

## **HYDROGEOLOGY OF THE SPRUCE HOLE AQUIFER**

*Principal Investigators: Dr. Thomas P. Ballesterio, Dr. Frank S. Birch, Dr. Thomas Lee, University of New Hampshire*

*Descriptors: Aquifer characteristics, groundwater recharge, groundwater movement, groundwater modeling, geophysics, ecosystems, wetlands*

### *Problem and Research:*

The research objectives of this continuing project were: delineation of the lateral and vertical extent of the aquifer through the use of seismic geophysics; completion of monitoring wells and a pumping well; biotic and ecologic assessment of the bog; delineation of the ground water connection to the bog; hydrogeology of the formation; and potential for the formation to serve as a water supply with and without the use of artificial recharge.

### *Principal Findings and Significance:*

Three permanent monitoring plots were located inside each of the commuter-classified and mapped plant communities. Plots were 4 m by 1.5m in size and are marked for future relocation by stakes and aluminum tags. Three kinds of information were obtained from each plot:

- A quantified cover estimate of each plant species by using the line-intercept method.
- A species list of plants present, including minor species unlikely to be encountered by sampling lines.
- A list of species and heights of all species taller than one meter.

This information is stored as a computer database and is available for future monitoring.