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Thomas P. Ballestero

University of New Hampshire, tom.ballestero@unh.edu

Frank S. Birch

University of New Hampshire

Thomas Lee

University of New Hampshire

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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.