

Species Listing PROPOSAL Form:

Listing Endangered, Threatened, and Special Concern Species in Massachusetts

Scientific name: *Anax longipes*Current Listed Status (if any): **Special Concern**Common name: **Comet 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:

Lynn Harper
 Natural Heritage & Endangered Species Program
 Division of Fisheries & Wildlife
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 West Boylston, MA 01583

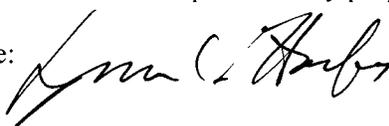
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Association, Institution or Business represented by proponent: MA Division of Fisheries & Wildlife

Proponent's Signature:



Date Submitted:

2/24/14

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?

2013.

(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 32 documented occurrences of Comet Darner in Massachusetts, as well as an additional two occurrences that recently went Historic. Most of these are on the Cape and in the Town of Plymouth. Additional occurrences are in Dudley, Douglas, Shirley, Harvard, and Milton. There is one report of this species from West Tisbury on the Vineyard, although this not thought to be a breeding occurrence.

It is likely that Comet Darners breed in additional ponds in Massachusetts. NHESP has 140 documented occurrences of Coastal Plain Pondshores in its database; if Comet Darners breed in half of these, that would imply 70 or so occurrences of Comet Darners in Massachusetts.

(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?

The Comet Darner, considered a G5 species by NatureServe, ranges from Florida north to the southern tip of Maine, and west to Texas and Michigan. Massachusetts populations are near the northeastern edge of the species' 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. Interestingly, an occurrence in Harvard first documented in 2010 is in several constructed detention ponds. These ponds were constructed sometime in the early 2000s and must have been colonized by *A. longipes* soon after that, since by 2010 nymphs were successfully emerging from the ponds.

Reproduction has been documented (exuviae, ovipositing, tenerals) in only 8 of the 32 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 Comet Darner populations.

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

Comet Darners breed mostly in coastal plain ponds, but they are also documented breeding in other types of fishless ponds, including a kettlehole pond and a set of recently constructed detention ponds. The dispersal ability of Comet Darner is very good; the species is a strong flyer.

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 Comet 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 32 documented occurrences of Comet Darner in the state. It is likely that targeted surveys would document well more than 50 current occurrences. While most of the occurrences are in southeastern Massachusetts, the species is known from as far west as Monson and as far north as Shirley. Most of the documented occurrences are in coastal plain ponds, but the species is not restricted to that habitat in Massachusetts. Of the 4,213 acres that are mapped as habitat for this species, 3,155 acres are upland or wetlands that are not open water; 1,866 of those 3,155 acres (or 59%) are permanently protected from development and active agriculture.

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

Literature cited, additional documentation, and comments.

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