

Cross-Country Skiing



Winneshiek County Conservation Equipment and Recommendations:

- **Who:** 5th grade and up
- **What:** Skis, boots, & poles
- **Where:** Groomed trails at Lake Meyer Park. Contact Decorah Parks and Recreation (563-382-4158) for information on Decorah trail system.

Introduction

From necessity to recreation, cross-country skiing continues to evolve as an outdoor winter activity. There are numerous forms of cross-country skiing now available so anyone can find the style that best fits their needs, preferences, and terrain. Cross-country skiing can serve as an environmentally friendly mode of transportation. It can be the focus of a relaxing week at a winter resort or a half-hour fitness ski in the backyard at the end of a day. It can be a means to reach some remote destination, or it can lead to a racing career that stretches from age four to 84. No matter what your purpose for cross-country skiing, it is a health-promoting way to stay warm and enjoy the winter months in cold, snowy climates!

A Brief History

Cross-country skiing is the oldest type of skiing, having evolved out of a need to travel over snow-covered terrain. Samis, a prehistoric Nordic people, invented skiing to assist in hunting, military maneuvers, and as practical transportation for themselves. The oldest and most accurately documented evidence of skiing origins is found in modern day Norway and Sweden. The word "ski" comes from the Old Norse word "skio" which means split piece of wood or firewood. Today's forms of skiing are the modern extensions of ancient Nordic skiing.

Up until the 1930s, cross-country skiing was really the only form of skiing (besides jumping) as every descent began with a climb. Alpine events, for instance, weren't a part of Olympic competition until 1936. After World War II, lifts quickly proliferated on mountains and hillsides across America and downhill skiing became a popular sport. Even though downhill skiing has increased in popularity, many people continued to enjoy cross-country skiing.

The sport of cross-country skiing has continued to develop into many specialized forms. Some examples are Nordic skiing, ski touring, track skiing, skate skiing, backcountry skiing, and telemarking. You can cross-country ski with your dog, called skijoring, by being pulled on skis by a dog or dogs in harness. The common denominator that unifies all forms of cross-country skiing is that the heel of the boot is free and not secured to the ski.

Equipment & Supplies

skis – range from light racing “toothpicks” to telemark skis that are as wide as most downhill skis; there are also specialty skis for skate skiing

Waxable skis: You will need to choose and apply an appropriate wax for the temperature and snow conditions; the wax provides enough grip between your ski and the snow to enable you to push your self forward or to climb hills.

Waxless skis: Newer style, uses a textured pattern on the bottom of the ski to provide grip while skiing.

Many beginners start out on a touring ski with a waxless base. These skis perform well on groomed or ungroomed trails. Later on, one can specialize in the direction of performance racing skis or possibly heavy-duty backcountry skis.

boots – choose a boot with a good, stiff sole that will work with the bindings on the skis. Most modern bindings have the toe of the boot attached to a pivot point in the binding. This allows very free motion of the boot with the toe attached and the heel free. Caution – not all boots and bindings are compatible so check before you buy!

poles – can be of fiberglass (light and inexpensive) or metal (a tad heavier but more durable); a snug fit in the arm pit when standing on the floor is usually the preferred length

clothing – remember to dress in layers and to cover extremities with hats, gloves, and warm socks

Terms & Definitions

binding – mechanism for fixing the boot to the ski

camber – curved arch of the ski designed to distribute the skier's weight

diagonal stride – the equivalent of walking in cross-country skiing where you move one leg and the opposite arm forward at the same time

double poling – using both poles at the same time to thrust the body forward (opposed to the diagonal stride poling method)

herringbone – moving forward on skis in a stepping mode with the ski tips further apart than the tails, forming a herringbone pattern in the snow; generally used to climb hills

kick turn – a way of turning to the opposite direction of travel by kicking and twisting one ski to a 180 degree position followed by the other ski

kick zone – the portion of the ski that grips the snow allowing you to move yourself forward

sidestep – moving sideways in small steps

skating – propelling the body forward by using one ski as a platform and the other ski as the sliding ski in a manner like skating

straight run – traveling straight down a hill with the skis parallel

telemark – 1) a stable position used in turning or on variable terrain; lead leg is forward of the body while the trailing leg follows in a kneeling configuration 2) a sport using a cross-country type motion to ski downhill

waxing – applying a coating to the bottom of the skis to change the friction between the snow and the ski; some wax will increase the glide, while others help you to “kick” forward

wedge turn – also called the snowplow turn, an elementary turn with the skis in a wedge position where the tips of the skis are closer than the tails

Regulations

Be aware of property boundaries and when you might be crossing into private property. If you are on groomed trails, there may be a charge. Always check for rules and regulations of the area in which you will be skiing.

Skills & Strategies

Basic Movement

The basic cross-country skiing motion is much like walking. At first you probably will walk, but you will quickly pick up the proper motion. To start put all your weight on one foot. Lift the other foot slightly off the ground (enough to lift the pocket off the ground, but not enough to lift the whole ski) and slide it forward. Then step down on the foot you've moved forward and push back. This should cause you to move forward. Repeat this using the other foot.

Once you've mastered the basic step, you can move onto a slightly faster way of moving. If you move the way described above you are essentially walking, and will move at a walking pace. To move faster you have to take advantage of the fact that skis slide. To do this, "spring" forward with one leg, but instead of lifting your rear foot and moving it forward, slide your rear foot forward. This will allow you to slide forward as you place your feet for the next step. Once you master this you'll be able to move at two or three times the speed you walk, without expending any more energy than you would walking.

Going Up Hill

Most minor hills can be climbed simply by skiing forward, as long as your skis are waxless or are waxed properly. However, you will encounter hills too steep to ski up. There are two ways of climbing these hills:

The V-Step or Herringbone: This is the best way to climb moderate slopes. Simply angle your feet outwards so your skis form a 'V', with the back of the skis at the point of the 'V' and the tips at the top. Now dig in with the inside edge of one ski and step forward with the other. Keep repeating this until you reach the top of the hill. You'll feel something like a duck waddling up the hill.

The Side-Step: This is the only way to climb very steep slopes, but it is a very slow way to move. Stand so your skis are sideways on the hill. Step up with your uphill foot, and then dig in with the outside edge of that ski. Next stand on the uphill ski and bring your downhill ski up beside it. Dig in the inside edge of your downhill ski, and then step up with your uphill ski. This is a slow and energy consuming way to move, so only use it when it's absolutely needed. You can also move down steep hills using this method by doing the process in reverse.

Going Down Hill

Like slight up hills you can ski normally down small hills. However, a more controlled descent is needed for long or steep hills, control maintained either by somehow slowing your descent or by turning back and forth across the face of the hill. The easiest to learn is the snow plow. It can be used to both slow your descent and to turn. Other types of turns can also be used to control your descent for more advanced skiers.

The Snow Plow: This is the easiest method of going downhill. Put your skis into a 'V' shape, with the tips of your skis at the point of the 'V'. You can now dig into the slope with the inside edges of both skis, slowing your rate of descent. To turn, shift your weight

on to the opposite ski of the way you want to turn. If you want to turn to your right, place your weight on your left foot and ski.

Taking Care of Equipment

Taking care of your equipment is very important. Your equipment will last twice as long with a minimal amount of care before and after each trip.

At the Beginning of the Season: Spray your boots with a waterproofing spray. For waxable skis, clean your skis and bindings and put on a new base coat, or have your local ski shop do it.

Before Each Trip: Warm your boots in your house and/or keep them in your car so they are warm when you put them on. Check your bindings to ensure they work properly. Check your poles, skis, and boots for damage. Fix if possible, replace if necessary.

After Each Trip: Clean and dry your skis including removing all grip wax from waxable skis. Use a cloth to dry your bindings.

Safety

- Watch out for dehydration, hypothermia, and frost bite
- It is generally easy to follow tracks out before becoming lost, but beware of storms and wind that can cover or obliterate tracks.
- Beware hidden obstacles like barbed-wire fences, holes, or uneven terrain under snow.
- Do not ski over frozen water unless you are sure of its safety. Stationary and moving water should be avoided until the ice depth is at least 4" deep.
- **Watch for changes in weather**
- Watch out for snowmobiles, and make sure you stay on cross-country skiing trails.

Environmental Considerations

Cross-country skiing is usually a quiet and calm winter activity that does not seem to startle wildlife the same way snowmobiling might. It is still a good idea to keep your distance from wildlife and respect the environment. In late winter/early spring be aware of nesting activity in areas where you are skiing. Be sure you take all litter out with you.

Extensions

Social Studies: Nordic history

History: World War II Alpine soldiers

Science: winter survival, winter ecology, weather, wind patterns, seasons, types of snow

Resources

- Basic ski skills. <http://skiing.about.com/od/crosscountryskiing/a/crosscountry101.htm>
- Terminology. <http://www.robertsski.com/webpgss/termsccs.htm>
- Pennsylvania Department of Conservation and Natural Resources: Lesson Plans. <http://www.nrgoutdoors.org/teach.html>