SECTION FIVE

Habitats

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Introduction

The quality and quantity of habitat available for fish, birds, mammals and other organisms provides one of the most direct measures available of the cumulative impact of development on environmental quality. Yet high-quality habitat can also be tricky to track, since what is good habitat for one species is not necessarily good for others. It is easy to see how development on coastal islands could harm populations of eiders and gulls that nest there. It may be less obvious why the conversion of forest to a suburban landscape in the (still largely forested) Casco Bay watershed would harm wildlife.

Maine has been a largely forested state with abundant rivers, lakes and wetlands for over 10,000 years. Many of Maine's native fish and wildlife, from fisher to moose, migratory birds to brook trout, are dependent on forest, or a mosaic of forest and aquatic habitats, to survive. Moose are denizens of forest, lake and wetland; beaver of forest and river; Atlantic salmon of forested streams and ocean waters.

Loss of wetlands, destruction of forests and damage to riparian areas produce direct effects on populations of birds, mammals, amphibians, fish, and invertebrates that depend on such areas for all or part of their lifecycle. But urban and suburban development not only reduces the amount of habitat available for Maine's forest species, it also alters how habitats are connected to one another. Roads, lawns and shopping malls slice intact forests into small, often isolated patches. While a road or lawn may not be much of a barrier to a deer, it can be an uncrossable chasm for species from warblers to ground beetles that prefer the shelter of trees. Where roads cross streams, culverts can create barriers to movement of aquatic organisms, preventing fish from reaching spawning areas, or denying them shelter in smaller streams from spring floods or hot summer afternoons. Such habitat fragmentation can lead to declines in wildlife populations and local loss of species. Fragmented habitats are also thought to be less resilient to environmental change.

Tracking changes in habitat quality and quantity provides direct information to guide land use policy and to suggest priorities for land conservation. It also helps identify local and regional drivers for changes in abundance of species of concern. A look at habitat change shows the extent of landscape alteration and helps to make clear the types of landscapes that public policies, market forces, and individual choices are building.