



How and why the MESA Priority Habitat map changes

- **Changes to MESA species list and observation occurrences**

Changes to the MESA List – Since the biological status of the Commonwealth’s vulnerable species changes over time, the Massachusetts Endangered Species List (MESA) is periodically re-evaluated and listing changes are considered. New Priority Habitats are *added* when species are added to the MESA List and Priority Habitats are *eliminated* for species removed from the MESA List. The Division’s most recent MESA list changes (published on 3/10/2017) included the removal of 9 species and the addition of 4 species.

New observations of MESA-listed species– Priority Habitats are added for new rare species observations that were not adequately documented prior to the publication of the previous Natural Heritage Atlas.

Older observation records “expire” – As per the MESA regulations (321 CMR 10.12(6)(3)), Priority Habitats are removed if they were delineated based on observations that have a last observation date older than 25 years.

- **Latest research about habitat utilization**

The scientific understanding of the habitat requirements and seasonal movements of many rare species improves with each new study in Massachusetts and through published conservation biology literature. Updated Priority Habitat mapping reflects these latest scientific findings.

- **Evaluation of regulatory outcomes**

The outcomes of the Natural Heritage and Endangered Species Program’s (NHESP) regulatory reviews are evaluated and the effectiveness of regulation for the conservation of individual species in specific habitat types is determined. The DRAFT Priority Habitat map has been revised to exclude areas where regulation was deemed less effective for species-specific conservation efforts.

- **Improved aerial photographs and GIS data layers**

NHESP biologists utilize the latest technologies and spatial data to delineate habitats more accurately and precisely using GIS tools. These tools provide additional information on habitat suitability for a variety of species, including changes in land use, vegetation cover, and new development. The DRAFT Priority Habitat Map is based on the statewide aerial photo coverage from 2013-2014.

- **Exclusion of sites with poor estimated viability**

Particularly for Species of Special Concern, NHESP excludes sites where the local population has a poor probability of long-term persistence based on the size, condition, and deterioration in local habitat conditions.

Conclusion

The DRAFT Priority Habitat map contains the best habitat mapping possible at this time and, while not including all documented habitat areas, it does include the most important areas for supporting the various animal and plant species currently listed under MESA. The 14th Edition Natural Heritage Atlas is expected to show a net decrease of over 200,000 acres of Priority Habitat compared to the 13th Edition (2008). The NHESP will continue to utilize new biological information and new technological tools to revise, update and fine-tune the Priority Habitat mapping with each new edition of the Atlas.