Ice Assessment, Safety and Procedures

- **SAFTY FIRST – 10 MPH SPEED LIMIT.**
- **CHECK AT FWR OFFICE BEFORE YOU GO ON ICE & WHEN YOU LEAVE.**
- **PLEASE HAVE YOUR GUESTS WITH VEHICLES PURCHASE AN ACCESS PASS FOR THEIR VISIT.**
- **REQUEST ALL SERVICES AT FWR OFFICE, NOT FROM DRIVERS.**
- **WE NOW RENT AUGERS, FLASHERS, CAMERAS, & GENERATORS.**
- **DO NOT DRILL HOLES IN ROADWAYS OR WITHIN 50FT OF AN ICE HOUSE.**
- **NO SERVICES AFTER DARK – CHECK YOUR LP!**
- **EMERGENCY TOWING – Jim Staricha @ 800-630-9222 – FWR will not send its trucks to tow vehicles that are off our main roads.**

Fishermen's Wharf Resort Ice Conditions Procedures

- All ice measurements are taken by two FWR personnel. They carry two-way radios, throw ropes, a measuring device and an ice auger.
- Measurements are taken in the line of projected roadways and around primary fishing spots.
- Test holes are drilled approximately 50 feet apart. Some areas are left up to the Operation Managers discretion (i.e. Primary fishing locations or near known cracks).
- The thinnest ice measured is the measurement released to the public.
- Ice assessments are conducted each day during the "pre-ice season", until a depth of 12 inches or more is consistently measured.
- The ice depth is measured from the underside of the ice to the ice surface, not the snowpack.
- Once completed and verified, the measurements are posted on the website and on the *Ice Safety Board* located in front entry of the Wharf.
- **SAFETY ALWAYS COMES FIRST**

Basic Ice Facts

When is ice safe? There is no sure answer. Ice is tricky, and just because a lake or stream is frozen doesn't mean the ice is safe. To understand the factors involved in the strength of ice, it's necessary to understand how ice forms on lakes and streams, and a few of its physical properties. Here are points to consider, some based on research by the U.S. Army Cold Regions Research and Engineering Laboratory in New Hampshire.

- You can't tell the strength of ice just by its appearance, the daily temperature, thickness, or whether the ice is or isn't covered with snow. Strength of ice, in fact, is based upon all four factors plus the depth of water under the ice, size of water body, water chemistry, distribution of the ice, and local climatic factors.
- Generally speaking, new ice is much stronger than old ice. Direct freezing of lake or stream water will be stronger than ice formed by melting snow, refrozen ice, or ice made by water bubbling up through cracks and freezing on the surface. Several inches of new ice may be strong enough to support you, while a foot or more of old, "rotten" ice may not.
- Ice seldom freezes or thaws at a uniform rate. It can be a foot thick in one spot, while 10 feet away, only an inch thick.
- A layer of snow insulates ice, slowing down the ice forming process. In addition, the weight of snow can decrease the bearing capacity of the ice.
- Ice near shore is weaker. The buckling action of the lake or stream over the winter breaks and refreezes ice continually along the shore.
- If you hear ice "booming" or cracking on cold days or still evenings, it doesn't necessarily mean the ice is dangerous, merely that it's changing shape as the temperature changes.
- Ice formed over flowing water can be dangerous near shore, around inflowing or outflowing streams, or on lakes containing large numbers of springs. River ice is generally about 15 percent weaker than ice on lakes. Straight, smooth flowing stretches are safer than river bends. River mouths are dangerous because the current undermines the ice and creates unsafe pockets. A potential danger spot on lakes is an open portion completely surrounded by ice. Winds will force exposed water beneath the ice and rot it from below.
- Other factors which weaken ice are water level fluctuations and the actions of birds and fish. As an example, schools of carp create thin ice spots or even open water by congregating in one location while circulating the water with their fins.

Ice Tips

Once you understand the physical properties and problems with ice, you can understand why ice is so unpredictable and why the only absolute safety factor for ice is to stay off. If you are an ice fisherman, cross-country skier, ice skater, snowmobiler or ice boater, however, staying off the ice is going to crimp your winter fun. So, for those who venture onto the ice, whether on foot or in a vehicle, here are some tips to lessen your chance of a breakthrough:

1. Ice fishing requires at least 4 inches of clear, solid ice, and a snowmobile requires 6 inches. Automobiles and light trucks require at least 8 to 12 inches of ice. Remember these are merely guidelines - all the factors mentioned previously must be considered!
2. Before you head onto ice, check with the Wharf office for known thin ice areas or known cracks which have created open water.
3. Refrain from driving on the ice with your car or truck whenever possible. Traveling on ice in a vehicle, especially early or late in the season, is simply an accident waiting to happen.
4. If you must drive a vehicle, be prepared to leave it in a hurry. Unbuckle your seat belt and have a simple plan of action in case you break through. Some safety experts recommend the doors be left open and windows down for an easy exit.
5. Parking a vehicle in one spot tends to weaken ice. When ice thickness is marginal, prolonged parking is not recommended. Vehicles should be moved from time to time so the ice can resume its "normal" position and shape. A car parked on ice one foot thick will depress the ice an inch within a diameter of 200 feet. Cars parked close together may increase the load beyond the bending limit, causing the ice to break. Bending, however, gives added buoyancy since the ice becomes somewhat boat-shaped as it rests on the water underneath. But if the ice cracks, the added buoyancy is lost. A car surrounded by ice cracks has only the buoyancy of that single piece to support it. In any case, when driving across ice which has cracked and refrozen, cross the cracks at right angles and avoid parking near them. Try to park at least 50 feet from your ice house.
6. If you drive on ice, remember it is only a film across a water surface. Weight moving across this film causes it to bend up and down in the form of long waves which roll out and away from a vehicle as it moves across the ice. U.S. Army researchers discovered that wave action may crack the ice if the vehicle is moving at a "critical speed." Speeds at or above this critical speed substantially increases the danger of cracking. It is recommended that you drive 10 to 15mph under most circumstances. Following closely behind other cars is not recommended, since you may interrupt their wave action with your own, causing a break in what would otherwise be sound ice. Also keep in mind speeding or improper ice road procedures may result in the loss of your property and potentially your life and the life of others with you.

7. Often cars will establish roads from shore to the current fishing "hotspot." After repeated use, these roads may cause the ice to weaken. Therefore, they may not be the safest route. Full sized vehicles should stay on the Wharf maintained roads at all times.
8. If you're on a snowmobile or driving a vehicle, be especially cautious at night or when it is snowing. The falling snow or darkness obscures thin ice or open holes.
9. Should you break through the ice, proper clothing can increase your chances of survival. An ordinary nylon snowmobile suit, if it is zipped-up, can trap air and slow the body's heat loss. Do not flail about, as this may cause the air pockets to "disappear," thus decreasing buoyancy.
   Some commercially available snowmobile suits are available with inflatable flotation elements and/or built in floatation devices. You can also use one of the vest type, foam, personal flotation devices (PFD or life preserver) from your boat. One of these devices worn outside your outer clothing will keep you warm (like an insulated vest), help conserve body heat, and keep you afloat. (Caution: Don't wear a PFD if you are inside a car or truck traveling on the ice. If your vehicle submerges, the PFD could hamper your escape). Carry a couple of large nails with caps on the sharp end and a length of light nylon rope in your pocket or around your neck. These are called "awls." The nails can help you pull yourself out of the water and onto the surface of the ice. Use the line to rescue someone else. If you make your own awls, remember to put a cap on the sharp end so they don't injure you if you fall down.

Two short lengths of broom handle with nails sharpened on both ends and joined with piece of string can be carried easily in a pocket. Remember to put caps on the sharp ends. In case of emergency, and while kicking, drive the nails into the ice ahead, and pull yourself to safety

Basic Ice Safety

What to do if a companion falls through thin ice?

- Keep calm and think out a solution.
- Don't run up to the hole. You may break through and then there will be two victims.
- Use some item on shore to throw or extend to the victim to pull them out of the water such as jumper cables or skis, or push a boat ahead of you.
- If you can't rescue the victim immediately, dial 911. It's amazing how many people carry cell phones.
- Get medical assistance for the victim. People subjected to cold water may seem fine after being rescued but can suffer a potentially fatal condition called "after drop." That may occur when cold blood that is pooled in the body's extremities starts to circulate again as the victim starts to rewarm.

What if you fall in?

- Try not to panic. Remain calm and look towards the shore.
- Place your hands and arms on the unbroken surface of the ice (here's where ice picks (awls) come in handy.)
- Work forward on the ice by kicking your feet, This will assist in keeping your body horizontal and help you "swim" out of the hole in the ice. Stay low.
- If the ice breaks, maintain your position and slide forward again. If this does not work keep trying.
- Once you are lying on the ice, don't stand. Instead, roll away from the hole.
- Crawl back to your tracks making sure that the hole is kept at a safe distance behind you. That spreads out your weight until you are on solid ice.
- Follow your footsteps back to the shore. This sounds much easier than it is to do.
- The best advice is don't put yourself into needless danger by venturing out too soon or too late in the season.