

Appendix A: Insects

Rapids Clubtail

Gomphus quadricolor

Federal Listing	N/A
State Listing	SC
Global Rank	G3
State Rank	S1
Regional Status	



Photo by Pamela Hunt

Justification (Reason for Concern in NH)

This is among the rarest of the river clubtails in NH, and as such was considered Special Concern in 2008. Recent surveys suggest that it may be more widespread than previously believed. Because of a small population size and apparent extirpation from two historic sites, the species was listed as Endangered in Canada in 2008 (COSEWIC 2008).

Distribution

The Rapids Clubtail occurs throughout the eastern part of the U.S. In New Hampshire it occurs in low numbers in the Merrimack River and at least three of its tributaries (Souhegan, Contoocook, and Blackwater) and the southernmost portion of the Connecticut (Hinsdale and Chesterfield).

Habitat

Moderate to large rivers with muddy to silty bottoms, sometimes but not always with interspersed riffles. Adults rest and forage in adjacent forested habitats.

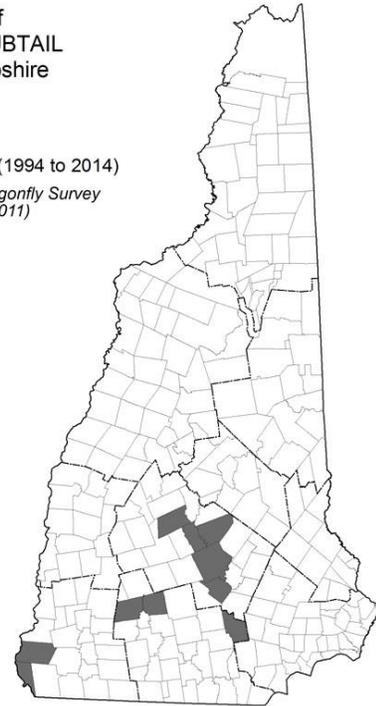
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NH Wildlife Action Plan Habitats

- Large Warmwater Rivers
- Warmwater Rivers and Streams
- Appalachian Oak Pine Forest
- Floodplain Habitats
- Hemlock Hardwood Pine Forest
- Northern Hardwood-Conifer Forest

Distribution of RAPIDS CLUBTAIL in New Hampshire

■ Current (1994 to 2014)
*Includes NH Dragonfly Survey
records (1987-2011)*



Distribution Map

Current Species and Habitat Condition in New Hampshire

Unknown, but appears more common than previously believed in New Hampshire.

Population Management Status

Not managed

Regulatory Protection (for explanations, see Appendix I)

- Fill and Dredge in Wetlands - NHDES
- Comprehensive Shoreland Protection Act - NHDES

Quality of Habitat

Unknown

Habitat Protection Status

Unknown

Habitat Management Status

Habitat management has not been implemented for this species

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Threats to this Species or Habitat in NH

Threat rankings were calculated by groups of taxonomic or habitat experts using a multistep process (details in Chapter 4). Each threat was ranked for these factors: Spatial Extent, Severity, Immediacy, Certainty, and Reversibility (ability to address the threat). These combined scores produced one overall threat score. Only threats that received a “medium” or “high” score have accompanying text in this profile. Threats that have a low spatial extent, are unlikely to occur in the next ten years, or there is uncertainty in the data will be ranked lower due to these factors.

Habitat degradation due to bank stabilization that limits emergence habitat (Threat Rank: Medium)

When emerging, gomphid larvae climb onto exposed banks, where they travel a variable distance prior to eclosure (McLain et al. 2006). Distance traveled may vary by species and substrates, with some evidence that larvae travel shorter distances on artificial (e.g., stabilized) banks. Eclosing adults closer to the water are more susceptible to mortality from upstream water releases and wash-over from watercraft wakes (Wagner and Thomas 1996).

Habitat degradation and mortality from water releases (Threat Rank: Medium)

When emerging, gomphid larvae climb onto exposed banks, where they travel a variable distance prior to eclosure (McLain et al. 2006). Distance traveled may vary by species and substrates, with some evidence that larvae travel shorter distances on artificial (e.g., stabilized) banks. Eclosing adults closer to the water are more susceptible to mortality from upstream water releases. Extreme discharge events also have the potential to move river sediments around and disturb larval habitat.

List of Lower Ranking Threats:

Habitat degradation and species impacts from sedimentation (various sources including roads and agriculture)

Mortality of emerging adults from watercraft causing wakes

Habitat degradation from the loss of adjacent forested habitat

Actions to benefit this Species or Habitat in NH

Rapids Clubtail surveys

Objective:

Maintain current information on the distribution and abundance of this species in NH

General Strategy:

Experienced observers working in suitable habitat should be aware of this species' potential occurrence and report it if found and documented.

Political Location:

Cheshire County, Hillsborough County,
Merrimack County

Watershed Location:

References, Data Sources and Authors

Data Sources

NH Dragonfly Survey (Hunt 2012)

Data Quality

River-dwelling clubtails can be difficult to detect as adults, and most information on distribution has come from exuviae (shed skins left behind when adults emerge). NH data on distribution is likely fairly accurate as a result, but there are still areas where exuviae searches were not undertaken - and where this species may occur.

2015 Authors:

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2005 Authors:

Literature

COSEWIC. 2008. COSEWIC assessment and status report on the Rapids Clubtail *Gomphus quadricolor* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa.

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