



Red fox are one of many species that benefit from the woodland and open field habitat associated with farmland. (Photo provided by John Skelly)

### ***Stratified-Drift Aquifers***

Groundwater is a critical natural resource for the State of New Hampshire. Approximately 98% of public water systems rely on groundwater. There are three types of groundwater aquifers: Stratified-drift, till, and bedrock. The basic difference is that stratified drift and till aquifers are composed of unconsolidated glacial deposits (loose earth materials), while bedrock aquifers are fractured rock. In stratified drift aquifers, the materials are sorted sand and gravel. In till aquifers, the material is a gravel, sand, silt and clay mixture. In bedrock aquifers, the material is rock with fractures.

Stratified-drift aquifers are an important source of groundwater for commercial, industrial, domestic, and public-water supplies in the State of New Hampshire. They typically are the most productive sources of groundwater and therefore the most high yielding public water supply wells tap these aquifers. Stratified-drift or 'overburden' aquifers are most directly influenced by surface waters and land-use activities. They are therefore, perhaps most susceptible to contamination. Though the Town of Lyme does not have a municipal drinking water system, it is possible that the need could arise in the future. Approximately 14% of land surface in the State is underlain with stratified-drift aquifers. In Lyme most of the aquifers are in the western portion of Town.

Approximately 3,052 acres or about 8.7% of the area in Lyme is underlain with stratified-drift aquifers, below the State average. The majority lie along the Connecticut River, Clay Brook, Grant Brook, and Hewes Brook. In Lyme the large majority of the aquifers are made up of sand material with a very small amount made up of glacial till material. Stratified drift aquifers consisting of sand material tend to be more porous and have a higher potential for quicker transmissivity and recharge. Lyme is fortunate to have these potential drinking water

sources. These aquifers should be protected to insure their future quality and availability for Lyme.



Hewes Brook at its confluence with the Connecticut River; part of the aquifer system in Lyme.

## ***Slope***

Slope is an important component of an area's landform and influences the plants and animals living there. Soils tend to be shallower on steeper slopes, the volume and velocity of surface water runoff is higher, and the erosion potential is greater than on flatter areas. These conditions create a unique habitat where in some cases plants and wildlife have special adaptations for dealing with the limitations associated with steep slopes.

Slopes provide opportunities for panoramic views and for this reason tend to be sought out areas for residential development. Slope has numerous limitations for building such as structural problems and a greater chance of erosion. The consequences of erosion are loss of soil resulting in sedimentation of surface waters and loss of the productive capacity of the land. Slope is traditionally expressed as a percent and represents the amount of rise or fall in feet for a given horizontal distance. For example a 15% slope means that for a 100 foot horizontal distance, the rise or fall in height is 15 feet. As slope becomes steeper the expenses associated with building increase. In general, slopes between 15% and 25% are considered areas where development would be restrictive and slopes greater than 25% are considered too steep to provide adequate sites for structures such as roads, homes, and septic systems.

## Natural Resource Inventory for Lyme, NH



Steep hillsides and rock/ledge faces are common occurrences throughout Lyme's landscape. These areas create unique habitats for plants and wildlife along with potentially beautiful view sheds. The photo on the right is taken from Post Hill looking towards Post Pond.



Bobcat tracks and den sites associated with steep slopes and rock/ledge outcrops were documented in the Lily Pond area by the Lyme Conservation Commission. (Photos provided by the Lyme Conservation Commission)

The NRCS soil data incorporates slope for each soil type. This data was used to determine areas in Lyme with slopes equal to and greater than 15%. Using this method, approximately 23,144 acres or 65.7% of the land in Lyme contains slopes that are over 15%. Of that 9,047 acres or about 25.7% of Lyme land mass contains slopes over 25%. These are high percentages for a town and are a unique feature of Lyme. These areas provide habitat for plant and wildlife species such as peregrine falcons (*Falco peregrinus*). They also contribute to the Town's tourism industry, and create numerous hiking, rock and ice climbing opportunities, as well as downhill skiing at the Dartmouth Skiway.