If You Can Walk, You Can Cross-country Ski

By

Kevin J. Kavanaugh

I grew up as an avid swimmer and paddler. Each year, when cold weather arrived, I typically began to dread the fact that the days were now shorter and I could no longer swim outside or paddle! Over forty-five years ago, I discovered that snow was not just for shoveling or complaining about! While attending Ramapo College of New Jersey, my favorite professor and advisor, the late Richard L. Pasvolsky PhD (Dr. Dick), introduced me to snowshoeing and suddenly, it opened me up to a winter wonderland!

By using snowshoes, I found that I was able to travel in wild places that I previously could not. Not being the most coordinated athlete, I soon discovered that the old-style wooden snowshoes were very cumbersome! Fortunately for me, during my sophomore year, I took a downhill ski class that was also taught by my favorite professor, “Dr. Dick”. This class included a two-hour lesson, ski equipment, and a lift ticket which I could use the rest of the day at no charge. The class met twice a week for six weeks but unfortunately, that winter was very mild and there was very little natural or man-made snowfall available, so I only skied six times.

After graduating from college, I often thought about going skiing again but the high cost of ski rentals and a lift ticket combined with the unpleasantness of skiing on icy and crowded slopes did not appeal to me! Fortunately, the winter of 1976-77 was a very cold one with enough snow for me to try cross-country skiing. I took a couple of classes with an instructor who reminded me of my former college advisor. Along with this initial instruction, I observed others that skied smoothly and I tried to imitate their technique.

In selecting cross-country skis in 1977, I was faced with the choice of whether I wanted to buy skis that I needed to wax or no wax skis. I chose to buy a pair of skis that I needed to wax because I knew that once I got good enough, I was going to teach other people how to ski. Cross-country skiing in the United States was greatly influenced by the success of Bill Koch at the 1976 Olympics in Innsbruck, Austria. Bill became the first American cross-country skier to receive a medal in the Olympics. He placed second in the 30 km event and Bill introduced to the world a new technique of cross-country skiing called skating.

Many of my friends chose to purchase wooden skis that required that you apply pine tar to the bottom of your skis with a rag. After applying the pine tar, one needed to smooth the pine tar with a propane torch. In watching the Olympics that year, I noticed that many of the skiers were using fiberglass skis that the user waxed. It seemed to me that trying to match the correct wax to the snow type was enough of a challenge without worrying about applying messy pine tar to my ski bottoms! With this in mind, I chose a pair of fiberglass skis and I found myself skiing more, while my friends with wooden skis were covered with sticky pine tar! Over forty years later, my Fischer skis are still usable while my friends’ beautiful wooden skis have long been sold at garage sales or placed on the walls of their basement!
Attempting to wax my skis to get the best performance in the unpredictable snow conditions of New Jersey has been a challenge to say the least! I have long since stopped using grip wax on the bottom of my skis. For the past thirty years, I have skied with no wax skis and the only wax that I have applied to the bottom of my skis is glide wax. Melting snow does not stick to the bottom of my skis with the application of glide wax on the tips and tails of my skis.

During the 1880s, Anthropologist Franz Boas traveled through the icy wastes of Baffin Island in northern Canada. By learning the folklore of the native people, Boas made the claim that the Inuits had hundreds of words to describe ice and snow. If an individual did not know what kind of ice and snow that they were encountering, it could be a matter of life and death. Present day anthropologists and linguists believe that the number of different words for ice and snow for the people of the North may be from 40 to 180, depending on their location. As more and more of these northern people move away from their traditional lifestyle, their perception of the natural environment has decreased (Robson, 2013).

Rock paintings and skis preserved in bogs show hunters and trappers used skis at least 5,000 years ago. Early skiers used flat boards made of Ash with a smoothed bottom for easier sliding. To climb hills, the early skiers attached animal skins to the ski bottoms, so their skis could grip the snow for uphill climbs. They used leather or cordage to attach their boots to their skis. By the 1840s woodcarvers in the province of Telemark, Norway began developing a bow-shaped cambered ski that acted to better distribute a skier’s weight on their skis. By the 1900s, several European nations’ armies were regularly using skis for transportation and competition. By the mid-1930s, advancement in ski technology and the development of downhill ski resorts created the split of skiing into two separate sports: downhill skiing and cross-country or Nordic skiing (Lund).

Cross-country skiing sometimes is also called Nordic skiing. There are several styles of Nordic skiing from touring or racing on groomed ski tracks to gliding through deep backcountry snow. With these styles of skiing, the heel of the boot is not connected to the ski. The skier moves forward by pushing their skis forward through the snow. In skate skiing, the skater pushes their skis outward side-to-side in a skating motion. In order to move comfortably and efficiently, the skate skier requires groomed trails.

In order to purchase the best skis for your money, you need to decide where you will ski most. The following types of cross-country skis and their descriptions should help you make the best choice:

**Types of Cross-country Skis**

**Touring skis** are generally long, narrow and lightweight. Depending on the depth of the snow, they would also be fine for use on an open field or golf course. If there are no set tracks to ski on, then you will need to set your own and then ski back on your original tracks. Sharing the lead position of setting track with others will lighten everyone’s load because this can be a very strenuous task. Please remember golf etiquette and do not ski on the golf greens because this will ruin them.

**Race and performance classic skis** are similar to touring skis but they are faster and they require better technique and require groomed tracks.

**Metal-edge touring skis** are made for skiing in the backcountry on steeper terrain and in icy conditions.
Waxable vs. No Wax Ski Bases

Skiis need to be able to grip the snow when you climb uphill or stride on flat terrain (“kick and glide”).

No wax skis are the most popular choice because they are very convenient and provide grip in a variety of snow conditions. The kick area of these skis has a manufactured frictional pattern that is designed to grip the snow.

Waxable skis require a bit more work because you have to attempt to match the type of wax with the texture of the particular type of snow that you will be skiing on at any given time. If those conditions change over the course of an outing, a different wax will need to be reapplied.

Cross-country Ski Boots

Upon deciding where you are most likely going to ski, you want to select a ski boot that matches the type of ski that you have chosen. Racing ski boots will be lightweight and have a low cut like a running shoe designed for skiing on groomed trails. Touring ski boots will be like a high top sneaker and have flexibility, so you can get an easier stride. Backcountry ski boots also have a high cut and they tend to be heavy and sturdier than touring boots. Once you’ve found the correct boots that fit you properly with the socks that you will wear while skiing, you can select compatible bindings.

Cross-country Ski Bindings

Boots have different types of soles on them, making them only compatible with specific bindings. For example, boots with an NNN-style sole will only fit NNN bindings.

Bindings for Touring and Race/Performance Classic Skis:

New Nordic Norm (NNN) bindings feature two thin raised ridges that fit into matching grooves in the soles of compatible ski boots. Some manufacturers offer the Nordic Integrated System (NIS), which is simply a different way of attaching the NNN binding to the ski.

Salomon Nordic System (SNS) Profil bindings use a single, wide binding ridge and a single matching sole groove. SNS boots/bindings and NNN boots/bindings are not compatible.

SNS Pilot bindings have a ridge/groove similar to Profil bindings, but instead of a single metal rod at the toe, Pilot boots use two metal rods to click into two different slots in the binding. This results in superior flex and kick motion with excellent stability. (SNS Profil boots cannot fit into Pilot bindings; SNS Pilot boots, however, can fit into most Profil bindings.)

Bindings for Metal-Edge Touring Skis are more rugged and durable than their general touring counterparts. They are also wider and therefore generally not appropriate for in-track skiing.

75mm 3-pin bindings consist of 3 metal pins that attach to 3 holes on a tongue-like extension of a ski boot sole. This binding offers reliable support and can be repaired in the field, however, it can be more cumbersome to get in and out compared to the other styles.

New Nordic Norm Backcountry (NNN BC) bindings are similar to NNN touring bindings, but are wider, thicker and more durable.

Cross-country Ski Poles

There are different types of ski poles that best match the type of skiing that you plan on doing.

Poles for touring: Touring poles are strong and lightweight and used on groomed trails. They are sized, so that they reach from the ground to your armpits. They have small baskets because you’ll typically be skiing on packed snow.

Poles for race and performance skiing: These poles are typically made of lighter and higher-quality materials than touring poles. They often have grips and straps designed to improve your technique and skiing efficiency. Race and performance poles should be a few centimeters longer than a touring pole.

Poles for metal-edge skis: Backcountry poles are more durable and slightly heavier than touring poles. Telescoping poles that can be shortened or lengthened are helpful when you travel through steep terrain. The baskets on these poles are larger than those on touring poles to provide better purchase in deeper snow.

Cross-country Ski Clothing

Cross-country skiing is a highly aerobic activity that can generate a lot of body heat, so dressing appropriately is important. Your clothing needs to protect you from the elements while allowing sweat to quickly ventilate away. Using a system of

This newsletter is available free of charge electronically. It can be downloaded at the web address below. Requests to be included on the emailing list may be made by contacting the Nature Center.
layering that features lightweight, stretchy-base fabrics with the option of pulling on/off insulating layers and waterproof shell layers if needed, keeps you ready for changing weather throughout the day.

**Skiing at the Crossing**

Washington Crossing State Park is a great place for cross-country skiing. The park contains miles of trails on a variety of terrain types from easy mowed grassy flats to more challenging rolling wooded trails and stream ravines. The park does not groom trails specifically for skiing. However, most snowy weekends will draw enough skiers out early, such that trail will not be set on many of our trails by mid-Saturday afternoon and, admission to WCSP in wintertime is free. Visitors should just be aware that the state park is often closed during, and right after winter storms in order to allow roadways and parking areas to be plowed. Please call the park at (609) 737-0623 to get a status update before venturing out right after a snow storm.

The park sponsors two cross-country ski workshops in January and February each winter at the Nature Center. The events are geared for beginner skiers and the indoor portion of the programs will be followed by a basic skiing lesson and a short guided tour on some of our easier trails if there is snow cover. Admission is free. Advanced registration is required and visitors that wish to participate in the outdoor portion of the workshops need to provide their own equipment. Please call the Nature Center at (609) 737-0609 for ski rental information options and to register for the events. See the enclosed program schedule for this year’s ski workshop dates and times.

**References**


Kevin Kavanaugh has been a seasonal naturalist at the Nature Center in Washington Crossing State Park for the past six years. Kevin enjoys teaching outdoor education to the visitors to Nature Center visitors. He also takes great pride in maintaining the park’s trails so all visitors can enjoy hiking and cross-country skiing on them!

**Volunteer Notes**

Jim Wade, Princeton, provided a superb presentation on the autumn activities of the prehistoric Lenape people in November. Mr. Wade will return to WCSP in February to discuss the Paleo Indians native to our area during the last ice age. Please see the enclosed events schedule for more details.

Several volunteer demonstrators came out for October’s Primitive Technologies Day. Jack Cresson, Moorestown, John Waltz, Princeton, and Jim Wade joined Park employees Kayla Kaboski, Mike Ramsey and Kevin Kavanaugh. A variety of primitive living skills and activities were on display.

Ellen Coleman, Ewing, provided staffing assistance for several off-site events in October as did park employee Mike Ramsey.

The following volunteers assisted in preparing our Holiday Wreath Making program: Cheryl Burgos, Morrisville, Al Fitzipaldi, Titusville, Paul Moran, Allentown, NJ, Ben & Jean Strauss, Titusville, and Ellen Coleman.

Paul Moran has continued his very dedicated park trail maintenance services.

**Around the Park**

Heavy rains and storms over the course of summer and autumn have caused washouts and deadfall along many park trails as well as flooding in low-lying areas and along streams. All WCSP’s trails are accessible however, hikers should wear sturdy waterproof foot gear and be on the lookout for exposed rocks, tree roots and trail diversions from fallen trees.

**Nature Center Group Programs**

The WCSP Nature Center offers a great variety of outdoor education and interpretive programs to schools, home school groups, scouts, community groups, religious organizations, summer camps, youth organizations, etc. Programs are available under the broad categories of ecology and natural resources, survival and self-sufficiency skills, adventure, and outdoor navigation. Some of our programs are tailored for young children. Others are designed for older kids and adults. Some of our interpretive programs meet specific scout badge requirements. Some of our programs are academic in nature; others are discovery/adventure-oriented. All of them are exciting and fun for participants.

Popular examples would be pond, river and stream studies, ropes activities, trail hikes, maple sugaring, geology, forestry, field ecology, map and compass and much more. For a comprehensive listing of over 35 topics, go to our web page (http://www.state.nj.us/dep/parksandrecreation/parks/washcros.html), scroll to the Nature Center heading and click the link for “groups such as schools, scouts, clubs and local organizations”. Alternatively, call the Nature Center at (609) 737-0609 and request a group program listing. We are currently scheduling for winter and spring.
Winter Programs at the Nature Center

The following is a list of activities being offered through the Nature Center at Washington Crossing State Park in Titusville, New Jersey. All events this winter are offered without charge. Some programs will require advanced registration as indicated below. Attendance is always limited and is available on a first-come, first-served basis. Programs will commence at the Nature Center unless otherwise indicated. An adult must accompany all children. In the event of inclement weather some programs might be canceled. It is always advisable to call ahead before coming out. These events are intended for families and individuals only. Programs for scouts, schools and other groups are scheduled separately by special arrangement. Phone: (609) 737-0609

ASTRONOMY VIDEO Saturday January 5, 12:45 p.m. Secrets of the Sun. The popular video series, The Universe: Our Solar System takes viewers on an exciting voyage through the solar system. Each Saturday installment will examine, in detail, one of our planet’s nearest neighbors including the sun and the earth itself.

ASTRONOMY VIDEO Saturday January 12, 12:45 p.m. Mars: The Red Planet. The popular video series, The Universe: Our Solar System takes viewers on an exciting voyage through the solar system. Each Saturday installment will examine, in detail, one of our planet’s nearest neighbors including the sun and the earth itself.

BALDPATE MOUNTAIN HIKE (pre-teen – adult) Sunday January 13, 1:30 – 4:00 p.m. We will take a county park trail from its trail head near Church Rd. to the top of the hill. Meet at the parking lot by Niederer’s Pond (Church Rd). Advanced registration required. Bring a water bottle and wear hiking shoes.

ASTRONOMY VIDEO Saturday January 19, 12:45 p.m. Jupiter: The Giant Planet. The popular video series, The Universe: Our Solar System takes viewers on an exciting voyage through the solar system. Each Saturday installment will examine, in detail, one of our planet’s nearest neighbors including the sun and the earth itself.

CROSS-COUNTRY SKI WORKSHOP (pre-teen – adult) Sunday January 20, 1:30 p.m. In this workshop, the participants will learn about the different types of cross-country ski equipment that are available and what to look for in selecting your first pair of skis. Other topics will include: how to dress and where to go skiing in New Jersey. The indoor lesson will last 1 - 1 1⁄2 hour. If the ground is snow covered, an additional 1+ hour outdoor ski lesson will be offered. Participants will have to provide their own ski equipment for the outdoor lesson. Call the Nature Center to obtain equipment rental information. The workshop will be co-instructed by Kevin Kavanaugh, Ewing and Daniel Nurmi McAuliffe, Langhorne. Advanced registration required.

ASTRONOMY VIDEO Saturday February 3, 12:45 p.m. The Moon. The popular video series, The Universe: Our Solar System takes viewers on an exciting voyage through the solar system. Each Saturday installment will examine, in detail, one of our planet’s nearest neighbors including the sun and the earth itself.

THE PALEO AND ARCHAIC INDIANS OF NEW JERSEY Sunday February 3, 1:30 p.m. Jim Wade, former archivist and researcher with the N.J. State Museum will take participants on a journey back to the time of the last ice age, when the earliest Native American peoples entered what is now New Jersey. Discover how these Paleo-Indians lived and survived in an arctic landscape filled with strange, prehistoric fur-covered animals, like the woolly mammoth, great elk, and musk oxen - Learn how these earliest people adapted to their harsh environment and hunted with specialized Clovis spear points - See how these prehistoric hunters opened the way for new bands of Archaic peoples who followed, with new innovative stone tools and lifestyles. The program will include a slide presentation and Native American artifacts will be on display.

ASTRONOMY VIDEO Saturday February 9, 12:45 p.m. Mercury & Venus: the Inner Planets. The popular video series, The Universe: Our Solar System takes viewers on an exciting voyage through the solar system. Each Saturday installment will examine, in detail, one of our planet’s nearest neighbors including the sun and the earth itself.

(More WCSP events, next page)
(Nature Center events continued)

ASTRONOMY VIDEO Saturday February 16, 12:45 p.m. *Spaceship Earth*. The popular video series, *The Universe: Our Solar System* takes viewers on an exciting voyage through the solar system. Each Saturday installment will examine, in detail, one of our planet’s nearest neighbors including the sun and the earth itself.

CROSS-COUNTRY SKI WORKSHOP (pre-teen – adult) Sunday February 17, 1:30 p.m. In this workshop, the participants will learn about the different types of cross-country ski equipment that are available and what to look for in selecting your first pair of skis. Other topics will include: how to dress and where to go skiing in New Jersey. The indoor lesson will last 1 - 1 1/2 hour. If the ground is snow covered, an additional 1+ hour outdoor ski lesson will be offered. Participants will have to provide their own ski equipment for the outdoor lesson. Call the Nature Center to obtain equipment rental information. The workshop will be co-instructed by Kevin Kavanaugh, Ewing and Daniel Nurmi McAuliffe, Langhorne. Advanced registration required.

MAPLE SUGARING (All Ages) Saturday March 2, 1:00 - 2:30 p.m. This event is a participatory demonstration in the procedures of home maple sugar production. Advanced registration required.

MAPLE SUGARING (All Ages) Sunday March 3, 1:30 – 3:00 p.m. This event is a participatory demonstration in the procedures of home maple sugar production. Advanced registration required.

MAPLE SUGARING (All Ages) Saturday March 9, 1:00 – 2:30 p.m. This event is a participatory demonstration in the procedures of home maple sugar production. Advanced registration required.

MAPLE SUGARING (All Ages) Sunday March 10, 1:30 – 3:00 p.m. This event is a participatory demonstration in the procedures of home maple sugar production. Advanced registration required.

WINTER BIRDS OF THE PARK (All Ages) Sunday March 17, 1:30 - 3:00 p.m. Come join veteran birder Franta Broulik of Washington Crossing Audubon as we walk the trails in search of a variety of winter bird species and perhaps some early spring migrants. Advanced registration required.

Winter Programs at the Visitor Center Museum (609) 737-0623

HISTORY VIDEO Saturday, January 5, 2:00 p.m. *The American Revolution – Volume I: The Conflict Ignites*. This 50-minute video looks at the dramatic outbreak of the war at Lexington and Concord and examines the forces that made the American Revolution unavoidable.

HISTORY VIDEO Saturday, January 12, 2:00 p.m. *The American Revolution – Volume II: 1776*. This 50-minute video portrays the most important year of the American Revolution when independence was declared and almost lost.

HISTORY VIDEO Saturday, January 19, 2:00 p.m. *The American Revolution – Volume III: Washington and Arnold*. This 50-minute video tells the story of two of America’s great commanders and their turning point victories.

HISTORY VIDEO Saturday, January 26, 2:00 p.m. *The American Revolution – Volume IV: The World at War*. This 50-minute video examines the expansion of the war, the Battle of Monmouth, the winter at Valley Forge and the hard winter at Morristown.

(More WCSP events, next page)
(Visitor Center Museum events continued)

**HISTORY VIDEO** Saturday, February 2, 2:00 p.m. *The American Revolution – Volume V: England’s Last Chance*. This 50-minute video examines the British failed attempt to win the war in the southern colonies.

**HISTORY VIDEO** Saturday, February 9, 2:00 p.m. *The American Revolution – Volume VI: Birth of the Republic*. This 50-minute video concludes with the American victory at Yorktown, Virginia, The Treaty of Paris and the Constitutional Convention.

**HISTORY VIDEO** Saturday, February 16, 2:00 p.m. *Spies of the Revolutionary War*. Nathan Hale, John Honeyman, John Andre and Benedict Arnold are just a few of the spies who played a large role for both the American and British during the American Revolution.

**HISTORY VIDEO** Saturday, February 23, 2:00 p.m. *George Washington: The Unknown Years*. The early years of George Washington are examined.

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**Winter Programs at the Johnson Ferry House**

**WINTER FOODWAYS COOKING CLASS** Saturday January 12, 10:00 a.m. - 4:00 p.m.; snow date: January 26. This class will be taught by food historian Susan McLellan Plaisted and includes all day instruction, hands on, and a full meal that you prepare on the hearth. Theme, to be announced. Fee: $70. Please Register by calling 215-219-9542. Registration is not complete until the registration is paid.