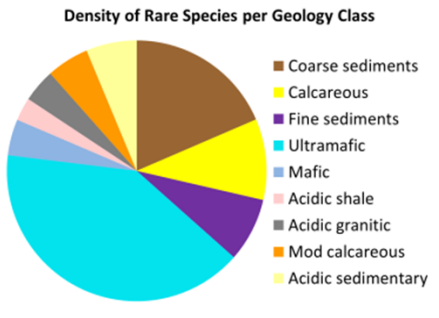
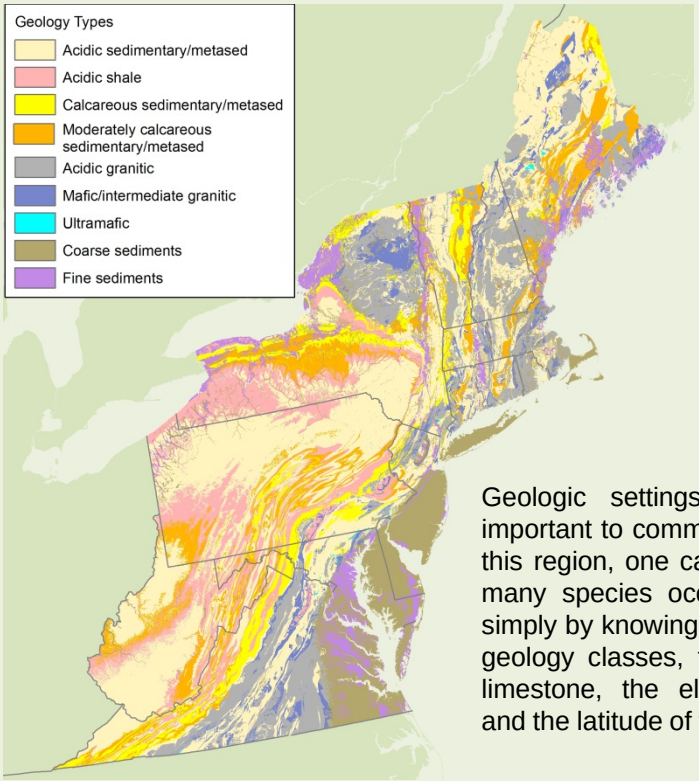
UNIQUE HABITATS - Extending Conservation to All Habitats

The rich biodiversity of the Northeast is largely associated with unique habitats that reflect the complex geologic history and varied landscape of the region. The Northeast is one of the few places in North America where one can find coastal beaches, alpine summits, limestone valleys, silt-rich floodplains, and sandstone ridges, in relatively close proximity. Within a landscape dominated by forests, these unique habitats typically occur as patches of contrasting elements, each with its own suite of plant and animal species.

Unique Habitats and Rare Species: Eleven unique habitats - from sandy pine barrens to limestone glades - support over 2,700 endemic rare species. Four geologic settings have much higher densities of rare species than would be expected based on the extent of the habitat: coarse sediments, calcareous bedrock (limestone), fine sediments and ultramafic serpentine.





Geologic settings are equally important to common species. In this region, one can predict how many species occur in a state simply by knowing the number of geology classes, the amount of limestone, the elevation range and the latitude of the state.

Calcareous Limestone

Coarse Sediment Sand Barren

Ultramafic Serpentine Barren

Acidic Shale

Underlying data developed by The Nature Conservancy's Eastern Science Office with support from the Northeast Association of Fish and Wildlife Agencies.

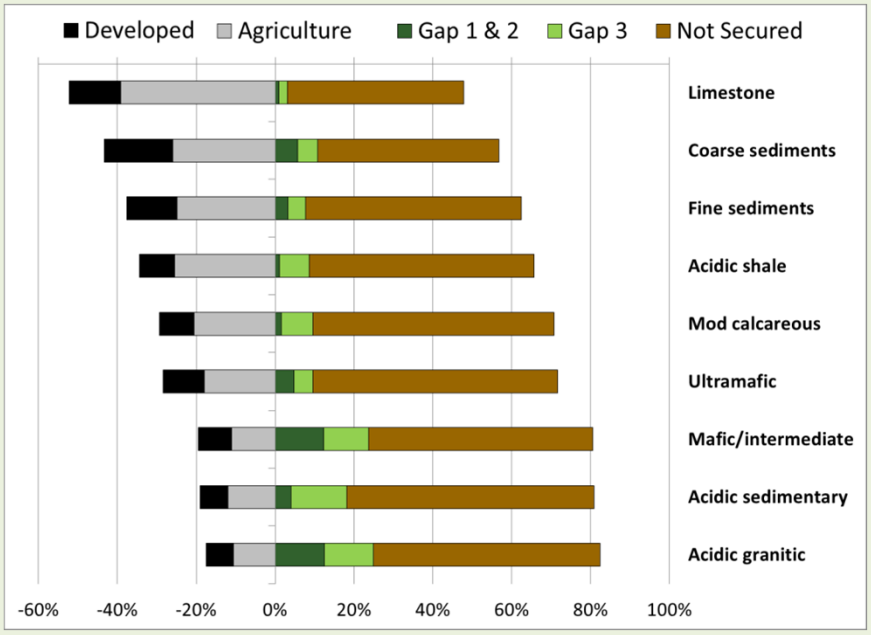
Fact sheet supported by Sweet Water Trust www.sweetwatertrust.org

For the full report and large maps go to:

http://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/reportsdata/stateofnature

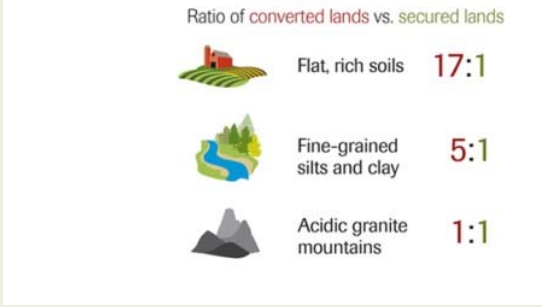
* The term "Northeast" and all statistics refer to the 13 New England and Mid-Atlantic states.

Conversion vs. Securement



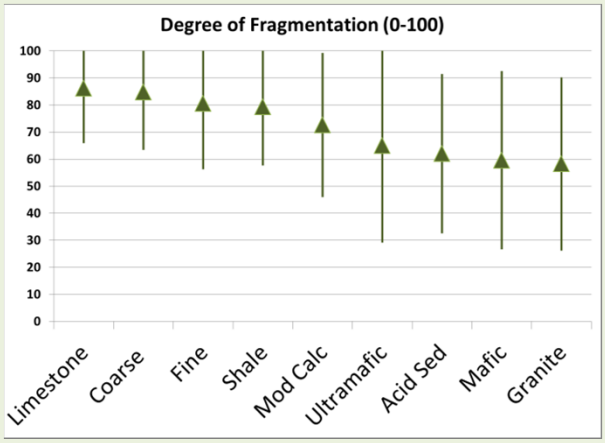
Many of these unique habitats are highly valued by people as well as by flora and fauna. For instance, rich, productive limestone soils are prized for agriculture. The chart on the left shows that of all the acres of limestone in the region, 39 percent are converted to agriculture and 13 percent to development. Only three percent are secured against conversion and only one percent is secured for nature: that's 51 acres converted for every one secured for nature. In contrast, the acidic granite settings that underlie our mountains are 25 percent secured and only 18 percent converted.

Mixed Results Across Elevations and Habitats



The **ratio of conversion to securement** (C to S) or securement for nature (C to SN) reveals the settings with the largest discrepancies in conservation:

	C to S	C to SN
Limestone valleys, wetlands and glades	17:1	51:1
Silt floodplains and clayplains	5:1	11:1
Shale barrens and slopes	4:1	30:1
Coarse sand barrens and dunes	4:1	8:1
Soft sedimentary valleys and hills	3:1	19:1
Serpentine outcrops	3:1	6:1



Fragmentation and Connectivity: Fragmentation is pervasive at lower elevations across all geology classes. Even the least fragmented setting, granite, retains only 43 percent of its natural connectedness. Three settings show over an 80 percent loss of connectedness: limestone, coarse-grained sand and fine-grained silt. These settings also have the highest densities of rare species and the most conversion. The latter two also have the least amount of habitat securement. **Conservation action is urgently needed in these unique habitats.**

See full report at **http://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/reportsdata/stateofnature**