Saving a Rare Songbird

The Conservation Plan for Bicknell's Thrush in North America

Each spring, across a small section of North America, dawn comes with an event witnessed nowhere else on Earth. It happens in a zone of mountainous and coastal forest sites scattered across southeastern Canada and the northeastern United States. As the day begins, these forests come alive with the swirling song of the Bicknell's Thrush. Arriving after a 2,000-kilometer migration from wintering grounds in the Greater Antilles, the thrushes will breed and raise young in these forests, not far removed from population centers with millions of people. Only four months later, they will depart and migrate south before the onset of winter. With each journey, north or south, Bicknell's Thrush flies toward an uncertain future.

Already one of the continent's rarest breeding songbirds, Bicknell's Thrush now faces threats at nearly every stage of its life. In response, a coalition of scientists, natural resource managers and conservation planners, forming the International Bicknell's Thrush Conservation Group (IBTCG), has published an innovative plan of action designed to keep this enigmatic, captivating songbird from becoming endangered. The full report, *A Conservation Action Plan for Bicknell's Thrush (Catharus bicknelli),* is available at the IBTCG's Web site: www.bicknellsthrush.org. This document summarizes the plan and its initiatives on behalf of Bicknell's Thrush in North America. A similar document summarizes initiatives for the Caribbean.

Background

With a wingspan of about 30 centimeters, colored in rich brown feathers above with pale undersides and a speckled breast, the Bicknell's Thrush requires specialized breeding habitat: a highly fragmented zone of forest sites, dominated by balsam fir, in coastal and mountainous regions of the northeastern U.S. and adjacent Canada. It also nests in managed timberlands and other habitats subject to disturbances by human activities or by natural events – along forest openings and ski trails, for example, or within dense regenerating forest stands after timber operations. Bicknell's Thrush is scarce and declining over portions of its range. The global population is estimated at between 95,000 and 126,000, small by comparison to other songbirds, with roughly 60 percent breeding in the U.S. and 40 percent in Canada. These levels position Bicknell's Thrush as a species of high continental conservation concern.

Challenges and Threats

Its small global population and restricted habitat preferences may alone limit the stability of Bicknell's Thrush and its potential for growth. But more troubling is that an array of human activities – contributing to habitat loss, pollution and climate change – also threatens Bicknell's Thrush on its breeding and wintering grounds. The IBTCG has identified major threats that, combined with intrinsic limits on the species, raise serious concerns about the future of Bicknell's Thrush.

Habitat Loss and Degradation

- **Forestry Practices on Breeding Grounds** – Thinning and clear-cutting in forests used for breeding by Bicknell's Thrush could be reducing the suitability and quantity of habitat in Canada and northern Maine. Timber operations during the breeding season may directly cause the loss of nests, eggs and young.
- **Commercial Development of Breeding Habitat** – Wind power, telecommunications facilities and recreational skiing development threaten to remove, fragment or alter breeding habitat. Recreational hiking may also disturb nesting birds.
- **Commercial Development Along Migratory Routes** – Commercial and residential development, communications towers and wind power development may present threats on the Bicknell's Thrush's migratory routes in eastern North America.

Atmospheric Pollution

- **Mercury Bioaccumulation** – Released into the atmosphere from waste incinerators, coal-burning power plants and industrial smelters, mercury can cause developmental problems and reduced survivorship in birds and other wildlife. Elevated concentrations of methylmercury, the element's toxic form, are found in the tissue of Bicknell's Thrush at breeding sites.
- **Acid Deposition and Calcium Depletion** – Acid deposition depletes calcium from soils in areas of the northeastern U.S. Songbirds breeding in acidified areas may be unable to obtain sufficient high-calcium foods (such as land snails) for eggshell production. Acid rain, mist and fog can also weaken or kill red

spruce, which may result in the encroachment of less-favorable trees into Bicknell's Thrush habitat.

Climate Change

Climate change presents an array of direct and indirect threats to Bicknell's Thrush populations across the species' breeding and wintering areas and its migratory routes.

- **Rising Temperatures and Forest Conversion** – Warmer growing seasons could gradually push the thrush's breeding zone to progressively higher, smaller and more isolated mountain patches. By the end of this century, summer temperatures are projected to increase enough to potentially eliminate nearly all balsam fir habitat in the U.S. and possibly Canada, which could result in a dramatic reduction in Bicknell's Thrush breeding habitat.
- **Increased Precipitation and Storms** – During the breeding season an increase in the frequency of precipitation and wind, predicted to result from climate change, could cause more nests to fail. Increased storm frequency may also negatively affect Bicknell's Thrushes during migration.

A Conservation Plan for Bicknell's Thrush

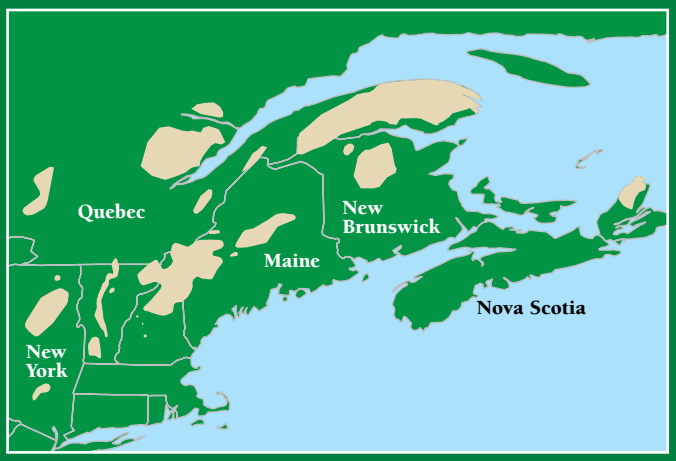
The IBTCG recommends an ambitious course of action with an attainable goal: to increase the global population of Bicknell's Thrush by 25 percent over the next 50 years and to avoid a reduction of the species' breeding distribution. The most effective means to this goal is the protection, management or restoration of Bicknell's Thrush breeding habitat. Most of the habitat in New York and New England is already protected. Therefore, conservation actions on the breeding ground should focus on appropriate management of large tracts of potentially suitable habitat in Maine and Canada.

Conservation of Breeding Habitat

Conservationists, timber companies and managers of public lands are encouraged to collaborate on practices, including Best Management Practices (BMPs), that aim to minimize disturbance to Bicknell's Thrush breeding habitat.

- Avoid or limit pre-commercial thinning (PCT) in areas occupied by Bicknell's Thrush, and conduct such activities outside the breeding season. Leave significant patches of unthinned forest within thinned stands.
- Employ a "no net habitat loss" policy so that the overall amount of Bicknell's Thrush habitat available in a given time period does not decrease. Do so by encouraging land managers to rotate harvests and create a mixed distribution of stand ages, which might undergo PCT and cutting at different times.
- Develop partnerships and stewardship plans with managers of public lands and incorporate BMPs into legislation or public land management practices.
- Set flexible targets for each jurisdiction where Bicknell's Thrush breeds on forestry lands in Canada and the U.S. because each jurisdiction has different management regimes and goals.

Bicknell's Thrush Breeding Range



Typical Bicknell's Thrush montane forest breeding habitat.

The IBTCG shall expand the Bicknell's Thrush Habitat Protection Fund, which disburses grants to help protect Bicknell's Thrush on its wintering grounds.

- Increase the fund to $50,000 by the end of 2010.
- Increase awareness of the fund among potential individual and corporate donors, and within the North American ski, telecommunications, wind power and forest products industries, and to carbon sequestration organizations.

Research Actions

Additional research will help realize the most effective actions for reaching the goals of this plan. The IBTCG identifies the following among research priorities during the next five years (2010–2014).

- Determine how Bicknell's Thrush populations respond to specific forestry practices on the landscape.
- Better assess the effects of climate change and calcium depletion on Bicknell's Thrush.
- Identify important migratory stopover sites, routes and patterns.

Evaluating Accomplishments

The Conservation Action Plan is a living document that provides an adaptive framework to guide Bicknell's Thrush conservation efforts. Evaluation of the plan's success will take two general forms.

- **Mountain Birdwatch 2.0 –** Ongoing, standardized monitoring of Bicknell's Thrush breeding populations will be critical to evaluating progress toward the conservation goals outlined in this document. Mountain Birdwatch 2.0 is an international, volunteer-based program to track Bicknell's Thrush populations across the breeding range. (Details of the program are summarized at www.vtecostudies.org/MBW/MBW2.html.)

- **IBTCG meetings and Collaboration –** The IBTCG will meet formally at least once per year to track progress on conservation and research actions, discuss funding needs and revise the action plan as appropriate. Every effort will be made to ensure that emerging information is used to inform groups working to conserve Bicknell's Thrush across its range and to strengthen links among these groups.

The International Bicknell's Thrush Conservation Group is an alliance of scientists, natural resource managers and conservation planners advancing the study and conservation of Bicknell's Thrush through sound science and international cooperation.

www.bicknellsthrush.org

International Bicknell's Thrush Conservation Group