



Insects

Ringed Emerald

Somatochlora albicincta

Priority 2 Species of Greatest Conservation Need (SGCN)

Class: Insects (*Insecta*)

Order: Dragonflies And Damselflies (*Odonata*)

Family: Emeralds (*Corduliidae*)

General comments:

The Ringed Emerald is a medium-sized, coppery-green dragonfly in the Emeralds family (Corduliidae). This species prefers ponds and lakes with peaty shorelines, including small bog ponds, and is at the southern edge of its range in the Northeast. It has been documented at eight to nine Maine wetlands, all in the northwestern part of the state. It is listed as state Special Concern and considered at risk because of its limited distribution and number of occurrences, the vulnerability of its habitat to intensive forestry and other land use practices, pollution, and potential impacts of climate change.

Species Conservation Range Maps:

Town Map: [Somatochlora albicincta Towns.pdf](#)

Subwatershed Map: [Somatochlora albicincta_HUC12.pdf](#)

SGCN Priority Ranking - Designation Criteria:

State Special Concern:	Ringed Emerald is listed as a species of Special Concern in Maine.
High Regional Conservation Priority:	NatureServe: Global Rank: G5 State Rank: S2

Habitat Associations:

Formation: Freshwater Aquatic	
Macrogroup: Lentic	
Macrogroup: Lotic	
	Habitat System: <i>primary; slow streams</i>
★ Primary Habitat	Habitat System: Low Slope Headwater <i>slow streams</i>
Formation: Northeastern Upland Forest	
Macrogroup: Acadian-Northern Appalachian Forest	

Threats

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Threat Priority Level based on Severity and Actionability		Moderate Severity	High Severity
	Highly Actionable	Medium-High	High
	Moderately Actionable	Medium	Medium-High
	Actionable with Difficulty	Low	Low

IUCN Level 1 Threat Other Options

IUCN Level 2 Threat: Resource Needs

Severity: High Severity

Actionability: Moderately Actionable

Notes: MDIFW lacks funding and staff to implement conservation actions for SGCN invertebrates (e.g., surveys and monitoring, research, habitat protection, outreach and education)

IUCN Level 1 Threat Biological Resource Use

IUCN Level 2 Threat: Logging and Wood Harvesting

Severity: Moderate Severity

Actionability: Moderately Actionable

Notes: in riparian buffer where loss of intact forest canopy can degrade aquatic habitat integrity and water quality

IUCN Level 1 Threat Other Options

IUCN Level 2 Threat: Education & Outreach

Severity: Moderate Severity

Actionability: Moderately Actionable

Notes: some threats and challenges can be minimized through enhanced public outreach and advocacy (e.g., pesticide use, habitat management, improved stream crossings, awareness and appreciation)

IUCN Level 2 Threat: Lack of knowledge

Severity: Moderate Severity

Actionability: Moderately Actionable

Notes: lack of comprehensive knowledge about distribution, status, habitat, life history

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IUCN Level 1 Threat Other Options

IUCN Level 2 Threat: Other Threat

Severity: Moderate Severity

Actionability: Moderately Actionable

Notes: pesticides (e.g., homeowner, agricultural, forest and water quality management applications of insecticides and herbicides; herbicide spraying along roadsides and shorelines) can directly and indirectly affect nymphs and adults (e.g., decrease aquatic vegetation for egg-laying and emergence, decrease insect prey, direct and indirect toxicity);

IUCN Level 1 Threat Pollution

IUCN Level 2 Threat: Agricultural and Forestry Effluents

Severity: Moderate Severity

Actionability: Moderately Actionable

Notes: in riparian buffer or aquatic system where run off/application of pesticides, fertilizers, and other chemicals can degrade water quality and impact nymphs

IUCN Level 1 Threat Transportation and Service Corridors

IUCN Level 2 Threat: Roads and Railroads

Severity: Moderate Severity

Actionability: Moderately Actionable

Notes: in riparian buffer where loss of intact forest canopy can degrade aquatic habitat integrity and water quality (e.g., run-off, road salt); in stream channel where construction, maintenance, and poorly designed stream crossings can cause erosion of stream banks, sedimentation, water quality degradation, and direct mortality

IUCN Level 1 Threat Climate Change and Severe Weather

IUCN Level 2 Threat: Habitat Shifting or Alteration

Severity: Moderate Severity

Actionability: Actionable with Difficulty

Notes: this species is at the southern edge of its range in Maine, where it is vulnerable to impacts of climate change

Species Level Conservation Actions:

None. Only species specific conservation actions that address high (red) or medium-high (orange) priority threats are summarized here.

Conservation Actions Associated with the Lacustrine Odonates Guild:

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Conservation Action	Category	Biological Priority	Type
Conduct a statewide dragonfly/damselfly atlas project.	Survey and Monitoring	high	completed

Threat(s) Addressed By This Conservation Action

- Education & Outreach
- Lack of knowledge

Conservation Action	Category	Biological Priority	Type
Increase MDIFW staff capacity for survey, research, and conservation of SGCN invertebrates.	Policy	critical	new

Threat(s) Addressed By This Conservation Action

- Education & Outreach
- Lack of knowledge
- Resource Needs

Conservation Action	Category	Biological Priority	Type
Develop/distribute outreach materials to raise public awareness and appreciation of freshwater aquatic insect ecology, threats and conservation needs.	Public Outreach	moderate	on-going

Threat(s) Addressed By This Conservation Action

- Education & Outreach

Conservation Action	Category	Biological Priority	Type
Conduct comprehensive statewide surveys to inform status, distribution, threats, and habitat use.	Survey and Monitoring	high	on-going

Threat(s) Addressed By This Conservation Action

- Lack of knowledge

Conservation Action	Category	Biological Priority	Type
Develop/distribute Best Management Practices for landowners, land managers and conservation partners to avoid and minimize impacts of intensive land use activities (e.g., forestry, stream crossings, agriculture, development, hydro facilities).	Habitat Management	high	on-going

Threat(s) Addressed By This Conservation Action

- Roads and Railroads
- Housing and Urban Areas
- Commercial and Industrial Areas
- Domestic and Urban Waste Water
- Agricultural and Forestry Effluents
- Education & Outreach
- Logging and Wood Harvesting
- Annual and Perennial Non-timber crops

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Conservation Action	Category	Biological Priority	Type
Develop/distribute guidelines and outreach materials to inform conservation partners, land use managers, and the general public about the impacts of pesticides on native insects and to promote the alternative use of Integrated Pest Management practices.	Public Outreach	moderate	on-going

Threat(s) Addressed By This Conservation Action

- Other Threat
- Education & Outreach

Conservation Action	Category	Biological Priority	Type
Analyze results of the Maine Dragonfly & Damselfly Survey, research and incorporate external Maine records (historical and modern), and produce a summary document and conservation assessment.	Research	high	on-going

Threat(s) Addressed By This Conservation Action

- Lack of knowledge

Conservation Action	Category	Biological Priority	Type
Update NatureServe S-ranks for all Maine Odonata based on results of the Maine Damselfly and Dragonfly Survey.	Research	high	completed

Threat(s) Addressed By This Conservation Action

- Lack of knowledge

Broad Taxonomic Group Conservation Actions:

Additional relevant conservation actions for this species are assigned within broader taxonomic groups in Maine's Wildlife Action Plan: Element 4.

Habitat Based Conservation Actions:

Additional conservation actions that may benefit habitat(s) associated with this species can be found in Maine's Wildlife Action Plan: Element 4. Click on the Habitat Grouping of interest to launch a habitat based report summarizing relevant conservation actions and associated SGCN.

The Wildlife Action Plan was developed through a lengthy participatory process with state agencies, targeted conservation partners, and the general public. The Plan is non-regulatory. The species, threats, and voluntary conservation actions identified in the Plan complement, but do not replace, existing work