

## WILLSBORO BLACK ASH

*On a humid day heavy with voracious black flies, and with the roar of equipment and machinery at the site of the new Willsboro wastewater treatment plant, four persons could be seen struggling in the black ash pits. Using a hand auger and 4-foot extension rods, they bore into the ash until bored and until they were as black as the pits they were testing.*

Many towns would envy Willsboro's location, and historic and natural resources. Situated on a Wild Scenic and Recreational River, it lies only a mile from Lake Champlain. Rich in military, navigational and industrial history, it also has the only functioning salmon ladder on Lake Champlain permitting Atlantic landlocked salmon access over Willsboro falls to upstream spawning beds.

Two previous centuries of river-based industry denuded the valley and fouled the river, but created jobs and income for residents. The mills are now gone; the last small manufacturing company closed several years ago. It appears time to capitalize on the magnificent natural resources, providing a recreational park area for residents and generating income from salmon fishing and tourism. But the black ash pulp mill wastes must first be vegetated. The Town owns 25 acres near the falls and salmon ladder, for which BRASS has designed a park and wildlife refuge. But close to 15 of these acres are covered in black ash, the cinder waste from the former pulp mill. These small cinders were the waste product when "black liquor" (a combination of soda ash, chemical lime, and wood fibers) was burned with soft coal in a rotary incinerator. Although apparently benign in terms of toxins, the ash inhibits vegetative succession, creates unstable streambanks, and is a visual "eye sore" for otherwise extremely valuable property.

The 25-acre property is easy walking distance from the center of Willsboro, situated near the old stone grist mill. Special plant communities exist near the river's banks and the river supports green and blue heron, osprey, eagles, as well as numerous ducks. When the salmon ladder was built, the NYSDEC estimated the Boquet fishery would attract more than 10,000 angler trips each year. With apparent control of the lamprey and successful salmon fishing last fall and spring, a park for residents and tourists would make an attractive addition for Willsboro. But first, a study must be made of the most cost-effective method for vegetating the ash.

BRASS collaborated with Willsboro for a \$1,500 grant from the Lake Champlain Citizen Advisory Committee to 1) plot a profile depth of the black ash; 2) determine the treatment (capping, removal, etc.) of ash at various depths so vegetation will grow; and 3) determine the nutrient requirements and select appropriate plant species for recreation and wild life.

With assistance from BRASS and Gerald Smith (from Soil Conservation Service), depth borings have been conducted. Gerry and BRASS summer interns (Eve Fine, Edie Sonne, and Erin Harrington) augured 3-inch diameter holes 100-feet apart along transect lines (300-foot distant), to a depth where a contrasting deposit was reached or an obstruction encountered. Ash depths varied from 13 feet to 3 feet with an average depth of 8 feet. Depth to seasonal water table varied from 4.5 feet to 13 feet, and the contrasting deposit encountered was generally a pinkish gray ash and cinder deposit.