



Solar Outhouse at Voyageurs NP solves remote area toilet problem, courtesy of the sun.

Voyageurs National Park Installs Composting Toilets

By Ron Erickson *Public Information Officer, Voyageurs NP*

When conventional methods of waste disposal failed at two heavily-used, remote sites in Voyageurs National Park, managers installed composting toilets. Although composting systems have been used for the past 30 years in Scandinavia, they are just beginning to be used in this country.

Voyageurs National Park's glacially carved landscape stretches along Minnesota's northern border. Four large and 23 smaller lakes cover one-third of the park's 219,000 acres. Motorboats and other watercraft transport visitors to fishing hotspots and other destinations during the May to November open-water season. One hundred developed campsites and approximately 65 private resorts accommodate park visitors.

Mukooda Lake is one of three trout lakes in the park. Its clear water surrounded by tall red and white pines draws people to the group campsite, located in the southeastern corner of the park. This campsite, which is designed to accommodate five separate groups, is also the site of the annual Voyageur Days, a celebration of canoe races and a walleye feed sponsored by the Crane Lake Community Club. As many as 700 people have attended this special event.

The popularity of the campsite and the Voyageur Day Celebration make it one of the most heavily used campsites in the park. Two pit toilets could not handle the use without offensive odors and frequent need for relocation. Thin soils made repositioning difficult. The lack of road access and electricity precluded vault toilets or more sophisticated disposal systems.

The Clivus Multrum composting toilet provided an environmentally sound, long-term solution. A building with separate rooms for men and women, a decomposing tank and a solar-powered ventilation fan make up the system. The pre-fab building was purchased on GSA contract and features walls of 1" thick plywood. A plastic laminate makes the inside easy to clean, and the panel presents an attractive appearance from the outside.

The composting tank sits underneath the building and is vented by a fan which operates on electricity provided by a bank of photovoltaic cells. This venting moves air through baffles in the pile to allow aerobic, odor-free decomposition to occur. The tank is exposed to the heat of the sun through a window on the back of the building. Little maintenance is needed — about one shovelful of useable manure is produced each year. The total cost of the system installed at the site was \$15,000.

The toilet at the Mukooda campsite was installed in June 1982. It is the second installed in the park. The first was placed in 1981 at the Kettle Falls Hotel and portage area.

Rod Booth, maintenance foreman in charge of the project, feels both units are operating successfully at present. Funds are being sought for a third unit in 1983. In the long run, these composting toilets provide an environmentally sound and cost efficient system and an example to the public of alternatives in waste management and energy use.