

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 the northeastern forest. Others have been exhibiting 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 the sugarbush and promoting and potentially increasing market visibility of pure maple products.



The following guidelines help ensure bird habitat considerations are integrated into sugarbush management. They are also intended to be used as criteria for a pilot “bird-friendly” maple product recognition program. A key component of these criteria is on the intentional planning of bird considerations in addition to current conditions. Any requirements through other programs the land is enrolled in (NOFA-VT organic certification, VT Use Value Appraisal, etc.) must be adhered to.

General Requirements

- A current (within past 10 years) Forest Management Plan must be in place and reviewed by Audubon Vermont. Specific mention of enhancing and/or protecting songbird habitat as a management objective is required in addition to addressing criteria described by the remainder of this document.
- A forest bird habitat assessment must be conducted by an Audubon Vermont biologist or consulting forester. This assessment can be included in the forest inventory or conducted separately. The findings of the assessment can help identify current habitat conditions and inform future management decisions. Contact Audubon Vermont for guidance on conducting an assessment.
- Harvesting of trees in the sugarbush during the bird nesting season (May – mid-July) may reduce nest success and survivorship. In order to reduce this possibility any one area of the sugarbush must not be worked in during the nesting season more than once every ten years.
- The sugarbush must be part of a contiguous forest block of ≥ 100 acres. This helps 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.
- Conversion of a stand to a sugarbush may require special consideration on those natural communities where maple is an associate species. The stand should be managed based on its natural community tapping the maples as feasible. Examples are red maple swamps, red spruce-northern hardwood, and sandplain forests.

(over)

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. In situations where the new sugarbush is already $>75\%$ sugar maple as measured by percent basal area, the Forest Management Plan must describe the causes for the limited tree species diversity as well as how future management will be used to increase native tree species diversity over the long-term.
- For existing sugarbushes, if non-sugar maple accounts for $\leq 25\%$ of the stand as measured by percent basal area, the Forest Management Plan must describe the causes for the limited tree species diversity. In addition the Forest Management Plan must describe how future management will be used to increase native tree species diversity over 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 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 Vermont State Use Value Appraisal program. One such publication with particular relevance is “Silviculture with Birds in Mind: Options for Integrating Timber and Songbird Habitat Management in Northern Hardwood Stands in Vermont” (Audubon Vermont and the Vermont Department of Forests, Parks, and Recreation, 2011).
- Percent cover of understory (0-6 feet in height) and midstory (6-30 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 $<25\%$ 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 Steve Hagenbuch (shagenbuch@audubon.org; 802-233-0332) or visit <http://vt.audubon.org/bird-friendly-maple-project>

Financial support for the Bird-Friendly Maple Project provided by:

Vermont Community Foundation
Canaday Family Charitable Trust
Frank & Brinna Sands Foundation, Inc.