

Young and Old Forests

Young forests are regenerating forests dominated by dense seedlings and saplings less than 15-20 years old. Old forests are biologically mature forests, generally with trees exceeding 150 years in age.

Ecological Functions

The vast majority of Vermont's native plants and animals are adapted to the forest conditions that preceded European settlement. Because approximately 80% of Vermont's forest was cleared in the 19th century, today the forest composition and structure is very different than the conditions in which these species evolved. Old forests with large trees, abundant dead and downed wood, and natural canopy gaps, are essentially absent on the landscape. The complex structure of these forests creates diverse habitats, many of which are not present in younger forests. These complex structures also make these forests remarkably resilient. Old forests will be important "life-boats" that allow species and ecological processes to adapt to a changing climate.



At the same time, in most regions of Vermont young forest is less abundant today than it was before European settlement when natural disturbance created gaps and openings in the widespread forest. Young forests support a suite of wildlife species, many of which are in regional decline. Young forests also support many common species. Prior to European settlement almost all young forest was created by natural disturbance. Currently, forest management creates the majority of young forest in the state.

Highest Priority Features and Guidelines for Maintaining Ecological Function

Vermont Conservation Design identifies increasing the amount of both young and old forest in the state as highest priority for maintaining an ecologically functional landscape. A return to the pre-European abundance of young forest (approximately 3-5% of the forest) is needed to reverse a declining trend and reach a level that at one time supported all of Vermont's native species that require young forest. While it is not practical or possible to return to a landscape dominated by old forest, allowing about 9% of Vermont's forest (specifically, 15% of the matrix forest within the highest priority forest blocks) to become old forest will bring this missing component back to Vermont's landscape and offer confidence that species that benefit from or depend on this condition can persist.

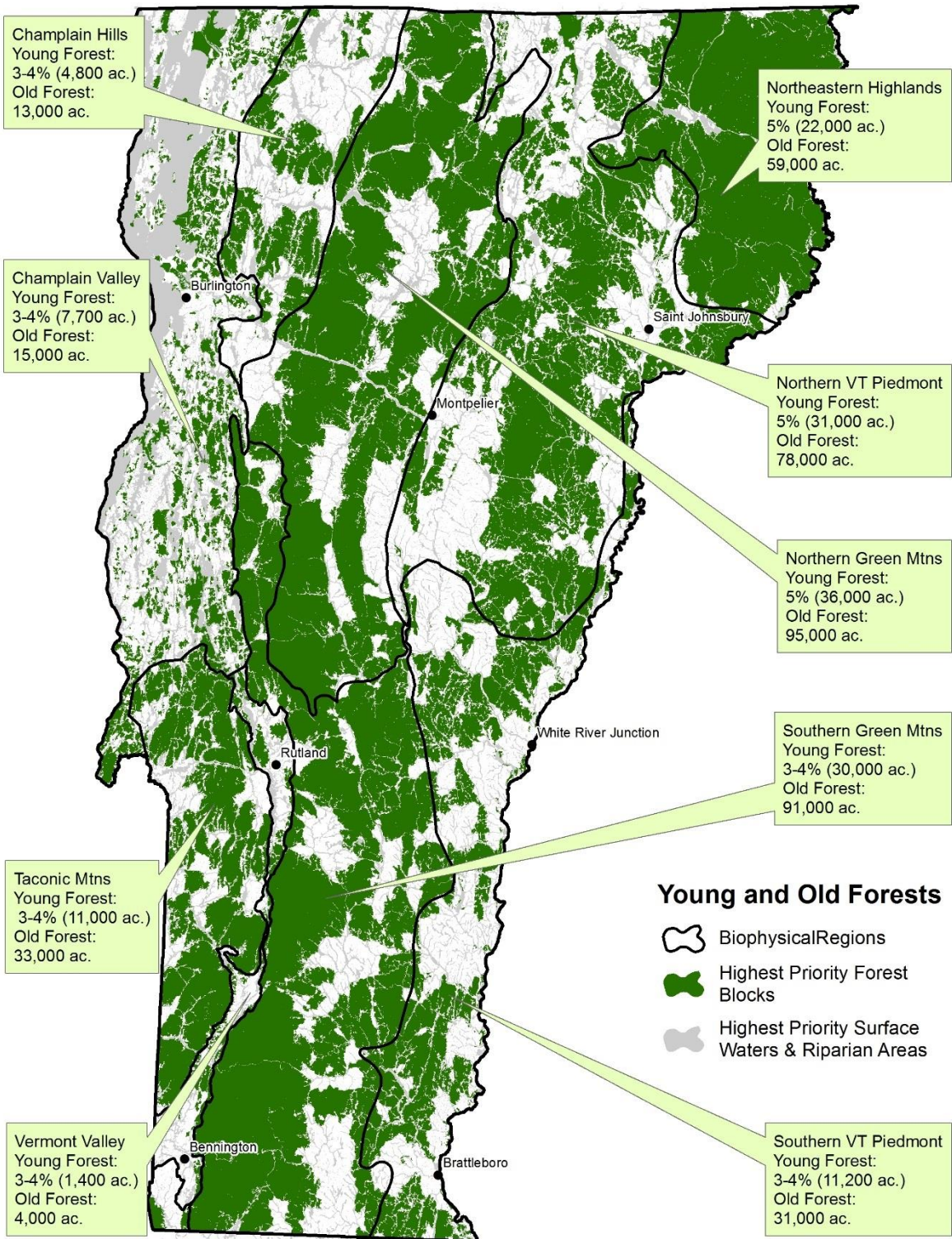
Young forest patches should be large enough to meet the needs of obligate species (generally 5 acres or larger), without compromising the ecological functions of other highest priority features. Old forests



should operate under natural disturbance regimes and need to be maintained in patches large enough to accommodate natural disturbance regimes without compromising old forest characteristics. In most forests, passive restoration will result in old forest. In some cases, active forest management may promote forest composition and structure suitable for subsequent passive restoration.

For more information on young and old forests, see the following sections in the Part 2 Vermont Conservation Design Technical Report:

- Young Forest
- Old Forest



Map 7: Highest Priority Young and Old Forest acreages within the highest priority forests blocks in each biophysical region.