



**Natural Heritage  
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*Massachusetts Division of Fisheries & Wildlife*

**Oak Hairstreak  
*Satyrrium favonius***

State Status: **None**  
Federal Status: **None**

**DESCRIPTION:** The Oak Hairstreak (*Satyrrium favonius*) is a lycaenid butterfly with a wingspan of 25-32 mm (Pyle 1981). Like most gossamer-wings, the Oak Hairstreak rests with wings folded above its back. The upper side of the wings, hidden in this position, are dark brown in color with a small black spot, capped with orange, near the anal angle of the hind wing. On the underside, the wings are tan with a white and black postmedial line crossing both wings and forming a “W” near the anal angle of the hind wing; the hind wing has orange submarginal spots and an iridescent blue patch flanked by two black spots at the anal angle. The White M Hairstreak (*Parrhasius m-album*) has a similar pattern on the underside of the hind wing, except that the large orange spot is set inward from the wing margin; the upper side of the wings of this species are iridescent blue, margined with black.

**HABITAT:** In Massachusetts, the Oak Hairstreak inhabits xeric and open oak woodland and barrens on rocky uplands and sandplains. Adult butterflies nectar in weedy or scrub areas within or near such habitat, including old fields, clearings, utility line rights-of-way, abandoned gravel pits, etc.



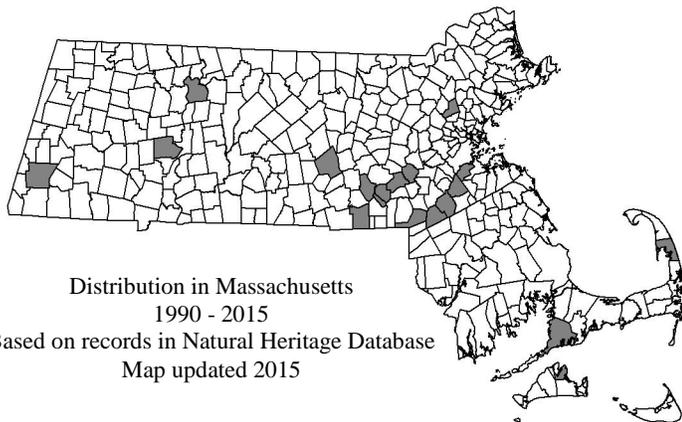
*Satyrrium favonius* ▪ MA: Norfolk Co., Canton ▪ 28 Jun 2004 ▪ Photo by M.W. Nelson

**Adult Flight Period in Massachusetts**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

**LIFE HISTORY:** In Massachusetts, the Oak Hairstreak flies in late June and July. Adult butterflies are most readily observed while nectaring. Yarrow (*Achillea millefolium*), dogbanes (*Apocynum*), milkweeds (*Asclepias*), New Jersey tea (*Ceanothus americanus*), and thistles (*Cirsium*) are favored nectar sources, although many others are used. Eggs are laid on white oak (*Quercus alba*) and possibly other species of oak (Wagner & Gagliardi 2014). Eggs overwinter and hatch in spring. Larvae feed on catkins and new foliage, pupating by June.

**GEOGRAPHIC RANGE:** The range of the Oak Hairstreak extends from Massachusetts south to Florida



**A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan**

**Massachusetts Division of Fisheries & Wildlife**

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and west to Colorado and Texas (Opler 1998, 1999). In Massachusetts, the Oak Hairstreak occurs in most parts of the state, with the exception of Nantucket.

**STATUS AND THREATS:** Previously listed as a species of Special Concern, the Oak Hairstreak was removed from the Massachusetts list of Endangered, Threatened, and Special Concern Species (the “MESA list”) in 2015.

The canopy-dwelling habits of the Oak Hairstreak make it difficult to observe, which in the past has led to assessments of rarity that were more apparent than real (Wagner & Gagliardi 2014). Unlike many species on the MESA list, the Oak Hairstreak is not restricted to natural habitats; the butterfly may be found in a variety of anthropogenic settings, including old fields and vacant lots, utility line rights-of-way, abandoned gravel pits and landfills, plant nurseries, and suburban yards.

The Oak Hairstreak “does not appear to be declining and apparently expanded its range in the Northeast in the 1970s and 1980s” (NatureServe 2015). From the late 1990s to date, the Oak Hairstreak has been observed with greater frequency and in greater numbers, and appears to have expanded its range within Massachusetts. It is unclear, however, whether this is due to a true increasing trend for this species in the state, or simply better documentation of its distribution and abundance due to the increasing number of butterfly watchers over the past two decades. Given that the Oak Hairstreak is a southern butterfly at the northern extent of its geographic range in Massachusetts, it is possible that a warming climate has contributed to an increase in its distribution and abundance in the state.

Potential threats to the Oak Hairstreak in Massachusetts include: (1) habitat loss to development; (2) clear-cut timber harvest; (3) introduced generalist parasitoids; and (4) aerial insecticide spraying. Habitat loss is less of a threat to the Oak Hairstreak than many other species, as this butterfly may persist in a variety of anthropogenic settings, including suburban yards. Clear-cut timber harvest is a potential threat to a local population in prime oak woodland habitat. However, most timber harvest in Massachusetts consists of tree thinning or other types of selective cutting, and clear cutting is relatively rare and generally does not occur at a large scale. With regard to introduced generalist parasitoids, currently none are known that are a serious threat to lycaenid butterflies such as the Oak Hairstreak. The most notorious offender, *Compsilura concinnata*, occurs in greatest numbers in late summer and early autumn, and therefore most seriously

impacts species with larvae that mature late in the season. The larval stage of the Oak Hairstreak occurs in the spring. Aerial insecticide spraying is a potential threat to this species; however, most such spraying (e.g., mosquito spraying to reduce the risk of Eastern Equine Encephalitis) occurs in late summer and early autumn. In late summer and autumn the Oak Hairstreak is in the egg stage, which unlike active stages (larva and adult), is not thought to be affected by low-volume aerial insecticide spraying.

### Literature Cited

- NatureServe. 2015. *NatureServe Explorer: An online encyclopedia of life*. Version 7.1. NatureServe, Arlington, Virginia. <http://explorer.natureserve.org>.
- Opler, P.A. 1998. *A Field Guide to Eastern Butterflies*. Peterson Field Guide Series. Houghton Mifflin, Boston, Massachusetts. 486 pp.
- Opler, P.A. 1999. *A Field Guide to Western Butterflies*. Peterson Field Guide Series. Second edition. Houghton Mifflin, Boston, Massachusetts. 540 pp.
- Pyle, R.M. 1981. *National Audubon Society Field Guide to North American Butterflies*. Chanticleer Press, New York, New York. 924 pp.
- Wagner, D.L. and B.L. Gagliardi. 2014. An ecological and status assessment of the Oak Hairstreak (*Satyrium favonius ontario*) in the Northeast. Report prepared for the Natural Heritage & Endangered Species Program, Massachusetts Division of Fisheries & Wildlife, Westborough, Massachusetts. 30 pp.

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