

USACE Natural Resource Management

Insects

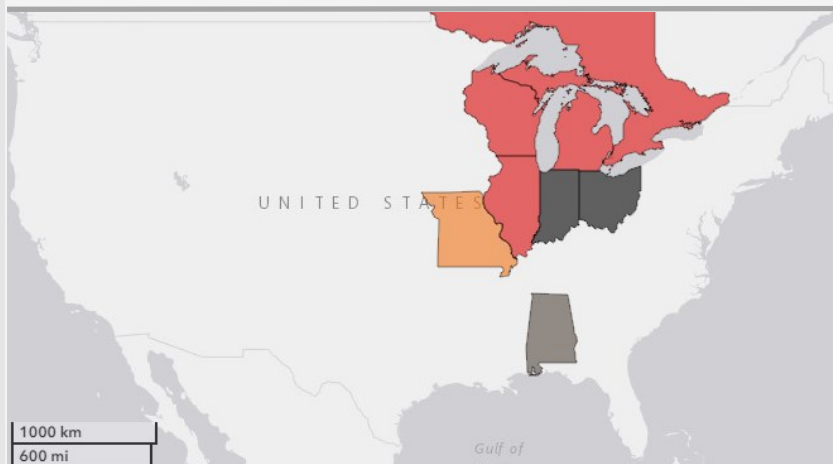


Hine's Emerald Dragonfly

Hine's Emerald Dragonfly (*Somatochlora hineana*): Adults grow to about 2.5 inches in length with a wingspan around 3.5 inches. This species has brilliant green eyes and a dark, metallic green thorax. There are two distinct yellow lateral lines along the thorax. The wings are clear but may have an amber hue toward the base of the hind wings. Toward the end of adult life, wings may become slightly opaque. (USFWS)

Status: *Endangered, listed 1995*

NatureServe: *Imperiled*



State/Provincial Conservation Status	
	Presumed Extirpated (SX)
	Possibly Extirpated (SH)
	Critically Imperiled (S1)
	Imperiled (S2)
	Vulnerable (S3)
	Apparently Secure (S4)
	Secure (S5)
	No Status Rank (SNR/SU/SNA)
	Exotic
	Hybrid

Genus: The Hine's emerald dragonfly belongs to *Somatochlora*. This genus belongs to the *Corduliidae* family known commonly as "emeralds". The family *Corduliidae* includes 384 species. The genus *Somatochlora* contains 39 of those species. 26 species form the genus are found in North America. (USFWS)

Photos Left to Right: Hine's Emerald Adult (USFWS), Hine's Emerald Larvae (USFWS), & Hine's Emerald Adult (USFWS)

Management and Protection:

- The species historical range included Alabama, Illinois, Indiana, Michigan, Missouri, Ohio, and Wisconsin. However, this species has not been collected from Ohio or Indiana since 1961 and it is believed to have been extirpated from these states. Additionally a single specimen was once collected from Alabama. (USFWS)
- The Hine's emerald dragonfly occurs in wetland habitats dominated by grass or grass-like plants which are fed predominantly via water from a mineral source or fens. Important characteristics appear to be shallow water which moves slowly through vegetation and an underlying dolomitic bedrock or calcareous limestone. Areas of open vegetation serve as foraging habitat. (USFWS)
- The fragmentation and destruction of suitable habitat is thought to be the primary cause of this species' decline and continues to be a threat to the recovery of the Hine's emerald dragonfly. This fragmentation and destruction has stemmed from industrial, urban, and agricultural development. (USFWS)
 - Due to the limited numbers and small sizes of species' populations, the primary goal for recovery is to protect and maintain known populations. (USFWS)



USACE ROLE: According to the Engineering Research and Development Center's Threatened and Endangered Species Team Cost Estimates, USACE has incurred over \$200,000 since 2006 in costs associated with the Hine's emerald dragonfly. Funds were expended by multiple business lines including Regulatory, Environmental Stewardship, and more. Expense types include Coordination and Determination, Site Visits and Inspections, Research, as well as Inventory, Survey, and Monitoring efforts.



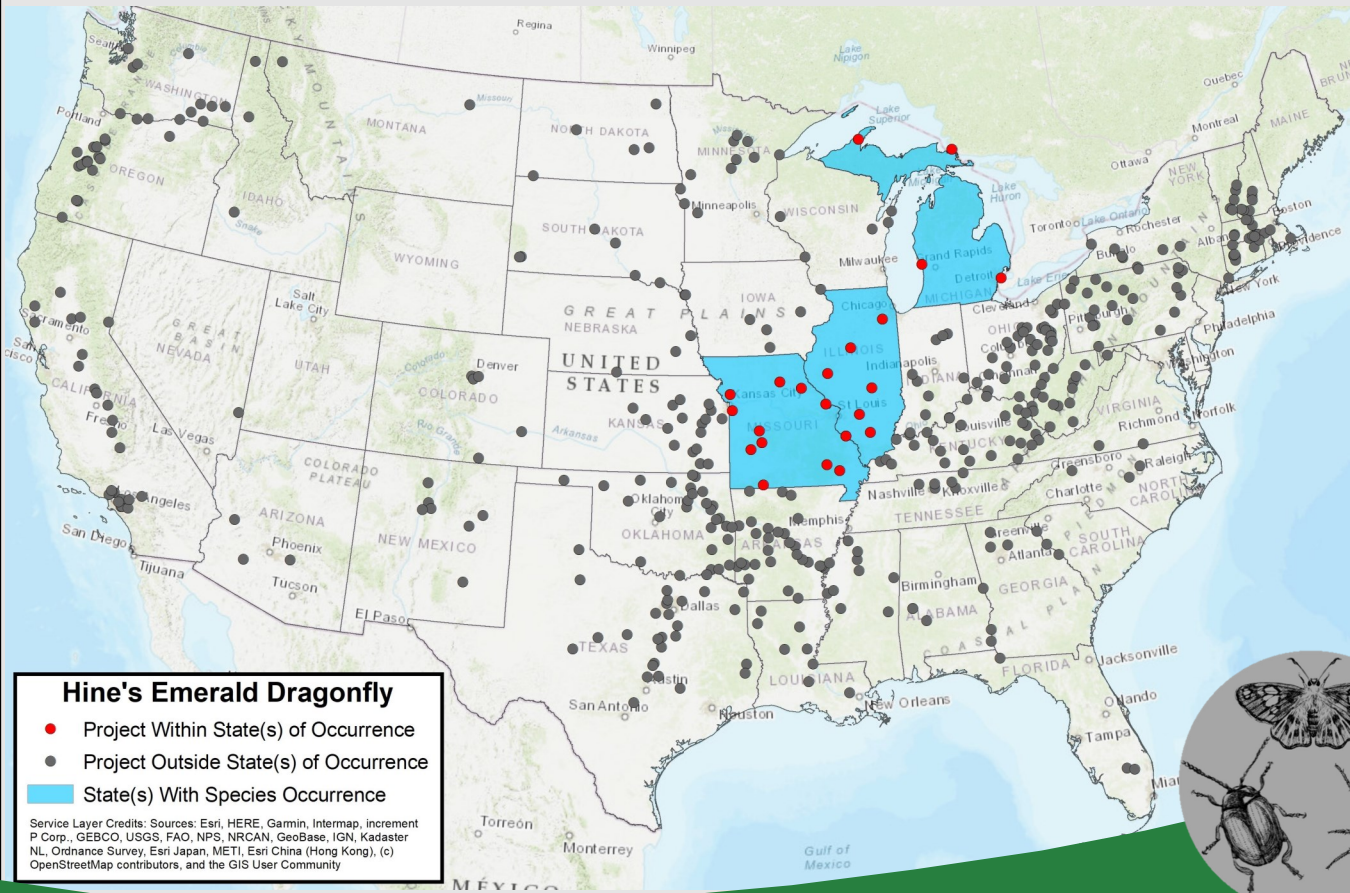
Hine's Emerald Dragonfly= \$238,538 (2006)

What is USACE NRM Doing: In 2015, the Forest Preserve District of Cook County (FPDCC) requested that the Chicago District of the USACE initiate a study under the Section 506 Great Lakes Fishery and Ecosystem Restoration (GLFER) authority to determine the feasibility of restoring important critical wetland and wildlife habitat within Saganashkee Slough - McMahon Woods. Approximately 300-acres of the study area is designated critical habitat for the Great Lakes subpopulation of federally endangered Hine's emerald dragonfly. The alteration of hydrology, geomorphology and loss of coverage of native plants within the study area had significantly degraded habitat for Hine's emerald as well as other species. The USACE Feasibility Study and Integrated Environmental Assessment performed for this study area discussed problems within the study area, potential opportunities to remedy them, restoration objectives, and limiting constraints.



Photo, left: This image shows severe erosion which occurred along a rivulet within the Hine's Emerald Dragonfly critical habitat in Saganashkee Slough - McMahon Woods.

This fact sheet has been prepared as an unofficial publication of the U.S. Army Corps of Engineers (USACE). This online publication is produced to provide its readers information about best management practices related to special status species. Editorial views and opinions expressed are not necessarily those of the Department of the Army. Mention of specific vendors does not constitute endorsement by the Department of the Army or any element thereof.



Source: Map provided by Ashleigh Boss, ORISE Fellowship, Institute for Water Resources

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- Project Within State(s) of Occurrence
- Project Outside State(s) of Occurrence
- State(s) With Species Occurrence

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