

engineering and technical advice.

To construct a pond beach, mark out with stakes where the beach is to be located—both on the shore and in the water. Drain the pond below the farthest part of the planned beach so that the entire site is exposed to dry air. Using excavation equipment or hand tools, dig out the entire beach area to eighteen to twenty-four inches deep, making a shallow and wide box. Lay geotextile fabric along the bottom and sides of the excavated area and backfill with five to six inches of washed gravel. Add another layer of geotextile fabric over the gravel and backfill with six to eight inches of masonry sand. Lay down one more layer of geotextile fabric and top off the beach with four to six inches of masonry sand. These layers will provide stability to the beach for several years and reduce the tendency of muck to pump up through the gravel and sand base. Allow the pond to refill up to the original depth, and monitor the beach for encroachment of muck and organic debris.

Ice Sports

If you plan to use your pond for ice skating, establish a strict standard for safe skating. It is difficult to determine ice thickness from the shore or even when standing on the pond surface. Ice can melt both from the top and from the bottom. Test holes are needed to accurately measure ice thickness. Use a chisel, drill, or ice auger to check the ice. Pond ice should be clear and thick—at least three inches to support one adult with no equipment and six inches for group activities like hockey.

To form safe ice, the weather must be calm, with an air temperature consistently below 25° F. Ice is normally near its melting point, so temperatures above 25° F do not create safe ice. Deep water freezes much more slowly than shallow water. A spring-fed pond is likely to freeze very slowly because warmer water is constantly flowing into the pond from the spring.

After ice has formed on the pond, any new snow should be removed as soon as possible; otherwise, the surface may become coated with weaker “snow ice.” This cloudy ice is formed when wet snow falls on top of cold ice. Snow ice tends to be weak and melts easily.

Removing snow from ice can be hazardous if it is not done properly. Wherever snow is piled on the ice, it acts as an insulating blanket and will soften some of

the ice underneath, which makes the snow pile very difficult to move. Always clear a larger area off the ice than you think you will need. Subsequent snow removals will not go as far as the first few. Spread snow piles out, so the weight does not buckle one part of the pond ice.

Cracks on frozen ponds are normal as temperatures change and the ice settles. However, cracks can become a hazard to skaters. Small cracks can be resurfaced with a bucket of water. Spread the water evenly when temperatures are near or below 20° F to ensure a smooth surface.

One of the most dangerous conditions around ponds in the winter is ice that is separated from the shore. The separated ice is very likely to be too weak to support human activity. Salt runoff, algae content, silt, and other impurities can weaken the ice. Monitor water quality during the summer to ensure good ice during the winter. In the winter, pond agitation that is intended to reduce ice cover to support fish health can make an entire pond surface unsafe for ice sports.

Ice becomes weaker with more activity scouring the surface. Hockey, ice fishing, and paired skating place more weight on a portion of a pond ice surface. The ice sheet must be thick enough—at least six inches—to accommodate these group activities. Motorized vehicles, like all-terrain vehicles, snowmobiles, snow blowers, and garden tractors place great stress on ice surfaces and can unexpectedly fatigue the surface. They too must be supported by at least six inches of hard ice.

Avoid being on pond ice alone or at night. Mishaps occur quickly, especially among young children, who may not be aware of ice dangers and are least able to rescue themselves. Signs and fences should be used to warn children and solo adults from standing on frozen ponds. Keep a lightweight ladder attached to a rope near frozen ponds as a rescue device. If you fall through the ice, call for help loudly and constantly. If possible, move to a stable ice area and roll onto the surface, wet clothes and all. Seek emergency medical assistance immediately.

Fire Suppression with Rural Ponds

Ponds can provide thousands of gallons of water in an emergency. However, improper maintenance can restrict the amount of water that is available from a pond. Although many pond owners consider their