

**Ontario Species at Risk Evaluation Report for
Yellow Rail
Râle jaune
(*Coturnicops noveboracensis*)**

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

Assessed by COSSARO as Special Concern

April 2024

Final

Executive summary

A single species of Yellow Rail (*Coturnicops noveboracensis*), a secretive marsh dwelling bird, occurs in North America. The species breeds in northern jurisdictions, with significant breeding areas in the James Bay lowlands of Ontario and Quebec, and overwinters on the Gulf and Atlantic coasts. Population trends for Yellow Rail are difficult to discern due to limited data; this species is not well represented in large-scale surveys such as the Breeding Bird Atlas, but is generally assumed to have declined in recent decades in line with loss of its wetland habitat. Alongside habitat loss through natural system modification, the species is also threatened by agriculture and aquaculture, and pollution in its winter range, collisions with communications towers during migration, and climate change.

Yellow Rail was previously assessed as Special Concern in Ontario. The species has been reassessed and maintains its classification as Special Concern due to ongoing habitat loss, meaning the species is likely to become Threatened if factors suspected of negatively influencing the persistence of the species are neither reversed nor managed with demonstrable effectiveness.

1. Eligibility for Ontario status assessment

1.1. Eligibility conditions

1.1.1. Taxonomic distinctness

A single subspecies of Yellow Rail (*C. n. noveboracensis*; Clements et al. 2021) breeds in North America.

1.1.2. Designatable units

There is no evidence of sufficient differences among breeding assemblages of Yellow Rail in Canada to justify separate designatable units (COSEWIC 2023).

1.1.3. Native status

Yellow Rail is a native species in Ontario.

1.1.4. Occurrence

The James Bay lowlands of Ontario (and Quebec) are some of the most important known breeding areas for Yellow Rail, and the species also occurs rarely in Southern Ontario.

1.2. Eligibility results

Yellow Rail (*Coturnicops noveboracensis*) is eligible for status assessment in Ontario.

2. Background information

2.1. Current designations

- GRANK: G4 (NatureServe 2016)
- IUCN: Least Concern(2020)
- NRANK Canada: N3N4B, NUM (NatureServe 2016)
- COSEWIC: Special Concern (December 2023)
- SARA: Special Concern (Schedule 1 2003)
- ESA 2007: Special Concern (2008)
- SRANK: S3B (ranked in 2020)

2.2. Distribution in Ontario

Breeding grounds for Yellow Rail in the James Bay lowlands in Ontario (and Quebec) and among the most important for the species (Robert et al. 2004; Tozer 2007; COSEWIC 2009). The species is also occasionally observed in Southern Ontario,

breeding in the Rainy River region, Georgian Bay, and the Trent Severn Waterway (Tozer 2007). Yellow Rail is highly mobile and moves freely between locations, and occupy far in excess of 10 locations in Ontario. The EOO and IAO in Ontario are estimated as 1,212,765 km² and 1,032 km² respectively (Figure 1).

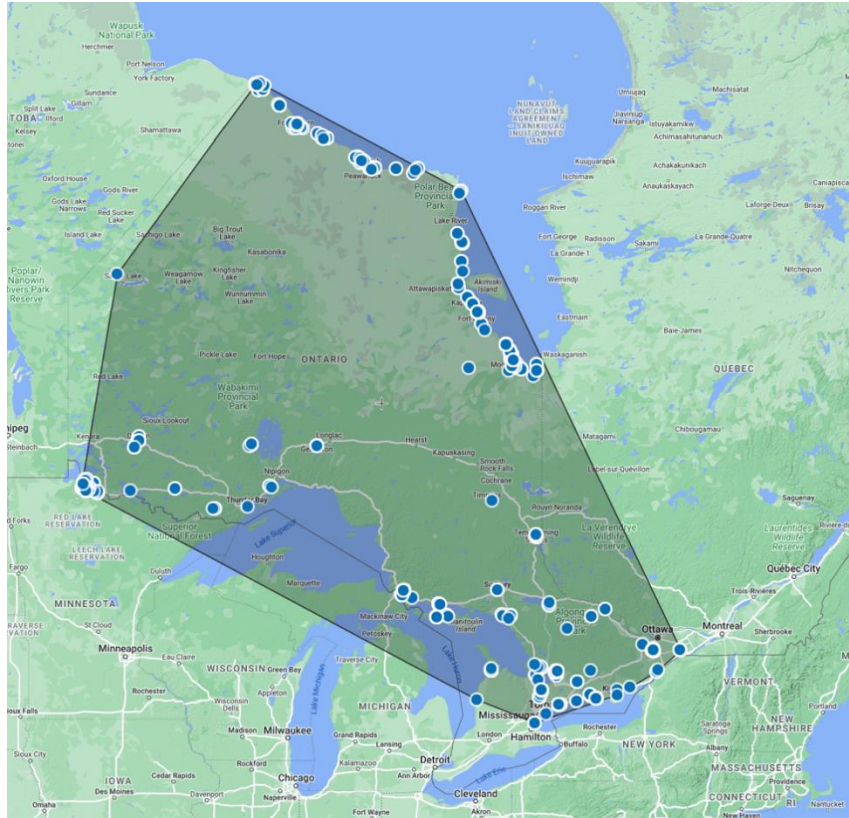


Figure 1. All Ontario Yellow Rail records from NHIC. Created for this report using [GeoCAT](#) [website accessed March 17, 2024].

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

Yellow Rail is a widespread, migratory, species. Its breeding range extends across multiple Canadian provinces and territories from British Columbia to the Gaspé Peninsula of Quebec and historically as far east at Nova Scotia (COSEWIC 2023). It breeds as far south as Minnesota, Wisconsin, Michigan, and Maine (COSEWIC 2023). Despite the large range, its breeding distribution is scattered and uneven.

The species migrates throughout the eastern United States and overwinters on the US Gulf Coast from Texas to Florida, and the Atlantic coast to North Carolina (COSEWIC 2023). The overwintering range is less than 7% of the area of the summer breeding range (COSEWIC 2023).

Yellow Rail is a highly mobile species with little differentiation between geographic populations. There are no known metapopulations, ecoregional definitions, or genetic

differences within the North American population. Therefore, the entire North American range can be considered as the BBRGR for this species.

Yellow Rail is presumed to have declined throughout its global breeding range, inferred from declining habitat availability (COSEWIC 2023). Breeding Bird Survey (BBS) observations have also suggested a decline but have low credibility due to the low suitability of the BBS survey methods to detect the species (COSEWIC 2023). Overall Yellow Rail is considered to be experiencing small, but ongoing declines, that do not exceed 30%.

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	Yes	S3B	Natureserve, accessed March 17 2024
Manitoba	Yes	S3B	Natureserve, accessed March 17 2024
Michigan	Yes	S2	Natureserve, accessed March 17 2024
Minnesota	Yes	S3B	Natureserve, accessed March 17 2024
Nunavut	Yes	SUB	Natureserve, accessed March 17 2024
New York	Yes	SNRN	Natureserve, accessed March 17 2024
Ohio	Yes	SX	Natureserve, accessed March 17 2024
Pennsylvania	Yes	-	Natureserve, accessed March 17 2024
Wisconsin	Yes	S1B	Natureserve, accessed March 17 2024

2.4. Ontario conservation responsibility

There is considerable uncertainty in the various regional population estimates for Yellow Rail, and COSEWIC (2023) concluded that most sources underestimate the global population due to limited search effort. Current estimates suggest Ontario is responsible for 27–30% of the Canadian population, which accounts for approximately 90% of the global breeding range. This suggests the Ontario population could be close to 25% of the global population but does not definitively exceed this threshold.

2.5. Direct threats

Yellow Rail is primarily threatened by loss of wetland habitat. However, estimates of wetland loss rarely accurately document change in the very shallow habitats used by the species (COSEWIC 2023). In Ontario, potential habitat in the Hudson Bay Lowlands has been damaged by heavy Snow Geese grazing and this threat is ongoing (Peterson et al. 2013; Mowbray et al. 2020).

The overall threat impact for Yellow Rail in Canada is High-Medium due to anticipated continuing declines. The largest threat is natural system modifications, including: loss of wetland habitat used for breeding; fire suppression leading to shrub encroachment of

both breeding and wintering grounds; and expansion of invasive or problematic species, such as Snow Geese. The scope of this threat is large, and the severity is moderate.

Other low threat impact, factors that may affect Yellow Rail are: agriculture and aquaculture, which may affect the wintering range of the Ontario population; energy production and mining, though this threat primarily occurs outside of Ontario; transportation and service corridors, with the Ontario population primarily impacted by collisions with communications towers during migration; pollution, including oil spills and microplastics in the wintering range of the Ontario population; and climate change, which is likely to affect habitat availability.

2.6. Specialized life history or habitat use characteristics

Yellow Rail is a challenging species to monitor, due to its poor detectability by widespread survey methods such as BBS. Populations are inferred to be in decline due to their dependence on specific habitat that is declining due to land use change. As a migratory species with a small wintering range (<7% of the breeding range; COSEWIC 2023) the Ontario population is also vulnerable to threats outside of its Ontario range.

2.7. Existing Conservation and Recovery Actions

No major recovery actions have been undertaken for Yellow Rail in Ontario. National actions in Canada include the protection of acquisition of important sites in Quebec by the Nature Conservancy of Canada and management activities to prevent shrub encroachment into wetland breeding sites in Alberta (COSEWIC 2023).

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 is no evidence that population declines exceed 30%.

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

Does not apply. EOO and IAO exceed thresholds.

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

Does not apply. Population estimates for Ontario range from 5,000 to 20,000, with insufficient evidence to infer a population below the 10,000 threshold.

3.1.4. Criterion D – Very small or restricted total population

Does not apply. Population estimates for Ontario range from 5,000 to 20,000, IAO is greater than 20 km², and number of locations is greater than five, exceeding thresholds.

3.1.5. Criterion E – Quantitative analysis

Does not apply. No suitable analyses have been conducted for this species.

3.2. Application of Special Concern in Ontario

Yellow Rail is threatened by ongoing wetland loss and degradation in breeding and wintering grounds, which may be further exacerbated by climate change, and may become threatened if this trend continues.

3.3. Status category modifiers

3.3.1. Ontario's conservation responsibility

Does not apply. Species is not considered globally at risk (G4).

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

Does not apply. Threats and trends are consistent throughout BBRGR.

3.3.3. Rescue Effect

Does not apply. Populations outside Ontario face similar threats and are unlikely to provide rescue.

3.4. Other status categories

3.4.1. Data deficient

Does not apply. Data are limited, but sufficient to support an assessment.

3.4.2. Extinct or extirpated

Does not apply.

3.4.3. Not at risk

Does not apply.

4. Summary of Ontario status

Yellow Rail (*Coturnicops noveboracensis*) is classified as Special Concern in Ontario because the species is likely to become Threatened if factors suspected of negatively influencing the persistence of the species are neither reversed nor managed with demonstrable effectiveness.

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

5. Information sources

Clements, J.F., T.S. Schulenberg, M.J. Iliff, S.M. Billerman, T.A. Fredericks, J.A. Gerbracht, D. Lepage, B.L. Sullivan, and C.L. Wood. 2021. The eBird/Clements checklist of birds of the world: v2021. Website: <https://www.birds.cornell.edu/clementschecklist/download/>.

COSEWIC. 2009. COSEWIC assessment and status report on the Yellow Rail *Coturnicops noveboracensis* in Canada. Committee on the Status of Endangered Wildlife in Canada, Ottawa, Ontario. vii + 32 pp.

COSEWIC. 2023. IN PRESS. COSEWIC assessment and status report on the Yellow Rail *Coturnicops noveboracensis* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 22 pp. (<https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html>).

Mowbray, T.B., F. Cooke, and B. Ganter. 2020. Snow Goose (*Anser caerulescens*). *In* Birds of the World (P.G. Rodewald, Editor). Cornell Lab of Ornithology, Ithaca, New York.

Peterson, S.L., R.F. Rockwell, C.R. Witte, and D.N. Koons. 2013. The legacy of destructive Snow Goose foraging on supratidal marsh habitat in the Hudson Bay Lowlands. *Arctic, Antarctic, and Alpine Research* 45:575-583.

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Appendix 1: Technical summary for Ontario

Species: Yellow Rail (*Coturnicops noveboracensis*)

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.	2.13 years
Is there an observed, inferred, or projected continuing decline in number of mature individuals?	Unknown, though a gradual decline is inferred due to threats.
Estimated percent of continuing decline in total number of mature individuals within 5 years or 2 generations.	Unknown
Observed, estimated, inferred, or suspected percent reduction or increase in total number of mature individuals over the last 10 years or 3 generations.	Unknown
Projected or suspected percent reduction or increase in total number of mature individuals over the next 10 years or 3 generations.	Unknown
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.	Unknown
Are the causes of the decline (a) clearly reversible, and (b) understood, and (c) ceased?	a. No (habitat loss may not be easily reversible) b. No (likely habitat loss) c. No (habitat loss is ongoing)
Are there extreme fluctuations in number of mature individuals?	Unknown, but unlikely

Extent and occupancy information in Ontario

Extent and occupancy attributes	Value
Estimated extent of occurrence (EOO).	1,212,765 km ² (calculated using NHIC observations in Geocat, April 17 2024)
Index of area of occupancy (IAO).	1,032 km ² (calculated using NHIC observations in Geocat, April 17 2024)
Is the total population severely fragmented? i.e., is >50% of its total area of occupancy is in habitat patches that are:	a. No b. No

Extent and occupancy attributes	Value
(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?	
Number of locations.	>10
Number of NHIC Element Occurrences	41
Is there an observed, inferred, or projected continuing decline in extent of occurrence?	No, insufficient survey effort
Is there an observed, inferred, or projected continuing decline in index of area of occupancy?	Unknown, insufficient survey effort
Is there an observed, inferred, or projected continuing decline in number of sub-populations or EOs?	Not applicable, no sub-populations identified
Is there an observed, inferred, or projected continuing decline in number of locations?	Yes, inferred and projected due to habitat loss
Is there an observed, inferred, or projected continuing decline in [area, extent and/or quality] of habitat?	Yes, inferred and projected due to climate change and industrial activity
Are there extreme fluctuations in number of populations?	Not applicable, no sub-populations identified
Are there extreme fluctuations in number of locations?	No
Are there extreme fluctuations in extent of occurrence?	No
Are there extreme fluctuations in index of area of occupancy?	No

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

There are 5,000-20,000 mature individuals in Ontario.

Quantitative analysis (population viability analysis conducted)

Probability of extinction in the wild is unknown.

Threats

A threats calculator conducted on 28 February 2023 by COSEWIC identified the following listed in decreasing order of impact, and excluding those of negligible impact:

- IUCN 7. Natural system modifications (Medium threat impact)
- IUCN 2. Agriculture and aquaculture (Low threat impact)
- IUCN 3. Energy production and mining (Low threat impact)
- IUCN 4. Transportation and service corridors (Low threat impact)
- IUCN 9. Pollution (Low threat impact)
- IUCN 11. Climate Change and Severe Weather (Low threat impact)

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	S1B–S3B, facing the same threats as the Ontario population
Is immigration of individuals and/or propagules between Ontario and outside populations known or possible?	Yes, possible
Would immigrants be adapted to survive in Ontario?	Yes
Is there sufficient suitable habitat for immigrants in Ontario?	Possibly, limiting effect of habitat is unknown
Are conditions deteriorating in Ontario?	Yes, wetland habitat is being converted to other uses
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, outside populations face the same threats as the Ontario population.

Sensitive species

Yellow Rail is not a sensitive species in Ontario.

Acronyms

BBRGR: Broader biologically 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
MNRF: Ministry of Natural Resources and Forestry
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