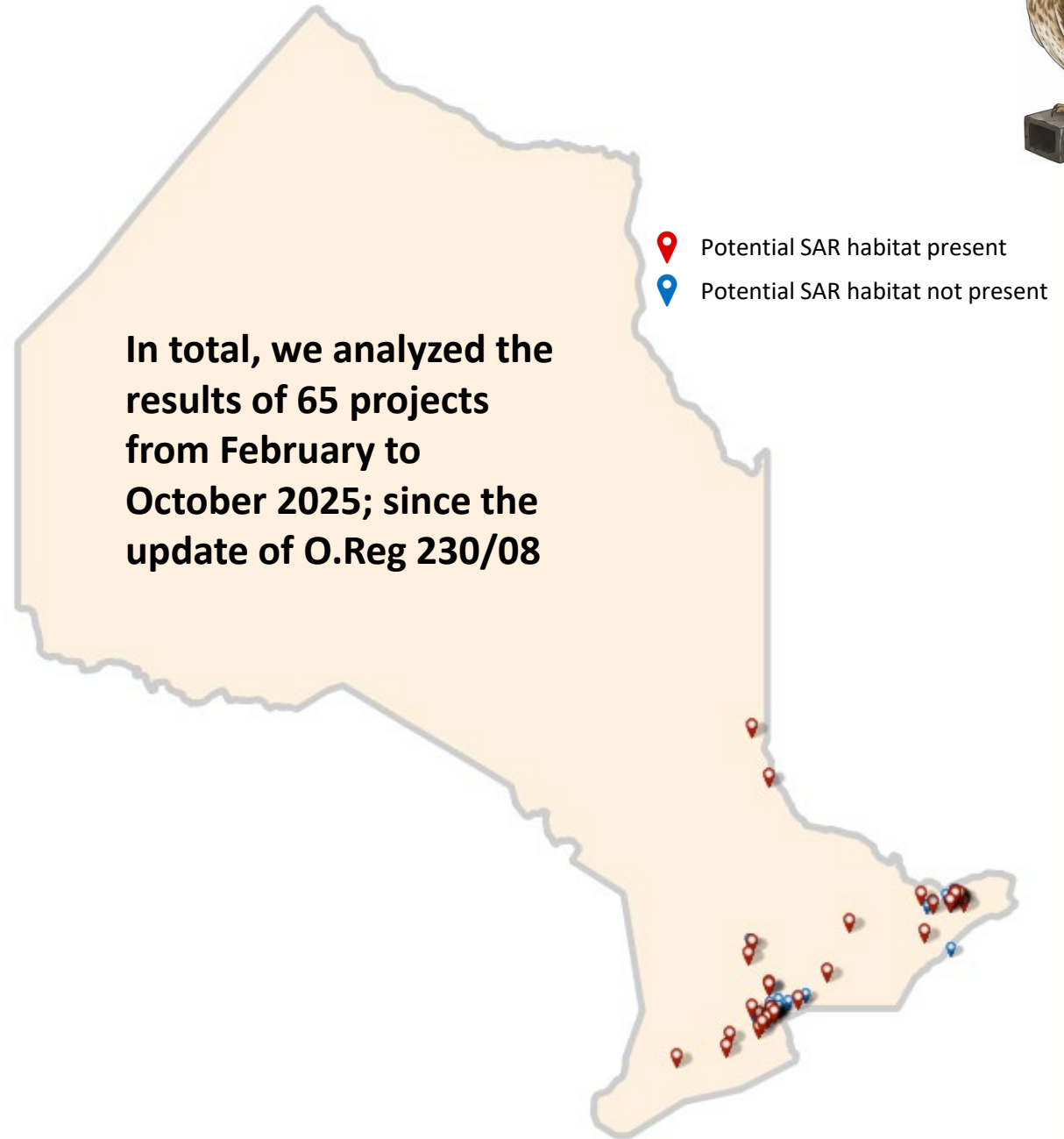


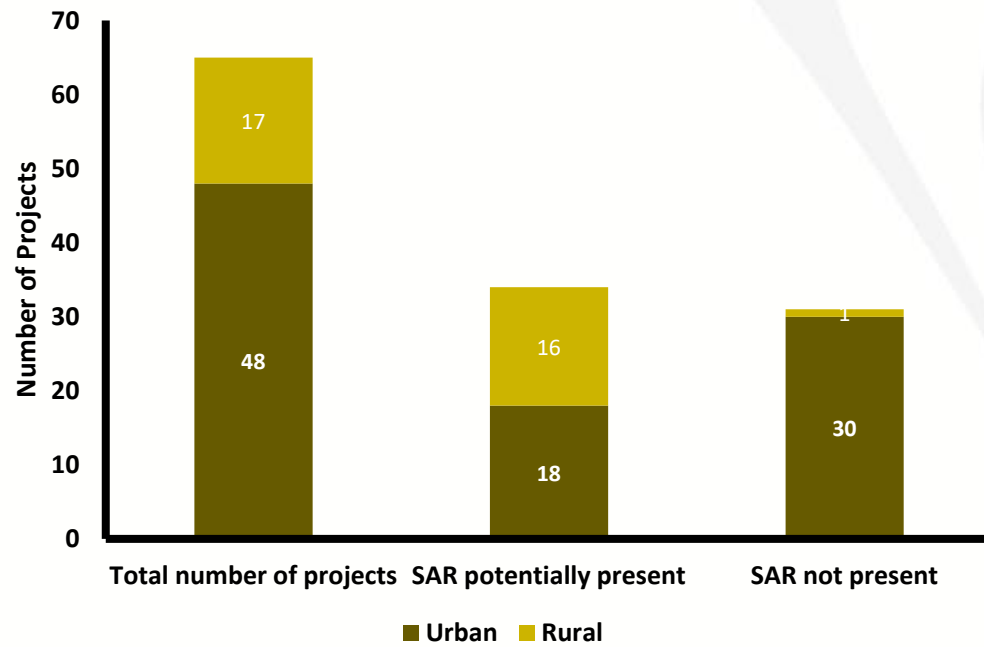
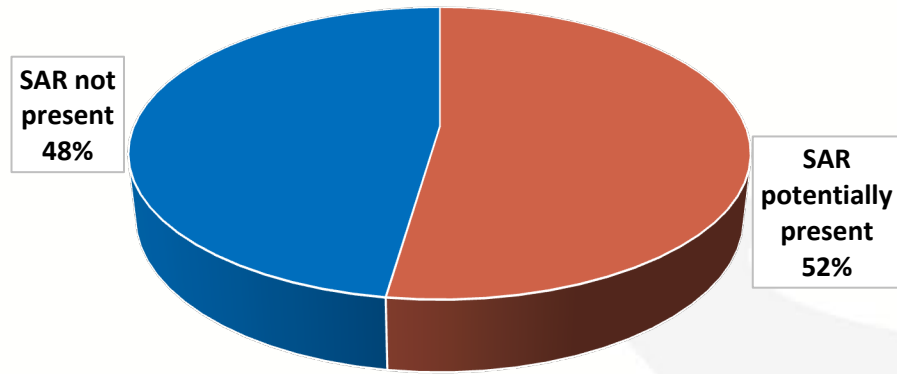
<https://www.inaturalist.org/taxa/6571-Chaetura-pelagica>



What percentage of the sites flagged for SAR are located within the urban area?

- > 25%
- 25–45%
- 45–55%
- 65–75%





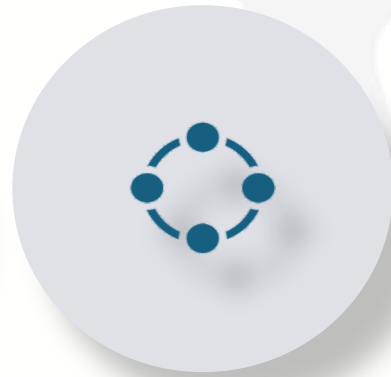
What percentage of the sites flagged for SAR are located within the urban area?

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Terrapex's Approach in Summary



**CROSS-TEAM
COMMUNICATION**



EARLY INTEGRATION



ADAPTIVE MANAGEMENT



**IMPROVED TIME AND
BUDGET MANAGEMENT**



**ADVANCED
CONSERVATION AND
COMPLIANCE**



Adapting to the Shifting Landscape





Two Key Changes in the Endangered Species Act/Species Conservation Act regime Related to O.Reg 153/04 and O.Reg 406/19

Redefinition/narrowing of “habitat”

- Revoking O. Reg 832/21 (Habitat).
- Fewer lands would qualify as “habitat”

Potential reduction in the number of sites identified as the suitable habitat of Species at Risk

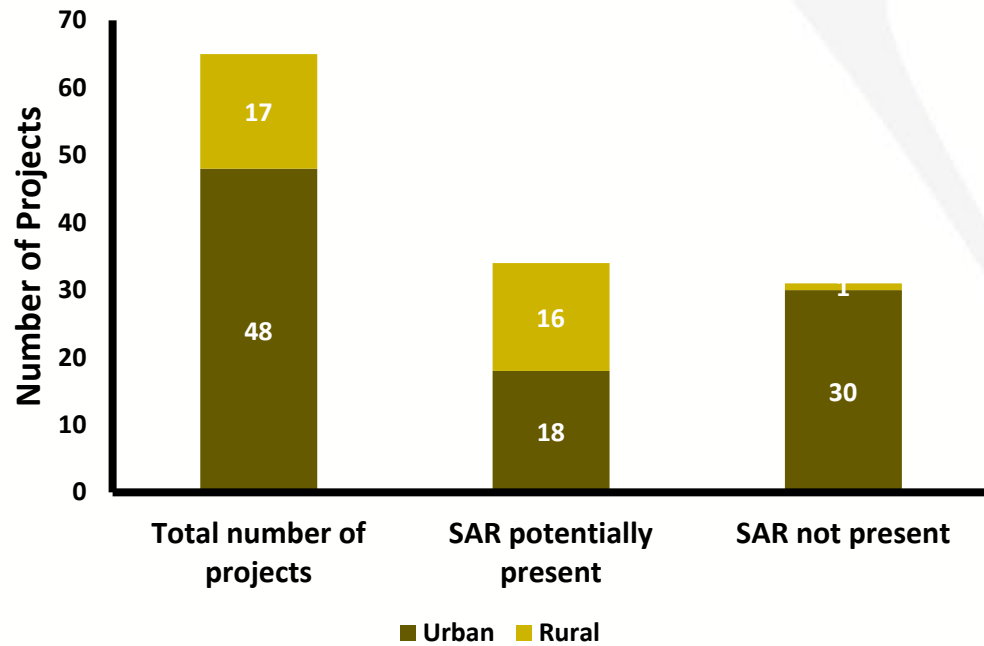
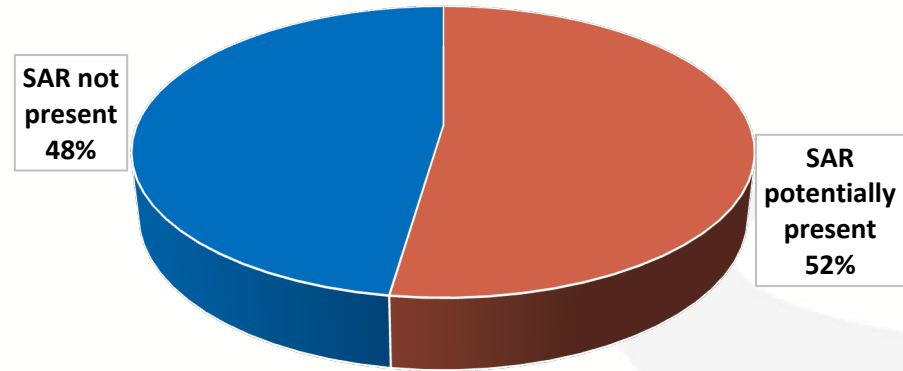


Under the proposed Species Conservation Act, the number of protected species is reduced

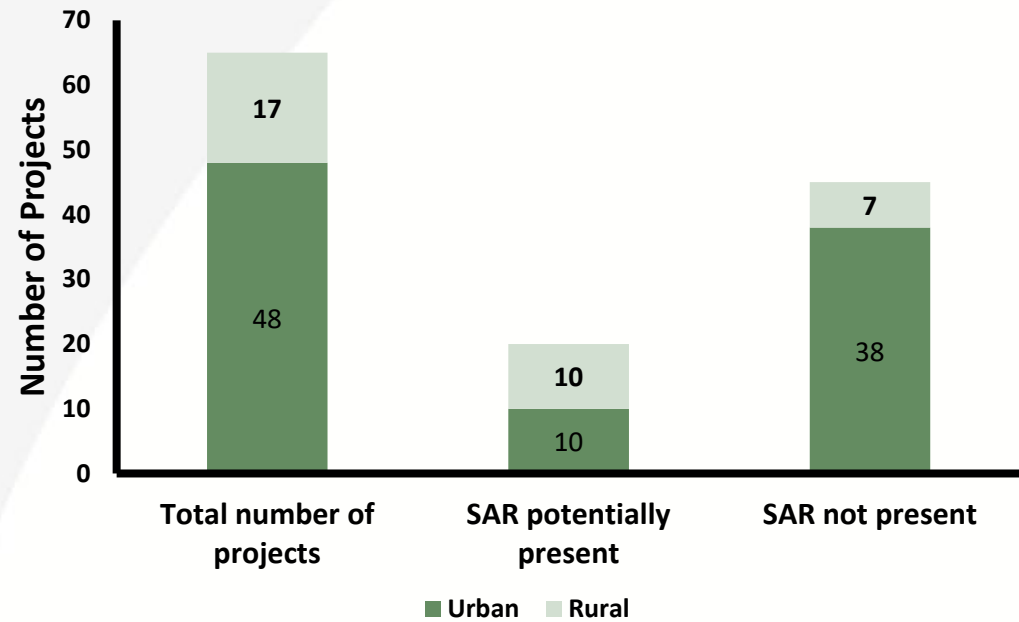
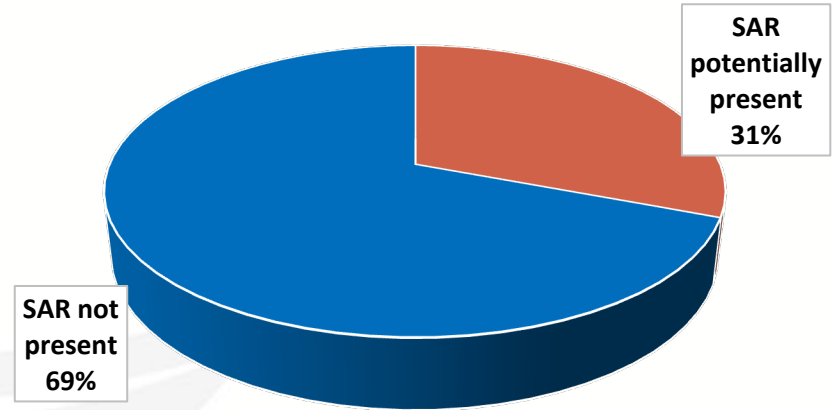
The habitat of **194 species** (listed under O.Reg 230/08) is protected under the current ESA 2007.

The proposed Species Conservation Act **removes 42 aquatic and migratory birds** that are protected under the federal Species at Risk Act from the list of Endangered and Threatened species. This is proposed to eliminate duplication.

Under the Ontario Endangered Species Act



Projection Under the Species Conservation Act



Action required

Because O. Reg. 153/04 and 406/19 explicitly include “habitat of a species listed under ESA” in their definition of “*areas of natural significance*” and “*environmentally sensitive area*”, any change to the Species at Risk list or habitat definition requires revising that inclusion clause.



ACKNOWLEDGEMENT



Michelle Letourneau
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Services



Liz Madden
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Assessment



Oliver "Ollie" Owens
Manager, Site
Assessment And
Remediation



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– Ecological Services