

Species Listing PROPOSAL Form:

Listing Endangered, Threatened, and Special Concern Species in Massachusetts

Scientific name: *Rhionaeschna mutata*Current Listed Status (if any): **Special Concern**Common name: **Spatterdock Darner**Proposed Action:

_____ Add the species, with the status of: _____

 Remove the species

_____ Change the species' status to: _____

Change the scientific name to: _____

Change the common name to: _____

(Please justify proposed name change.)

Proponent's Name and Address:

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Proponent's Signature: Date Submitted: 

Please submit to: Natural Heritage & Endangered Species Program, Massachusetts Division of Fisheries & Wildlife, 1 Rabbit Hill Road, Westborough, MA 01581

Justification

Justify the proposed change in legal status of the species by addressing each of the criteria below, as listed in the Massachusetts Endangered Species Act (MGL c. 131A) and its implementing regulations (321 CMR 10.00), and provide literature citations or other documentation wherever possible. Expand onto additional pages as needed but make sure you address all of the questions below. The burden of proof is on the proponent for a listing, delisting, or status change.

(1) **Taxonomic status.** Is the species a valid taxonomic entity? Please cite scientific literature.Yes; see Needham *et al.* 2000.(2) **Recentness of records.** How recently has the species been conclusively documented within Massachusetts?

2012.

(3) **Native species status.** Is the species indigenous to Massachusetts?

Yes.

(4) **Habitat in Massachusetts.** Is a population of the species supported by habitat within the state of Massachusetts?

Yes.

- (5) **Federal Endangered Species Act status.** Is the species listed under the federal Endangered Species Act? If so, what is its federal status (Endangered or Threatened)?
No.

(6) **Rarity and geographic distribution.**

- (a) Does the species have a small number of occurrences (populations) and/or small size of populations in the state? Are there potentially undocumented occurrences in the state, and if so, is it possible to estimate the potential number of undocumented occurrences?

Currently, there are 28 documented occurrences of Spatterdock Darner in Massachusetts, as well as an additional two occurrences that recently went Historic. The current occurrences range from the outer Cape west to Westhampton and Buckland, and north to Warwick and Pepperell. It is likely that Spatterdock Darners breed in additional ponds in Massachusetts, but it is difficult to estimate how many additional ponds might harbor this species.

- (b) What is the extent of the species' entire geographic range, and where within this range are Massachusetts populations (center or edge of range, or peripherally isolated)? Is the species a state or regional endemic?

Spatterdock Darner, designated a G4 species by NatureServe, ranges from Tennessee north to Ontario, and from Iowa and Missouri east to New Hampshire and Virginia. Currently, it is an S1 or S1S2 species in ten states or provinces and an S2 or S2S3 species in six states. It is known from five other states, including Massachusetts, where it has a state rank of S3. Massachusetts populations are near the northeastern edge of the range. The species is not a state or regional endemic.

(7) **Trends.**

- (c) Is the species decreasing (or increasing) in state distribution, number of occurrences, and/or population size? What is the reproductive status of populations? Is reproductive capacity naturally low? Has any long-term trend in these factors been documented?

The numbers of documented occurrences have been slowly increasing in recent years, probably as a result of increased surveys. Reproduction has been documented (exuviae, ovipositing, teneral, nymphs) in only 7 of the 28 current populations, possibly due to a lack of survey effort. Reproductive capacity of this species is not low. No long-term trend has been documented.

(8) **Threats and vulnerability.**

- (d) What factors are driving a decreasing trend, or threatening reproductive status in the state? Please identify and describe any of the following threats, if present: habitat loss or degradation; predators, parasites, or competitors; species-targeted taking of individual organisms or disruption of breeding activity.

There are no species-specific threats known, but it is likely that more general threats to water bodies and water quality (nonpoint source pollution, dredging, filling, excessive water withdrawals, etc.) affect Spatterdock Darner populations.

- (e) Does the species have highly specialized habitat, resource needs, or other ecological requirements? Is dispersal ability poor?

One authority (Dunkle, 2000) describes larval habitat for this species as fishless ponds, but others (Nikula *et al.*, 2007) do not concur. Its dispersal ability is good.

Conservation goals.

What specific conservation goals should be met in order to change the conservation status or to remove the species from the state list? Please address goals for any or all of the following:

- (a) State distribution, number of occurrences (populations), population levels, and/or reproductive rates
- (b) Amount of protected habitat and/or number of protected occurrences
- (c) Management of protected habitat and/or occurrences

To be removed from the MESA list, Massachusetts populations of strong-flying pond dragonflies, including Spatterdock Darner, should meet the following **minimum** goals:

- More than 25 current occurrences.
- Wide range in Massachusetts.
- At least a third of the upland habitat mapped for this species permanently protected from development and active agriculture.

Currently, there are 28 documented occurrences of Spatterdock Darner in the state. It is likely that targeted surveys would document well more than 50 current occurrences, although estimating numbers of possible occurrences is difficult. The species is documented from the outer Cape as far west as Westhampton and Buckland. Of the 3,782 acres that are mapped as habitat for this species, 3,622 acres are upland or wetlands that are not open water; 2,104 of those 3,622 acres (or 58%) are permanently protected from development and active agriculture.

Thus, Spatterdock Darner exceeds the minimum goals for removal from the MESA list.

Literature cited, additional documentation, and comments.

Dunkle, S.W. 2000. *Dragonflies through Binoculars: A Field Guide to Dragonflies of North America*. Oxford University Press.

Needham, James G., Minter J. Westfall, Jr., and Michael L. May. 2000. *Dragonflies of North America*. Revised edition. Scientific Publishers, Gainesville, Florida, USA.

Nikula, B, J.L. Ryan, and M. R. Burne. 2007. *A Field Guide to the Dragonflies and Damselflies of Massachusetts*. 2nd ed. Massachusetts Division of Fisheries & Wildlife, Westborough, MA.