

Bird-Friendly Sugarbush Management Guidelines



Maple sugarbushes provide nesting habitat for a diversity of songbirds. Some of these bird species have more than 50% of their global breeding population in northeastern forests, and some have exhibited long-term population declines for over 40 years. Through the planning and implementation of sugarbush management activities that develop a structurally and biologically diverse forest, the maple industry can play a vital role in global bird conservation efforts while simultaneously enhancing the health and sustainability of sugarbushes. What's more, being recognized as bird-friendly promotes and increases the market visibility of pure maple products.



To become bird-friendly, producers are required to have or obtain a **Forest Management Plan** that assesses current sugarbush habitat conditions. Existing plans with a habitat assessment may require updating after being recognized as bird-friendly. Ultimately, all plans will include methods for achieving or maintaining habitat criteria. Requirements of other programs the land is enrolled in (e.g., NOFA-MA organic certification, MA Current Use Tax Programs) must be adhered to. The following guidelines ensure bird habitat considerations are integrated into sugarbush management.

General Requirements

- The sugarbush must be part of contiguous forest block of ≥ 100 acres. This helps to ensure the availability of interior forest conditions critical to the nesting success of target bird species. The maple producer does not need to own or manage the entire forest block.
- A forest bird habitat assessment of the sugarbush must be conducted by a Massachusetts licensed forester. It can be done while conducting the forest inventory or done separately. Once completed, a producer may be recognized as Bird Friendly.
- Within 1 year, the habitat assessment must be incorporated into a current (within past 10 years) Forest Management Plan and reviewed by Mass Audubon. Specific mention of enhancing and/or protecting forest bird habitat as a management objective is required.
- Harvesting of trees in the sugarbush during the bird nesting season (May – mid-July) may reduce nest success and fledgling survival. To minimize this risk, any one area of the sugarbush must not be worked in during the nesting season more than once every ten years.
- Natural communities where sugar maple is an associate species should not be converted to a sugarbush. Examples of those community types include red maple swamps, high elevation spruce-fir, and sandplain forests. Instead, any management should promote the natural community while tapping the maples as feasible.

Tree Species Diversity

A diversity of tree species in a sugarbush can significantly reduce presence and impact of sugar maple insect and disease pests. Similarly, research on the bird community in managed sugarbushes suggests that both total bird abundance and species diversity decreases when maple (sugar and red) basal area increases in relation to total stand basal area.

- When establishing a new sugarbush, tree species other than sugar maple must account for $\geq 25\%$ of the stand as measured by percent basal area. The Forest Management Plan must list this as an objective and describe how it will be maintained or achieved. If the stand's basal area is $> 75\%$ sugar maple, the causes for limited tree species diversity should be discussed in the Forest Management Plan, as well as future management approaches to increase native tree species diversity.
- For existing sugarbushes, if non-sugar maple accounts for $\leq 25\%$ of the stand's basal area, the Forest Management Plan should describe the causes of limited tree species diversity, and describe how future management will be used to increase native tree species diversity in the long-term.
- If non-native and invasive plants are present in the sugarbush, a plan for their eradication and control must be described in the Forest management plan.

Forest Structure

A range of tree sizes, from seedlings to trees > 30 inches in diameter, provides for current and future tappable trees and promotes long-term health and sustainability of the stand. This variety of size classes creates layers of vegetation (structure) within the sugarbush that can be used by different bird species as nesting and foraging sites.

- Forest Management Plan must describe methods for stand tending and regeneration. Silvicultural options for doing so must be appropriate for stand conditions and in accordance with acceptable references set by the Massachusetts Current Use Tax Programs. A publication with particular relevance is "Managing Forests for Trees and Birds in Massachusetts: A Guide to Habitat Assessments and Silvicultural Practices".
- Percent cover of understory (0-5 feet in height) and midstory (5-30 feet in height) vegetation (native trees and shrubs) must be $\geq 25\%$ (based on ocular estimation) as averaged across all acres. In areas where cover is $< 25\%$, the Forest Management Plan must describe the cause(s) as well as describe how future management will be used to increase it.

Standing dead trees (snags), live trees with cavities, and woody material on the ground are important components of nutrient cycling in the sugarbush. Tree tops left in the forest after management activities or blowdown help protect seedlings from being browsed by deer. A variety of bird species use dead and dying trees, both standing and on the ground, for nesting, foraging, and cover.

- Forest Management Plan must describe methods for snag and cavity tree retention and/or recruitment. An average of two (2) snags and/or cavity trees > 10 inches diameter must be retained and/or recruited per acre. Snags and cavity trees do not need to be evenly distributed but rather averaged across all acres. Consider retention and recruitment in areas of sugarbush not being tapped. Large, old sugar maples may also be retained to achieve snag and cavity targets. They may be tapped until sap production ceases and then left to senesce naturally and become snags and eventually large woody material on the ground.
- Forest Management Plan must describe methods for retention and/or recruitment of woody material on the ground. A minimum of 4 logs > 10 inches diameter and > 3 feet in length must be retained and/or recruited per acre. Whole tree harvesting is not permitted and all material < 3 inches diameter must be left in the forest. Where possible slash should be left high and not lopped.

For more information and additional resources contact our team at birdconservation@massaudubon.org or visit massaudubon.org/maple. Mass Audubon worked closely with Audubon Vermont in bringing this program to Massachusetts.