Environmental Traveling Companions

Winter Program

Guide Manual

January 2019

Environmental Traveling Companions, Fort Mason Center Building C, San Francisco, CA 94123
Phone: (415) 474-7662 Fax: (415) 474-3919

TABLE OF CONTENTS

Chapter 1

ETC Organization Information

Mission

ETC makes the joy and challenge of outdoor adventures accessible to people with disabilities and disadvantaged youth, inspiring self-confidence, connection to nature, and stewardship of the environment.

Philosophy

ETC started taking people with disabilities and disadvantaged youth on outdoor adventures in 1972, beginning with a whitewater rafting program on the Stanislaus River in Northern California. ETC's wilderness programs have grown to include adventures in sea kayaking, whitewater rafting, and cross-country skiing as well as extended youth leadership trips in the Youth LEAD (Leadership, Environment, Adventure, Diversity) Program. Our primary goal, then and now, has been to provide affordable and accessible outdoor adventure and environmental education experiences for people with special needs. We share adventures with a wide variety of people with disabilities and youth from underserved and economically disadvantaged backgrounds.

For many of our participants, an ETC trip is their first experience in the outdoors, and for others it is a continuing step towards independent wilderness travel. Through working (and playing) together as a group, we can gain a new understanding of each other and of the balance of life in the outdoors. We hope that an ETC adventure will be an unforgettable experience that can be applied to everyday living.

An ETC trip presents our participants with new challenges and opportunities to gain self-esteem and personal strength. Because we believe that people become strong by doing things for themselves, especially those tasks that push our personal comfort zones, we encourage and ask that our participants take part in all aspects of a trip. This participation creates ownership of the experience in a way other approaches cannot. At ETC, we do trips *with* people, not *for* people. This is the key to ETC's philosophy and is reflected in our approach to all of our adventure programs.

Some of the challenges we present to our participants – such as kayaking across Raccoon Strait on San Francisco Bay, paddling through class III rapids, team building initiatives, and skiing through snowy meadows – may be a first time experience. These experiences require care, love, camaraderie and a spirit of cooperation. In this atmosphere, participants learn that many of their limits have been self-imposed or imposed by external forces such as society, family or friends. They learn that by testing these limits, they can overcome their fears and realize their own unique abilities.

ETC trips also involve the sharing of many different skills, backgrounds, and points of view. We often combine people of differing abilities together on a trip - a disadvantaged youth helps a woman with a visual impairment step over rocks; a woman with a spinal cord injury learns to paddle a raft physically supported by a person without a disability. Every situation and combination is unique and calls for a degree of sensitivity not often required in a commercial setting.

An ETC trip, however, is an experience that goes far beyond the mechanics of the actual activity. It is of equal importance to us that participants become aware of the delicate ecological relationships of land, water, plants and animals in the ecosystems in which our programs take place. The natural environment is an ideal classroom for experiential learning. Some of this learning occurs as guides and participants share knowledge and impressions of the area around them. Other learning takes place in more structured group activities and games. It is important that ETC guides learn to recognize and capture "teachable moments." Environmental education is a cooperative venture between guides and participants; everyone has knowledge to share and knowledge to glean through shared experience. In this sharing we are all teachers and we are all students.

Participant groups vary greatly. Participants' needs and desires, and what they hope to achieve, will depend on the particular group and its background. It is ETC's task to ensure that people have a safe, challenging and well-rounded outdoor experience - one that is based on respect for each other, the natural environment, and ourselves.

History

Over Christmas dinner, 1971, river guides Mark Dubois, Ron Caldwell and Fred Dennis, gave birth to an incredible idea: sharing their love of river running and their passion for the stunning limestone river canyon of the Stanislaus River with people who didn't have opportunities to experience outdoor adventure. In 1972, ETC was born on the banks of the Stanislaus when these three visionaries, now joined enthusiastically by other commercial river guides, made plans to launch retired patchwork rubber navy rafts and invited urban youth and people with disabilities to join them. The dream grew as more guides began volunteering for ETC, and more participants with special needs were given the chance to share in the magic of the Stanislaus. Three years later, in 1975, ETC became a 501(c)(3) nonprofit organization and spent the better part of the next 5 years launching new and innovative adventure programs - backpacking in Pt. Reyes, rock climbing in local mountain areas, snow camping and cross-country skiing in Bear Valley.

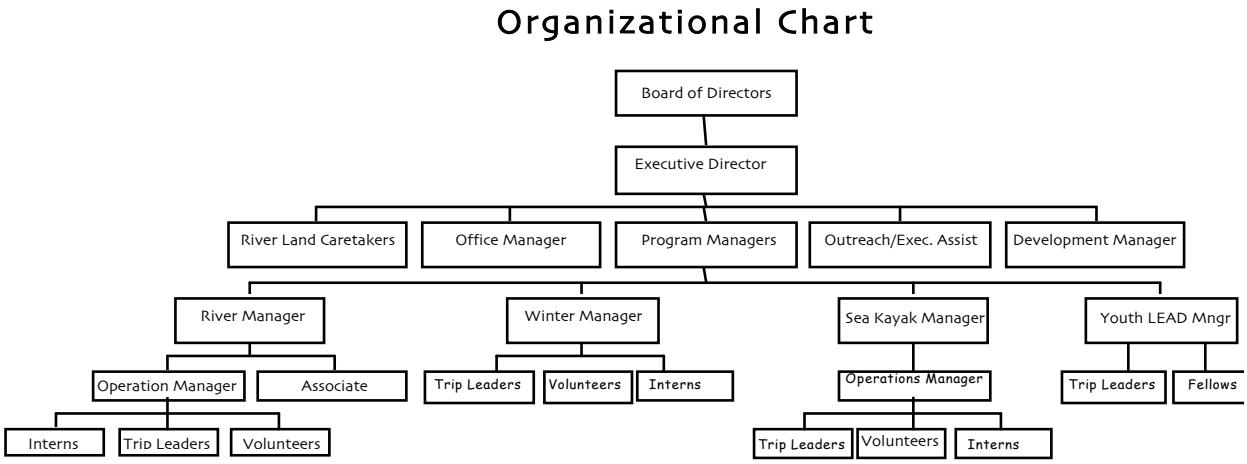
In 1978, ETC moved our office (from then Executive Director Graciella Rossi's home on Taraval Street in San Francisco) to Fort Mason Center where we still reside today. Then, in 1981, ETC painfully lost the Stanislaus River to the New Melones Dam project. The following year ETC transitioned our river program to the South Fork American River in Coloma, California. With our new administrative home so close to the San Francisco Bay it wasn't long before dreams drifted towards starting a sea kayaking program. Driven by requests from participant groups for a local outdoor adventure program and the passions of volunteers, among them Jim Noyes and Diane Poslosky, the sea kayaking program sprang to life in 1983.

In 1984 one of the aforementioned visionary volunteers, Diane Poslosky, stepped into the role of Executive Director - beginning a tenure that continues today - some 30+ years later!

After multiple locations and years of leasing land to support the River Program, ETC found a home in a piece of undeveloped land along the banks of the South Fork American and in 1998 began our first major capital campaign - raising 1.2 million dollars in 18 months! The turning of the century brought completion of the building of our accessible and ecologically designed river camp - and with this completion ETC now has a permanent place to call home.

Organizational Overview

ETC is a 501(c)(3) nonprofit organization that provides year-round outdoor adventure programs for people with special needs. ETC's administrative offices are located in San Francisco though programs utilize multiple sites throughout northern California for direct outdoor programming. ETC serves 2000-2300 participants each year through single and multi-day outdoor adventure programs. The organization is governed by a Board of Directors, composed of volunteer community members with backgrounds in business, finance, law, media, fundraising, outdoor recreation management and disability advocacy. ETC has a team of 6-8 year-round staff members, 6-10 seasonal staff members, and over 300 active volunteer guides.



Board of Directors
ETC is governed by a volunteer Board of Directors to whom the Executive Director reports. This group of people works closely with the Executive Director, Program Managers and staff to develop an annual strategic plan, to insure fiscal solvency, and the overall stability of the organization. The full Board meets quarterly with various sub-committees (e.g. Major Gifts) meeting bi-monthly. Board members assist ETC through their various areas of expertise, networking on behalf of ETC, fundraising, and through contributions of funds and time. The Board holds the ultimate responsibility of hiring the Executive Director and overseeing the fiscal responsibilities with the Executive Director.

Executive Director
ETC's Executive Director is hired and evaluated by the Board of Directors. The Executive Director is responsible for hiring and evaluating the core staff team. As well, he/she oversees the budgeting and fiduciary responsibility for the organization. The Executive Director works with the staff to develop new programs and to ensure that we are delivering outdoor adventures and environmental education programs that are safe, inspirational, and accessible. Additionally, the Executive Director works with the staff to maintain and develop funding and program relationships and partnerships.

Programs

ETC has four distinct adventure programs: Sea Kayak, Whitewater Rafting, Cross Country Skiing, and Youth LEAD.

Sea Kayaking Program
The Sea Kayaking Program is based on San Francisco Bay and Tomales Bay and offers day and overnight trips in both locations. On San Francisco Bay the program operates day trips on Richardson Bay and overnight trips to Angel Island. On Tomales Bay the program offers day trips out of Heart's Desire, "base camp" trips with groups camping at Hearts Desire and paddling one or two days, and expedition overnights to remote beaches.

Whitewater Rafting Program
The Whitewater Rafting Program is based in Lotus, California on the South Fork of the American River. The program runs single-day and multi-day class I-III river rafting trips, where the ETC River Camp serves as a permanent base. Day trips most often launch from camp and raft the "Gorge" run - an 11-mile section beginning in class I-II rapids and progressing into the class III "Gorge." Multi-day trips have the option of either running the "Lower" again or moving upriver to the "Upper" (a.k.a. Chili Bar) run - an 11-mile section beginning immediately in class III rapids and relaxing into class I-II whitewater. These trips end at the ETC River Camp. The Whitewater Rafting Program also facilitates educational floats on the South Yuba River through a partnership with the South Yuba River Citizens League (SYRCL) to teach participants about the life cycle of salmon.

Cross Country Skiing Program
The Winter Cross-Country Skiing Program is based out of Arnold, a small town nestled in the foothills of the Sierra Mountains northeast of Stockton. The Winter Cross Country Skiing Program runs multi-day winter trips including cross-country skiing, snowshoeing, environmental education programs at Calaveras Big Trees State Park (known for it's rare and beautiful Giant Sequoia Redwood trees), making snow people, having snowball fights, playing group games and sharing relaxation time in the cabin. The cross-country skiing portion of our trips is conducted ~30 miles northeast of Arnold in Bear Valley at the Bear Valley Nordic Ski Area, where 3000+ acres of groomed trails are available for skiing.

Youth LEAD Program

The Youth LEAD (Leadership, Environment, Adventure, Diversity) Program annually serves 25-40 students (ages 14-18). These unique and intensive summer courses, range in length from 14-21 days. The program integrates outdoor adventures with opportunities for youth to build leadership skills, environmental stewardship, interpersonal communication skills and agricultural literacy, all while working and living together in a supportive community environment. Courses include outdoor leadership and technical skills training in backcountry travel, whitewater rafting and sea kayaking as the students travel the path of the watershed from the mountains to the sea. Longer courses also may include a community service project on an organic farm where students learn about water uses in California and food production. Eight graduates are hired each year as part of our Youth Fellowship Program, a year-round internship program focused on developing outdoor leadership and environmental education skills.

Facilities/Offices:

Administrative Office:	Fort Mason Center, 2 Marina Blvd. Bldg. C San Francisco, CA 94123
Phone:	(415) 474-7662
River Camp Offices:	6700 Highway 49, Lotus, CA 95651
Phone:	(530) 642-8189
Sea Kayaking Base:	85 Liberty Ship Way #205, Sausalito, CA, 94965
Phone:	(415) 464-7662 x13
Winter Cabin 2019:	
Phone:	(415) 474-7662 x 14
Alternate:	(209) 890-3630

Chapter 2

Roles of The Guides and Trip Leaders

Skills Expected of A Guide

Gear Handling

- Know location and proper storage of gear
- Knowledge of how to clean equipment
- Ability to check equipment to ensure it is safe to use
- Appropriately size skis, boots and winter gear (ex: gloves, pants, under layers)

Teaching and Group Management

- Greet and welcome groups
- Lead group games and activities
- Facilitate environmental education activities
- Conduct a soft gear and ski orientation talk
- Conduct a safety orientation talk
- Proper use of a VHF radio
- Communicate clearly and respectfully with all participants, both on and off the snow

Disability Awareness

- General knowledge of and sensitivity to people with disabilities
- Knowledge of how to make adaptations to skiing for a person with a disability
- Willingness to adapt non-skiing activities for people with disabilities

Communication

- Be reliable and on time (please notify the PM of plan changes ASAP)
- Communication with the PM if you have suggestions for improvement
- Know your limitations and work within them. When in doubt, ask another guide or TL to clarify or assist.
- Be familiar with and abide by ETC policies and procedures.

The Role of the Guide is NOT to:

- Assist participants with personal hygiene matters such as:
    - Toileting
    - Bathing
    - Changing clothes
- Reprimand any misbehavior that the guide is uncomfortable dealing with

Additional Skills Expected of a Trip Leader

Everything outlined in above for guides in addition to the following:

Trip Facilitation

- Extensive knowledge of and experience with all aspects of trip logistics
- Knowledge of special needs of the participant population
- Collaborate with group/agency leaders to facilitate a successful trip
- Maintain trip timeline
- Collect all med/release forms at beginning of trip, ensure that they are all signed, and pass over med forms to the medic
- Ensure all Trip Evaluations are filled out and completed and give to Program Manager when complete

Risk Management

- Mitigate and manage hazards appropriately
- Maintain adequate energy and focus levels throughout the trip
- Manage environmental hazards and cold
- Respond appropriately to incidents
- Make decisions to split up or stick together

Team/Guide Leadership

- Delegate roles appropriately
- Provide basic instruction to Guides
- Ability and openness to solicit input from all Guides in making decisions, but with the willingness to take responsibility for the final decision
- Ability to give constructive feedback when appropriate and praise accomplishments
- Comfort leading a team of Guides to execute a ski trip
- Support fellow guides and trip leaders. This includes:
    - Being open to giving and receiving kind constructive and positive feedback
    - Helping each other out to accomplish a task or goal
    - Only interrupting or questioning a fellow guide's judgment if it is an emergency or will seriously impact the group otherwise
- Be an ETC ambassador which includes:
    - Promoting our other programs
    - Representing ETC in a positive light

Skiing Skills

- Intimate knowledge of skiing destinations and emergency access points
- In-depth knowledge of weather conditions and their implications for setting a safe course
- Comfort with variable weather conditions and confidently identify when a group should ski or not
- Understand and manage proper travel formation

Guide Roles

Alternate Trip Leader: The Alternate Trip Leader both serves as a resource to the Trip Leader when he or she is making decisions, and also will step into the role of Trip Leader if for some reason the current Trip Leader is no longer able to provide leadership for the trip. The Alternate Trip Leader is typically the next most experienced Guide on a trip, though may not have gone through Trip Leader Training nor be a checked-off as a Trip Leader.

Environmental Education Lead (EEL): The EEL is responsible for making sure that there is some kind of environmental education component on the trip. This could be anything, from a land cleanup, to sharing information about wildlife in an engaging way, to an educational fun game that builds camaraderie. The EEL should review the program's education resources. Depending on the length of the trip, these activities could take place after lunch, on the snow, on a hike, indoors, or in the evening. The EEL is strongly encouraged to try new things and have fun with this role!

Meet and Greet: This person should be waiting at the cabin no less than 10 minutes prior to the scheduled arrival time of the group. The first Guide to meet the group significantly sets the tone for the trip. It is important that this person be friendly, outgoing, responsible and organized. This person should:

- Introduce themselves to the group and welcome the group to ETC
- Help unload vehicles
- Instruct the group on where to gather for Opening Circle
- Show participants the bathroom
- Collect forms from individuals/group leaders

Introduction to Day One and to ETC: This is typically the responsibility of the Trip Leader during the Opening Circle. This is an important time to set the tone for the trip. It is important to be engaging and fun. During this time it is important to cover the following:

- Welcome to ETC
- Short introduction to ETC
- Plan for the following day
- Describe what people should wear in the snow

Name Game: One Guide should lead an age appropriate and fun name game so participants and Guides can begin to get to know one another. Be sure it doesn't take too long!

Food Packing: This person should work with the group leader to pack food onto the sled. This is a relatively easy task, though it is important to ensure there are adequate utensils and supplies to set up lunch for the group.

Gear Talk: Conduct a Gear Talk that orients groups to appropriate winter clothing, skis, boots, etc.

Cross-country Instruction Talk: Conduct an introduction to cross-country skiing hat gives participants the basics of skiing.

Safety Talk: Conduct a safety talk that gives participants all instruction that is necessary for them to be safe on the snow.

Lunch Game: Facilitates a fun game before, during, or after lunch. This may be the person in the EEL role.

First Aid: This person is responsible for all First Aid on the trip and is typically the Guide with the highest level of First Aid training. Responsibilities include:
Before the trip:

- Inventory First Aid Kit to ensure they are both complete prior to the trip.
- Pull all Guide health forms and put them in the First Aid Kit
- Review all participant liability forms to ensure they are signed and complete
- Review all Guide and Participant health forms to ensure they are signed and complete and note any important medical issues
- Discuss any relevant issues with the participant or Guide in question
- Identify self as the First Aid Lead at the Opening Circle so participants know who they are to approach should they have a medical concern

On the trip:

- Carry the First Aid Kit in an accessible location (either on person or on sled)
- Administer any necessary first aid and seek outside resources when needs are beyond their scope of practice

At the end of the trip:

- Restock the First Aid Kit and Ouch Kit
- Note any First Aid administered on the Guide Trip Evaluation
- Fill out an ETC Incident Report Form if a significant incident occurred on the trip. Incident Reports must be filled out when a situation requires more than simple first aid, requires follow up care by guides in the field of by a medical professional, requires evacuation from the field, or could be considered a near miss.
- Re-file all Guide health forms
- Give all participant health and liability forms to the Trip Leader to be included with trip paperwork

Clean Up Organizer (gear): One Guide should remain at the gear station to ensure that all gear is appropriately and neatly put away. This Guide should help keep participants engaged but maintain a fun and easy-going tone. This Guide is also in charge of filling the laundry machine with used clothing at the end of the trip.

Clean Up Organizer (cabin): This Guide should organize cabin cleanup on the last day of the trip to ensure thorough cleaning before the group leaves. This guide needs to be comfortable with the storage location of all equipment.

Lead: This person will ski at the front of the group and lead the way. This person should be a competent skier, confident in their knowledge of currents, navigation, and the cross-country ski area. Responsibilities include:

- Setting a safe course based on weather conditions, and the skiing ability of groups
- Navigating any skiing traffic
- Awareness of potential hazards and the ability to lead a group away from them
- Setting a pace that maintains a tight unit, and stopping when needed to regroup

Sweep: This person will ski at the back of the group to maintain a visual of all skiers and assist with any emergency situations. Responsibilities include:

- Encouraging and coaching skiers that may be struggling
- Helping underpowered persons
- Responding to an emergency situation

Rover: If additional Guides remain, a Rover will be assigned. This person will ski around the group, attend to any needs of the group, and respond to emergency situations. This person must be a competent skier.

Photographer: This person will document the trip with an ETC provided camera. Important for this person to ask at guide meeting if any participants or staff indicated they did not want to be photographed on their health form.

To Be Covered in The Guide Meeting:

Check In
Go over game plan (TL)
Review group goals, special needs, behavioral concerns (TL)
Review medical concerns (Medic)
Delegate duties (TL):

1. Leader on the Trail
   Stays in front of the group and carries a radio
2. Floater/Bridge Fairies
   Crosses bridges first and spots participants as they cross the bridge one-by-one. Take skis off while performing this job.
3. Sweep
4. Any Special Assignments of Staff/Guides to certain participants
   This should take into account the special needs of a participant and the experience/ability of a guide
5. Equipment Coordinator(s)
   Organizes and oversees equipment check-out and return process, makes sure all necessary equipment is brought to Bear Valley Cross Country
6. Chief Medic(s)
7. Photographer
   Takes photos of participants and guides throughout the trip, but especially while skiing and at Big Trees

ETC Volunteer Agreement

Welcome to the ETC family! Since our early beginnings in 1972, ETC's dedicated volunteers have been the key to our success in providing outdoor adventures and environmental education programs for thousands of participants with disabilities and under-resourced youth.

The purpose of this agreement is to provide ETC volunteers with a common standard and to ensure safety and consistency in the delivery of our programs. It also serves to promote an environment that serves our mission and encourages the professionalism, growth and skills of our volunteers.

Safety

The success and the safety of ETC programs depend on the safe conduct of all volunteers at all times.

- As an ETC volunteer Guide, I have completed the appropriate program training or a comparable training at the approval of the Program Manager. I also understand that I must complete ETC's Inclusion Training.
- I have read, understand and will abide by all safety policies, procedures, and accident reporting guidelines outlined in the Program Manuals.
- I will provide and maintain a current and complete ETC Health Form and Liability Waiver on file for each program in which I volunteer.
- **I will maintain a minimum of current CPR and Basic First Aid certification and provide ETC copies of both sides of my certification cards.**

Please Initial: _____

Commitment

ETC programs exist through the efforts and commitments of its volunteers. Each new program Guide will volunteer for a minimum number of trips as follows:

Program	First Year	Second Year
Sea Kayak	8 days	8 days
River	8 days	8 days
Winter	4 days	4 days

Please Initial: _____

Professionalism and Codes of Conduct

The success and the safety of ETC programs depend on the professional conduct of all volunteers at all times.

- I will demonstrate mutual respect for all other volunteers, participants and the public during all ETC trips and events.
- I will attend all programs with promptness. All absences must be arranged with the appropriate Program Manager in advance (except for emergency situations or sudden illness).

- I will not engage in harassment or discrimination based on race, gender, religion, creed, ethnicity, medical condition, physical or mental disability, age, or sexual orientation.
- I will not possess, deal or use any controlled substances or firearms while participating in an ETC activity.

Please Initial: _____

Medical Insurance

ETC does not provide Workers Compensation and/or health insurance for any volunteers. ETC recommends that all volunteers maintain their own medical and dental insurance.

a. I understand that ETC does not provide Workers Compensation and/or health insurance for volunteers.
b. I understand that ETC recommends that all volunteers maintain their own medical and dental insurance.

Please Initial: _____

Liability

ETC maintains a liability policy intended to provide indemnification and legal assistance should you be named in a liability suit against ETC as a result of actions performed within the scope and capacity of designated volunteer duties.

- I understand that ETC's liability policy coverage may be provided only when volunteers have current certifications on file as outlined in this Volunteer Agreement.
- I understand that any accidents, incidents and injuries, to myself or to others, while volunteering must be reported immediately as described in the Program Manual.

Please Initial: _____

Vehicle Liability

- I understand that when I drive my own vehicle to, from or during an ETC event that I assume all liability for my vehicle and passengers. I understand that ETC does not have insurance to cover my personal vehicle or any passengers within. I understand that my personal vehicle insurance must be comprehensive enough to cover any situation that may occur.
- I will not drive an ETC vehicle unless I have watched the Safe Driving Video, signed the Driver Agreement Form, signed the DMV Authorization for Release of Driver Record and have been approved by my supervisor.

Please Initial: _____

Acknowledgement

- I have received and have read a copy of this Volunteer Agreement and an ETC Program Manual.
- I understand that my signature below indicates that I have read and understand this agreement and agree to all terms and conditions of the agreement.
- I understand a signed copy of this agreement will be kept on file.

Please Initial: _____

Chapter 3

Policies and Procedures

Introduction

The information in this section provides the Winter Program emergency and administrative procedures of Environmental Traveling Companions (ETC).

A clear understanding of the following policies and procedures will allow Guides and Trip Leaders to be more confident, creative, and autonomous

As an ETC Guide it is important to remember that you are not entirely free of personal liability when working for the program. As a leader you have both a legal and a moral responsibility to know these policy requirements and procedural suggestions.

Environmental Traveling Companions
Winter/Cross Country Ski Program
Policies and Procedures

I. Introduction

The below Polices and Procedures are the standard for conduct on all Environmental Traveling Companions (ETC) trips participating in cross country skiing or related activities.

I. Participants
    a. Liability Release
        i. All participants participating in an ETC trip must sign a "waiver and release of liability, acknowledgement, and assumption of risk" form (hereafter referred to as "Liability Form").
        ii. All participants under the age of 18 must have a Liability Form signed by a parent or legal guardian.
        iii. The designated Guide in the First Aid role must review all Liability Forms to ensure completion at the beginning of every trip.
    b. Health Form
        i. All participants participating in an ETC trip must have a fully completed and signed Health Form.
        ii. All participants under the age of 18 must have a Heath Form signed by a parent or legal guardian.
        iii. The designated Guide in the First Aid role must review all Health Forms to ensure completion at the beginning of every trip.
        iv. Health Forms for each participant and Guide must be carried with the First Aid Kit in each pod.
    c. Medical Screening
        i. The designated Guide in the First Aid role must review all Heath Forms at the beginning of each trip.
        ii. The designated Guide in the First Aid role should discuss any medical conditions raising concern with the participant or participant's staff / caregiver / parent / legal guardian prior to skiing
        iii. Pregnancy: Women known to be pregnant must be carefully warned and informed of the inherent dangers involved in participating in cross country skiing.
    d. Drug and Alcohol Use
        i. The use of recreational and/or illegal drugs is prohibited during all ETC trips
        ii. The use of alcohol during all ETC trips is prohibited
II. Guide Requirements
    a. Guides must be at least 18 years old
    b. Application Process
        i. Complete written application

ii. Interview
iii. Criminal background check
iv. Sign contract specific to position
v. Documentation of First Aid and CPR certification submitted to ETC office
vi. Complete Heath Form and Liability Release annually

c. Training
    i. All guides must complete a 3-day Winter training
    ii. If guides are unable to attend a training, they may get checked off as a guide after two trips and Program Manager's approval
d. Technical Skills Expected of a Guide
    i. Gear handling
        1. Know location and proper storage of gear
        2. Knowledge of how to transport skis and poles
        3. Knowledge of how to maintain skis, poles, boots, snowshoes and adaptive equipment
        4. Ability to check equipment to ensure it is safe to use
        5. Appropriately size boots, skis and poles
    ii. Teaching and Group Management
        1. Greet and welcome groups
        2. Lead group games and educational activities
        3. Conduct a ski lesson
        4. Conduct a safety orientation talk (Safety Talk)
        5. Conduct a lesson about Giant Sequoia's and the surrounding forest
        6. Communicate clearly and respectfully with all participants
        7. Use radios professionally and clearly
    iii. Disability awareness
        1. General knowledge of and sensitivity to people with disabilities
        2. Perform transfers
        3. Ability to make adaptations to a ski set-up for a person with a disability
    iv. Cross Country Ski Skills
        1. Forward Glide
        2. Turning
        3. Ability to stop/slow
        4. Able to put skis on/off
        5. Able to assist others while skiing

III. Trip Leader/Head Guide
    a. Trip Leaders must be at least 21 years old, unless approved by Insurer's Risk Management office.
    b. Trip Leaders must be fluent in the local language
    c. Additional technical skills expected of a Trip Leader/Head Guide
        i. Trip Facilitation

1. Extensive knowledge of and experience with all aspects of trip logistics
2. Knowledge of special needs of the participant population
3. Collaborate with group/agency leaders to facilitate a successful trip
4. Maintain trip timeline

ii. Risk Management
1. Mitigate and manage hazards appropriately
2. Maintains adequate energy and focus levels throughout the trip
3. Manage environmental hazards and cold
4. Respond appropriately to incidents

iii. Team/Guide leadership
1. Delegate roles appropriately
2. Provide basic instruction to Guides
3. Ability and openness to solicit input from all guides in making decisions; but with the willingness to take responsibility for the final decision
4. Ability to give constructive feedback when appropriate and praise accomplishments
5. Comfort leading a team of guides to execute a cross country ski trip

iv. On-trail skills
1. Intimate knowledge of ski trails
2. Comfort with variable weather conditions and confidently identify whether a group should ski or not
3. Manage group, whether separated or together

d. Trip leader check out process
i. Minimum of 10 on-ski days guiding winter trips
ii. Complete ETC Winter Trip Leader Training
1. Guides with sufficient other training may be approved by the Winter Program Manager to not participate in ETC Winter Trip Leader Training. In this case, a written description of previous training, reference check, and copies of any certifications must be obtained by the Program Manager

iii. Complete Policies and Procedures Exam with a minimum of 80% correct
iv. Complete Trip Leader Check Out Skills Verification
Trip Lead a specific trip type with a current ETC Trip Leader in a support role and earn positive recommendation

e. New guides will complete a Skills Evaluation, which will be reviewed by trainers and the Program Manager and will be stored in their volunteer file.

IV. Guide/Trip Leader to Participant Ratio (Minimum)
a. Skiing:1:6

b. Hiking: 1:10

V. YLP Fellows as Assistant Guides
   a. YLP Fellow Guides are between the ages of 14-18 years old
   b. YLP Fellows have not fully completed ETC's Winter Guide Training
   c. YLP Fellows serve in supportive roles under the direct supervision of the Trip Leader
   d. YLP Fellows assist with many aspects of ski guiding, both on and off the snow
   e. YLP Fellows are developing their leadership skills, and to that end other Guides should support Fellows in taking on leadership roles, including:
      i. Soft gear distribution and fitting
      ii. Ski Lesson
      iii. Safety Talk
      iv. Gear Packing
   f. YLP Fellows will practice leading games and activities, including:
      i. Environmental Education activities
      ii. Personal growth oriented activities
   g. In the case of an incident on the trails, YLP Fellows should not be directly involved in the rescue unless there are no other ETC Guides available to assist
   h. YLP Fellows often come from underserved backgrounds and may not have access to expensive gear and clothing. Please be mindful and respectful of these differences.

VI. Participant Instruction
   a. Safety Talk Topics
      i. Blisters
      ii. Sun protection
      iii. Hydration
      iv. Layering/Staying Warm & Dry
      v. Road Crossings
         1. An ETC Guide must monitor any road crossing and ensure that participants only cross when cars are not present or stopped to allow a crossing
      vi. Downhill Ski Practice Area
         1. Only one participant may ski down the hill at a time
         2. There must be a guide posted at the top of the hill coaching people on technique and preventing participants from skiing down when it's not safe
         3. There must be a guide posted at the bottom of the hill making sure that the run is clear before anyone skis down and communicating that to the guide at the top of the hill clearly
      vii. Bridge Crossing
         1. Any time a participant crosses a bridge, an ETC guide/staff must have their skis off, be standing on the bridge and be

ready to spot and redirect any participant away from edge of the bridge
2. Participants must cross one at a time

b. Ski Lesson
    i. Anatomy of a ski
        1. Binding
        2. Scales
        3. Tip
        4. Tail
    ii. How to clip into skis
    iii. How to hold onto poles
    iv. How to go forward
    v. How to turn
    vi. How to slow down
    vii. How to stop/fall
    viii. How to get up
c. All participants must be instructed on the following safety topics before commencing any hike/Ski:
    i. Must stay together as a group unless receive permission from a Guide
    ii. Stay on marked trails or roads unless receive permission from a Guide
    iii. If a participant becomes separated from the group, they should stay in one place, making noise if possible, until found
d. Guide one on one
    i. Unless in an emergency situation, Guides must never be alone with a participant under the age of 18

VII. Equipment
a. Personal outfitting
    i. Clothing
        1. Each participant and Guide must bring or be given water repellent coats and pants, synthetic or wool under-layers, warm hat and gloves/mittens and wool socks.
    ii. Boots
        1. Each participant and Guide must wear snow-boots or ski boots while on the snow and will be sized appropriately.
b. Skis
    i. Skis
        1. Skis will be sized appropriately to the participant
    ii. Ski Inspections
        1. Skis must be inspected prior to use for the following criteria
            a. Binding is functional
            b. Ski is in one piece
            c. Base is intact with ski

2. Any Ski that does not meet the above criteria should not be used on any trip

c. Poles
    i. Poles
        1. Poles will be sized appropriately to the participant
    ii. Pole Inspection
        1. Poles must be inspected prior to use for the following criteria
            a. Straps are intact
            b. Shaft is in one piece
            c. Tip and basket are in place
        2. Any pole that does not meet the above criteria should not be used on any trip
d. Snowshoes
    i. Snowshoes
        1. Snowshoes will always be brought on every trip to give participants alternative options for adaptability and comfort
    ii. Snowshoe inspection
        1. Snowshoes must be inspected prior to use for the following criteria
            a. Straps are intact
            b. Webbing is securely attached to the metal frame
        2. Any snowshoe that does not meet the above criteria should not be used on any trip
e. Communication Equipment
    i. Two-Way Radio
        1. One Two-Way radio must be carried for every trip
        2. Two-Way radios must be kept accessible to the Guide while on the trails
    ii. Walkie-Talkies
        1. At least two Walkie-Talkies must be carried by two separate guides while on the trails
        2. Walkie-Talkies must be kept accessible to the Guide while on the trails
    iii. Cell Phone
        1. One cell phone must be carried on every trip
        2. With each cell phone there must be an updated ETC Call Down List
f. Safety Equipment to be carried while skiing
    i. First Aid Kit
        1. One First Aid Kit (Major) and 1 Ouch Kit (Minor) must be carried on each trip
        2. Both the First Aid Kit and Ouch Kit must be inventoried prior to each trip to ensure they are complete
        3. First Aid Kit contents (Go to page)
        4. Ouch Kit contents (Go to page)

5. Agency staff are responsible for the administration of participants' medications. Guides are never to be responsible for the administration of a prescription medication unless on a Youth LEAD course.

ii. Snowshoes: At least two pairs of snowshoes must be carried on all trips
iii. Warm Clothes: 1 bag of non-cotton warm clothes must be carried on all trips
iv. Sleeping Bag: at least one synthetic sleeping bag must be carried on all trips
v. Sleeping Pad: At least one sleeping pad must be carried on all trips
vi. Sunscreen
vii. Map of Bear Valley Trails

VIII. Incident Management

a. Class A incidents: incidents requiring the support of an outside agency
    i. Criteria
        1. Incidents that cannot be managed using the resources available within the group
        2. Person lost or separated from the group for over 2 hours
        3. Any of the criteria for immediate evacuation that cannot safely and rapidly be evacuated using the resources available within the group
    ii. Action steps
        1. Provide initial interventions to care for injuries and or manage the incident to the best of the ability of the group
        2. Designate Guide to be responsible for the remainder of the group not involved in the incident (if applicable)
        3. Contact appropriate outside agency (based on Emergency Call Down List for the given trip area)
        4. Initiate the ETC Call Down List
b. Class B incidents: incidents that can be managed without the support of an outside agency
    i. Action steps
        1. Provide initial interventions to care for injuries and or manage the incident to the best of the ability of the group
        2. Initiate evacuation if any of the criteria for immediate evacuation are met
        3. Contact appropriate ETC Staff Member
            a. If evacuation is not required, contact the appropriate Program Manager at the conclusion of the trip
            b. If evacuation is required, initiate the ETC Call Down List
c. Criteria for immediate evacuation
    i. Has experienced a traumatic head injury
    ii. Has experienced any loss of consciousness

iii. Has been treated for apparent heat stroke or who has severe hypothermia
iv. Has a fever above 102.5°F
v. Has a persistent rapid heart rate (over 120 beats per minute)
vi. Has not quickly improved following treatment of symptoms of shock
vii. Has diarrhea persisting for more than 48 hours
viii. Has been involved in a lightning strike
ix. Has experienced a seizure or stroke
x. Has suspected myocardial infarction and/or congestive heart failure
xi. Has abdominal pain persisting for more than 24 hours
xii. Has wounds with severe infection or deep wounds with a high probability of infection
xiii. Has a serious chest injury or has been treated for difficulty breathing or anaphylaxis
xiv. Has suspected fractures or has sustained a musculoskeletal injury that is not usable in the field
xv. Has experienced a dislocation, with the exception of dislocations of the fingers or for chronic dislocations if the patient still has use of the joint after relocation
xvi. Has a possible spine injury
xvii. Has burns covering greater than 1% of their body area, or any burns that could cause scarring of the face, hands, feet, or genitals

d. Transporting individuals to the hospital
    i. The ETC Guide responsible for administering first aid must accompany the injured individual to the hospital
        1. If the ETC Guide responsible for administering aid is also the Trip Leader, he or she may appoint another Guide to either remain with the trip and step into the Trip Leader role, or appoint another Guide to accompany the individual to the hospital.
        2. If sending an ETC Guide to the hospital with an injured individual will compromise the safety of the remaining group or trip, the Trip Leader may make the decision that an ETC representative will not accompany the individual to the hospital. In this case, an ETC representative must be sent to the hospital as soon as possible (this person could be someone who was not on the trip).
        3. If emergency transportation does not allow for an ETC Guide to be transported with the participant (i.e. helicopter), an ETC representative must be sent to the hospital as soon as possible (this person could be someone who was not on the trip).

ii. If the injured person is a participant, the participant group leader or a family member of the participant must accompany the individual to the hospital
    1. If emergency transportation does not allow for participant staff or family member to be transported with the participant (i.e. helicopter), someone familiar with the participant must be sent to the hospital as soon as possible
iii. The individuals Health Form must be transported with them to the hospital

e. Lost group members
    i. Conduct an initial search for the missing person in search groups of 2 or more people from the Point Last Seen (PLS)
    ii. Always ensure that at least 2 people remain at the PLS
    iii. If the missing person is not found within 2 hours from the Time Last Scene, this elevates to a Class A Incident and the appropriate action steps are followed
    iv. A lost group member scenario can be upgraded to a Class A incident sooner than 2 hours based on the discretion of the Trip Leader
f. Documentation
    i. For all incidents, complete a Field Incident Report Form within 24 hours, gather witness statements as soon as possible and submit materials to the appropriate Program Manager.
g. Communication with Media
    i. Only the ETC Executive Director is permitted to speak with the media regarding an incident
h. Equipment
    i. Any and all equipment involved in the incident that could have conceivably contributed to the incident must not be used until approved by the appropriate ETC Program Manager
    ii. If the use of the equipment is necessary for the safe completion of the trip, the equipment must be removed from use upon the conclusion of the trip until approved for use again by the appropriate Program Manager
i. Communication during and after incident
    i. Do not guarantee a fast evacuation
    ii. Do not make admissions of guilt or wrong doing
    iii. Do not make value judgments or statements concerning what happened
    iv. Do not argue or debate
    v. Do not mention or offer insurance
    vi. Do not lie or exaggerate
    vii. Do not guess, speculate, or voice an assumption about the incident
    viii. Do not give a signed statement about the incident with out the approval from the appropriate Program Manager

IX. Motor Vehicle Operation
    a. Motor Vehicle Safety Equipment
        i. Vehicle Binder
            1. Current registration and proof of insurance
            2. Vehicle Check documentation sheets
            3. Roadside assistance information
            4. Motor vehicle accident procedures and vehicle incident reports
        ii. Safety Equipment
            1. Fire extinguisher
            2. Flares
            3. Reflective triangles
            4. Jumper cables
            5. Extra fluids
    b. Vehicle Check Out
        i. To drive an ETC vehicle, a driver must have signed ETC's Driver Agreement form and must have watched the safe driving video
        ii. Vehicle orientation with ETC Program Manager or Operations Manager who is checked out on the same ETC vehicle
            1. Review contents of Vehicle Binder
            2. Demonstration of how to perform a vehicle check and how to document this in the Vehicle Binder
            3. Discussion of the high risks of driving and the need for professional and responsible vehicle operation
            4. Driving period with ETC Staff Member
                a. Driving the vehicle on city streets
                b. Driving the vehicle at highway speeds
                c. Backing the vehicle
    c. Trailer Check Out
        i. Trailer orientation with ETC Staff Member who is checked out on the same trailer
            1. Procedures for attaching a trailer to a vehicle
                a. Tongue and ball, with safety clip
                b. Safety chains (crossed under tongue and ball and attached to vehicle)
                c. Lift foot
                d. Electrical connection and lights check
            2. Demonstrate how to perform a trailer check
            3. Demonstration of driving the trailer
            4. Driving period with ETC Staff Member
                a. Driving a vehicle with a trailer on city streets
                b. Driving a vehicle with a trailer at highway speeds
                c. Backing a vehicle with a trailer
    d. ETC Vehicle Use
        i. Check with the Program Manager before taking any vehicle
        ii. ETC Vehicles may only be used for company business

iii. While operating an ETC vehicle you are subject to the ETC Driver Agreement
iv. Operators must comply with existing laws of the State
v. The headlights must be turned on while operating any vehicle
vi. All passengers must wear seat belts and remain seated while the vehicle is in motion.
vii. Scuffling or horseplay while riding in any ETC vehicle is prohibited
viii. After using an ETC vehicle, it is the responsibility of the Trip Leader to see that it is swept and all trash thrown away
ix. Whenever stopping for gas, driver needs to also perform a full vehicle check and document accordingly in the Vehicle Binder
x. Hitchhikers shall not be picked up
xi. Report any vehicle problems to the Program Manager immediately
xii. Driving program vehicles while under the influence of drugs or alcohol is prohibited. Any violation could result in immediate dismissal.
xiii. Distracted driving, including use of mobile devices / phones is prohibited, unless a hands-free system is in use.
xiv. A separate orientation is required for driving an ETC vehicle with a trailer (see check out procedures above)

Emergency Call Down Procedures

If an emergency occurs, follow all ETC procedures. Then follow the guidelines below when notifying the staff of the incident. An Incident/Accident report must be filled out when time allows, and witnesses (guides) must write personal reports detailing as clearly and precisely as possible what happened. These must be returned to the office immediately.

This call down procedure must be put into effect as soon as possible after gaining control of the emergency. Contacting appropriate persons is critical.

In case of an emergency during office hours (Mon. - Fri.), staff should be notified at the office phone 415-474-7662. On weekends notify staff at home. Continue calling down the list until someone is reached. Staff should be notified on the following order:

1) **Jacob Bartolic**, Program Manager: 530-400-7174

2) **Diane Poslosky**, Executive Director: 415-994-7207

3) **Howard Levitt**, Board Chair: 415-826-1770/ c 415-725-8589

3) **Oren Frey**, Sea Kayak Program Manager: c 714-598-6525

IF OUTSIDE SUPPORT IS USED AND STAFF MEMBER HAS NOT BEEN REACHED, CONTINUE TO CALL UNTIL CONTACT IS MADE. Make sure you leave a return phone number if you leave a message.

EMERGENCY FACILITY NUMBERS AND DIRECTIONS

1. For emergencies at the Cabin call	911
2. For emergencies while skiing go to the warming hut or call Bear Valley x-country	209-753-2834
3. Cabin Phone at	415-474-7662 x 14

Other emergency numbers:

Bear Valley Fire Dept.	209-753-2232
Bear Valley Sherriff	209-753-0473
Bear Valley Cross Country Ski Center	209-753-2834
Tamarack Lodge and Nordic Center	209-753-2080

Hospitals

1. **Arnold Urgent Care** (209) 795-4193
M-F 8AM-5:30PM
Sat. 9AM-5:30PM

On Hwy. 4 in Arnold across from Big Trees Market. 2182 Hwy. 4, Suite A-100

2. Sonora (1st choice hospital)
Sonora Regional Medical Center (209-532-5000)
Take a left on Parrot's Ferry Rd. toward Sonora. (half way between Murphy's and Angels Camp) Follow to Hwy. 49 and take a left. Go into Sonora, stay on East Washington Street, take a left on Restano Way, turn right onto Mono Way/S. Stewart Street, look for shopping mall parking & take a left on Greenley Road. Hospital will be on left side of road just after big stores.

3. San Andreas (2nd choice hospital)
Mark Twain Hospital (209-754-3521)
Take Hwy 4 to Hwy 49through Angels Camp to just outside San Andreas. Immediately before you enter San Andreas make a right at Mountain Ranch Rd. The Hospital is two blocks down.

SOAP NOTE

Rescuer's Name and Location_____

Patient Name:_____

Date:_____ **Age:**_____ **Sex:**_____

SUBJECTIVE: Mechanism of injury (MOI), chief complaint (C/C)

_____

_____

_____

_____

OBJECTIVE: (Patient exam findings, Vital Signs, SAMPLE History)

Vital Signs:

Time:	_____	_____	_____	_____	_____
LOC:	_____	_____	_____	_____	_____
HR:	_____	_____	_____	_____	_____
RR:	_____	_____	_____	_____	_____
Skin (C/T/M):	_____	_____	_____	_____	_____

Patient Exam: Describe locations of pain, tenderness, injuries, Pertinent negatives

_____

_____

_____

_____

SAMPLE:

Signs/Symptoms**:** _____

Allergies:_____

Medications:_____

Pertinent Medical History:_____

Last Oral Intake and Outputs:_____

Events leading to accident:_____

ASSESSMENT: (problem list)

1._____

2._____

3._____

4._____

5._____

PLAN: (plan for each problem on list, evac route, bivouac location)

1._____

2._____

3._____

4._____

5._____

Form completed by: _____

Environmental Traveling Companions
Field Incident Report

This form to be completed by field personnel when a situation: requires more than simple first aid, requires follow up care by guides in the field or by a medical professional, requires evacuation from the field, or could be considered a near miss.

This form must be completed within 24 hours of the occurrence of a field incident.

Report Prepared By: _____ **Preparer's Role on Trip/Position at ETC:** _____

Date of Report: _____ **Agency / Group Name:** _____

ETC Program:

_____ River
_____ Sea Kayak
_____ Winter
_____ Youth LEAD

Date of Incident: _____

Time of Incident: _____

Incident Type (circle):

____ Injury
____ Illness
____ Near Miss
____ Behavioral
____ Other Incident

Trip Guides:

Name	Role in Incident/Near Miss	**Role(s) On Trip** *(Assistant Guide, Guide, Trip Leader, Medical Lead, Safety Lead, Lead Boat, Sweep Boat, etc.)*

Participant/Participant Staff Involved in Incident/Near Miss:

Name	Role in Incident/Near Miss	**Role On Trip** *(Participant, Agency Staff)*

Location of Incident *(Be specific and attach figures, maps, and photographs if possible)*

_____

_____

_____

_____

Cloud Cover: ____ Clear ____ Partly Cloudy ____ Mostly Cloudy ____ Foggy

Precipitation: ____ Rain ____ Snow ____ Sleet ____ Hail ____ None

Air temperature *(Approximate if necessary)*: _____

Wind *(Approximate wind strength and direction)*: _____

Water Conditions *(Approximate size of swell, wind waves, current speed/directions, river flow, or N/A):*

Other Conditions Relevant to Incident: _____

Description of Incident & Response *(Include relevant events preceding incident, the incident, and incident response. Attach additional pages if necessary)*

First Aid Administered *(Include any medications given. Attach any SOAP Notes. If no first aid administered, write N/A)*

First Aid Administered	To Whom	By Whom	Time/Date

Did Incident End Participation in Activity for Anyone Involved? ____Yes ____ No
How Many Days or Hours of Program Time Were Lost as a Result of this Incident? ____Days ____ Hours

Description of Evacuation *(Include time, location, resources used. If no evacuation occurred, write N/A)*

Involvement of External Resources *(Provide name, agency/company, and contact info. If none, write N/A)*

Did Equipment Contribute to the Incident in Any Way? ____Yes ____ No

If yes, explain how equipment contributed to incident.

Report Reviewed By:

Guide in the Field: _____ Role on Trip: _____
Program Manager: _____ Date: _____
Executive Director: _____ Date: _____

Environmental Traveling Companions
Drug, Alcohol, and Substance Use or Abuse Policy

Environmental Traveling Companions is committed to protecting the safety, health and well being of all employees and other individuals in our workplace. We recognize that alcohol abuse and drug use pose a significant threat to our goals. We have established a drug-free workplace program that balances our respect for individuals with the need to maintain a drug-free environment.

Covered Workers & Volunteers
Any individual who conducts business for the organization, is applying for a position, or is conducting business on the organization's property is covered by this Drug, Alcohol, and Substance Use or Abuse Policy. Our policy applies to, but is not limited to, the Board of Directors, executive management, managers, supervisors, full-time employees, part-time employees, off-site employees, contractors, volunteers, and interns.

Applicability
Illegal drugs, and the abuse of prescription drugs, over-the-counter medications, or other substances are not allowed when conducting business of the organization. This includes during all working hours, whenever conducting business or representing the organization, while on call, while on paid standby, while on organization property, and at ETC-sponsored events.

Alcohol use is not permitted when conducting program activities in the field as part of an ETC trip or eight hours prior to conducting program activities in the field as part of an ETC trip. The Executive Director or Program Managers may permit alcohol use in certain circumstances during in-camp activities on trips, after trips have been completed, fundraising events, and other extenuating circumstances. Alcohol consumption must be in accordance with the law and on-duty staff members are considered responsible for the wellbeing of self and others.

Vehicle Operation
No alcohol or non-medical drugs may be consumed when operating an ETC vehicle or a personal vehicle while conducting ETC business. Drivers must wait eight hours after drinking any amount of alcohol before driving an ETC Vehicle or a personal vehicle for ETC business. Excessive drinking eight hours before operating a vehicle may inhibit driving and is not recommended. Drivers must also be aware of side effects from prescription or non-prescription medications that may inhibit one’s ability to operate a motor vehicle. Alcohol transported within an ETC vehicle must be in a closed container.

Drug Testing
Each employee, as a condition of employment, may be required to participate in pre-employment, pre-duty, periodic, random, post-accident, reasonable suspicion, return-to-duty, and follow-up testing upon request of the Executive Director or Program Manager.

The substances that will be tested for are: Amphetamines, Cannabinoids (THC), Cocaine, Opiates, Phencyclidine (PCP), Alcohol, Barbiturates, Benzodiazepines, Methaqualone, Methadone, and Propoxyphene.

Testing positive is grounds for immediate termination of employment. If an employee is permitted to return to work, the employee is required to pass a Return-to-Duty test and sign a Return-To-Work Agreement.

An employee will be subject to the same consequences of a positive test if he/she refuses the screening or the test, adulterates or dilutes the specimen, substitutes the specimen with that from another person or sends an imposter, will not sign the required forms or refuses to cooperate in the testing process in such a way that prevents completion of the test

Dismissal
Violation of this Drug Free Workplace Policy is ground for immediate termination of employment.

Chapter 4

Winter Equipment

Basic Info on How ETC Ski Equipment Fits and How to Use It

Boots:

1. Boots should fit like a hiking or running shoe, room to wiggle toes but heels remain in place
2. Boots are US sizes and/or European sizes
3. ETC now has 4 different boots/binding combinations. Blue boots fit with blue skis. Soloman boots fit in the white bindings on the red skis. An odd assortment of boots fit with black bindings on red skis. Our newest boots are Rossignol and will fit with Rossignol bindings (though some older Rossignol fit the black bindings). When possible, hand out the NEW Rossignol skis and boots, as these are out nicest. We will try to always have a system in place to easily identify what boots go with what skis.
4. All boots have names, for easy recall on "who's is who"
5. In general, blue and white/red systems are easier to put on but black/red ski system boots offer more support for ankles as well as better fit with snowshoes

Skis:

1. Skis come in 3 lengths, A (<140 lbs) B (132-185 lbs) C (>176 lbs)
2. The longer the ski, the harder it is to maneuver and the faster one will go
3. Determine a user's ski length in relation to their weight, athleticism, experience skiing (downhill or nordic) and the weather (new snow= slower conditions, old and cold snow= icy and fast)

Poles:

1. Poles come in 4 lengths (yellow <5', green 5'-5'3", blue 5'4"-5'8", red >5'9")
2. The ideal length for a pole is at the armpits of a skier

Walker skis:

1. Great tools to add balance for a skier or take weight off their feet/ankles
2. Can be used with skis, snowshoes or boots
3. Note the different widths and height of the walkers

Sit Skis:

1. There are lap and leg belts for cinching skier in (are used dependent on skiers' torso and leg strength)
2. Bar at feet can be adjusted for skier's leg length
3. Braking can be done dragging poles, fists or tops of poles in the snow.
4. Pole length should be above shoulder (and should have point tips)
5. Sit ski can be assisted in the back with a guide pushing on the metal bar

Sleds:

1. When transferring participant, first consult with attendant or program staff
2. Pad and insulate sleds before participant is transferred
3. It can take a few tries to ensure participant is comfortable and secure, it IS worth starting over (and over) to get it right
4. Use harness to pull sled
5. Sled can be assisted in the back with a guide pushing or with participant using short poles
6. Consistently check on participant for warmth and comfort, exposing skin to feel extremities if needed.

Snowshoes:

Gold is smaller size and appropriate fit for S-L participants. Purple snowshoes are for XL-XXL. Can be a good alternative to skiing. Not essential, but often it is easier to keep adjustment tabs on the outside of snowshoe (thus the way to determine left from right.

Winter Ski Day Packing List

From Garage

- Pull:
  - Lunch box with food, hand sanitizer, trash bags
  - Tarp
  - Sleeping Pad
  - Sleeping Bag
  - Snowshoes
  - Warmies Bag – Extra fleeces, hats, gloves, goggles
  - Sunscreen
- Extra ski bands in baggie – lead holds onto them
- Skis for each participant & guide
- Extra skis of each size/binding combo
- Poles for each participant and guide
- Extra poles of each size
- Personal gear for guides
- Any adaptive gear/cushioning needed from cabin
- Gear checkout list

Trip Leader

- VHF Radio (charged)
- Three walkie talkies (charged) – 1 in Sweep & 1 in Lead Vehicles
- Trip Leader Trip Info Packet
- First-Aid Kit

Photographer

- Camera (charged)

Trip Medic

- Med forms for all participants & guides in packet
- First-Aid Kit

Participants

- Water bottles
- Ski Boots
- Wool/synthetic long underwear/layers + shell
- Gloves/hat/goggles/wool socks

Environmental Traveling Companions
Winter Program First Aid Kit Inventory

Item	Size or Amount	Quantity
Equipment/General Supplies		
Trauma Shears		1
Tweezers		1
Safety Pins		4
Lighter		1
Thermometer		1
Rescue Mask		1
Emergency Blanket	56 x 84	1
Gloves (Nitrile)		10 Total
Zip Lock Bags	Quart	3
Hand Sanitizer	2 ounces	1

Item	Size or Amount	Quantity
Forms		
SOAP Note		2
Incident Report Form (Yellow Card)		2
Call Down List (Red Card)		1
Spiral Note Book	3 x 5	1
Pens		2
Sharpie		1

Item	Size or Amount	Quantity
Other Injury Management		
Cloth Tape	1 inch x 10 yards	1
SAM Splint		1
Triangular Bandage		2
Elastic Wrap: 3 inches x 5 yards (Ace Wrap)	3 inches x 5 feet	1
Cold Pack		1
Hand/toe warmers	2/pack of each	2
Feminine Hygiene Pads		2

Environmental Traveling Companions
Winter Program First Aid Kit Inventory

Item	Size or Amount	Quantity
Wound Management		
Irrigation Syringe	10 cc	1
Povodone Iodine Solution: 10% (e.g. Betadine)	0.5 ounces	1
Alcohol Towelette		6
Wound Closure Strips	1/3 x 3	3 sheets
Tincture of Benzoin Swabs		2
Antibiotic Ointment Packets	0.5 grams	4
Fabric Bandages (e.g. Band Aids)	1 x 3	10
Fabric Bandages (e.g. Band Aids)	Knuckle	5
Sterile Gauze Pad	4 x 4	4
Sterile Gauze Pad	2 x 2	2
Roller Gauze	3 inch	2
Coban Wrap	3 inch x 5 yards	1
Transparent Film Dressing	4 X 4.75	2
Trauma Dressing	10 x 30	1
2nd Skin Dressing		2
Moleskin Dressing	4-5/8 x 3-3/8	1

Item	Size or Amount	Quantity
Medications		
Medication Information Card (Blue Card)		1
Acetaminophen (e.g. Tylenol)	325 milligrams, 2/pack	4
Aspirin (e.g. Bayer)	325 milligrams, 2/pack	2
Ibuprofen (e.g. Advil)	200 milligrams, 2/pack	4
Diphenhydramine Hydrochloride (e.g. Benadryl)	25 milligrams, 1/pack	4
Hydrocortisone	1/32 grams	4
Calcium Carbonate (e.g. Tums)	750 milligrams, 2/pack	4
Meclizine (e.g. Bonine)	50 milligrams, 12/pack	0
Loperamine Hydrochloride (e.g. Imodium)	2 milligrams, 1/pack	4
Glucose Paste	15 grams	1
Sooth a Sting swabs		2

Chapter 5

Trip Outline

Typical Outline of a Winter Trip (every trip varies)

DAY 1: Group Arrival

Guides arrive before group and have a meeting to assign roles for the evening/check in (guides don't always arrive before the group and we can make accommodations for this):

- Special needs of the group
- Any hopes/goals/dreams
- Any pertinent strengths or weaknesses
- Group circle activities
- Assisting participants with soft gear
- Assisting participants with hard gear

5:00pm Group arrives (Can arrive as late as 10pm)

- Winter Staff & Guides greet the group
- Everyone unloads vehicles into the house
- Unload food into kitchen

While everyone is unloading, TL checks in with group staff re:

- Ensure all med/release forms are present and signed
- Cook crew and sleeping arrangements
- Go over special needs of group and goals of group
- Give staff brief overview of the trip and any options

5:45pm Everyone circles up (facilitated by TL, but may designated parts to other guides)

- Name game
- Orientation to cabin and cabin agreements
- Itinerary for the trip
- Split into cook crews (may be pre-assigned)

6:30pm Participants lay out their beds and unpack

- Start cooking dinner
- Get people outfitted with clothes, boots, skis and poles*
- Play games

*There are ~ 20 Trader Joe reusable shopping bags for participants and agency staff to use to keep their ETC issued clothes in for the weekend. While each bag is the same (unicorns!), they are individualized with raised felt stickers with letters and should have a piece of tape on both sides with the individual's name.

DAY 2: 1st Day of Skiing!

7:30am Breakfast/Lunch Crew preps breakfast and lunch

8:00am Breakfast (everyone arrives in their long johns)

- Guide meeting to plan ski day

8:30am Pack up Lunch

- Participants make their lunches
- Breakfast/Lunch Crew packs lunch into big lunch box
- Breakfast Clean-up
- Everyone gets ready to go

9:00am Load vehicles with skis, sleds, water, lunch, 1st aid kits

9:15am Safety Talk
- Hydration
- Sun protection
- Blisters
- Temperature Regulation
- Staying together
- Bridge safety
- Road Crossings

9:30am Drive to Bear Valley
- Assign lead and sweep cars
- ETC guides in ETC vehicle

10:30am Arrive in parking lot and use bathrooms
- Hand out skis using check list
- ETC Staff goes to pick up trail passes
- Gather group and walk together to trail head
- Cross highway together!

11:15am Circle up for stretching and ski lesson (or do it in pairs)
- Ski to warming hut, meadow or beyond!

12:30pm Lunch

1:30pm May or may not break into two groups
- Trail ski
- Possible downhill practice
- Snow play

4:00pm Whole group meets before crossing highway to parking lot

5:00pm Back at Cabin
- Unload gear from Excursion
- Relax/Get fire going
- Change clothes/return any borrowed gear not to be used the next day

5:30pm Dinner crew starts making grub
- Games and activities in small groups until dinner

6:30pm Dinner!

* This is a good time for TL to check in with group staff to evaluate day and make plans for the next. Options include skiing or hiking at Big Trees, playing in the snow, skiing a half-day or skiing a full day. Decision usually hinges on what time they need to leave the cabin and weather.

7:30pm Clean-up dinner
- Evening Sharing Circle
- Group Games
- Talent/No Talent Show
- Dance Party
- Moonlight walk

10:00pm Bed time/Quite Time

DAY 3: Calaveras Big Trees State Park

7:30am Breakfast/Lunch Crew preps Breakfast and Lunch
8:00am Breakfast (Participants come to lunch with packed bag)
    Guide meeting
8:30am Breakfast Clean-up
    Packed luggage can go outside the house
9:00am Group Circle, play game and review day
9:30am Cabin Clean up
10:15am Drive to Calaveras Big Trees State Park
    Assign lead & sweep cars
    ETC guides in ETC vehicle
10:30am Calaveras Big Trees State Park
    Environmental education along hike
    Stump story
    Visitor's Center/Warming Hut (usually only open weekends)
12:00pm Lunch
12:30pm Closing Circle
1:00pm Group Leaves
    Guides drive back to cabin
1:15pm Guide Debrief
    TL fills out Trip Evaluation
    Trip Evaluation and Health Forms are given to Winter Program Manager

Thanks for being such a wonderful volunteer and drive home safely!!

Chapter 6

Lesson Outlines

Cabin Orientation

- **Welcome**
- **Cabin Agreements**
- **Itinerary**
- **Split up food crews**
- **Pass out clothing + ski gear (time permitting)**

Welcome:

- Name Game (appropriate for group)
- Welcome to ETC, introduce guides and interns

Cabin Agreements:

- Respect yourself
    - Stay hydrated (we're at elevation!)
    - Keep your stuff together so you don't lose it
    - Be open to learning new things/Positive Mental Attitude
- Respect others
    - Be inclusive
    - No cell phones/electronics (we're here to enjoy each other!)
    - Stay out of kitchen while others are cooking
- Respect the environment
    - No showers
    - Turn off water while brushing teeth
    - Keep doors and windows closed so as not to waste heat
- Respect the cabin
    - No shoes inside house
    - Only TP down toilets and try to minimize it!
    - Please smoke outside away from any doorways and place butts in the designated can
    - Respect the staff zone.

Itinerary:
Go over general game plan for the trip, getting everyone excited

Food Crew:
Divide into food crews with game, volunteer or assignments by agency staff, be sure to have group staff and ETC guides on each crew

Cross Country Ski Lesson Guidelines

Remember that every groups will be different and will require different content and teaching style. Some of the more experienced guides will have more information on adaptive teaching techniques. Be sure to learn from each other! Group staff will also have important information about the abilities of their clients.

The ski lesson part of the day might happen individually or as a large group. All aspects of the lesson will vary, depending upon the weather, the abilities of the group and other factors.

Remember to have fun! The most important aspect of the experience is that the participants have fun and feel a sense of accomplishment in learning a new skill. Standing on skis for the first time and moving forward is a complex skill, a significant accomplishment and a really fun thing to do!

Be creative with this list. Remember to work in activity and playfulness whenever possible

1. Review safety talk.
2. Explain and demonstrate how a ski works, if appropriate for the group.
3. Explain and demonstrate how to separate and hold poles.
4. Explain and demonstrate how to separate and put on skis.
5. Explain and demonstrate how to fall and get back up.
6. Go through a series of stretches and exercises to warm up and emphasize the motion of skiing:
    a. arm swings
    b. forward glide motion
    c. jumping up and down on skis
    d. marching in place
    e. let participants think up exercises
7. Explain and demonstrate the V-step turn.
8. Ski without poles (depends on group)
9. Explain and demonstrate step turns (depends on group)
10. Explain and demonstrate snow plow and snow plow stop.
11. Put it all together. Initiate Games (depends on group):
    a. Relay
    b. Hug Tag
    c. Ski pole slalom or human slalom
    d. Picking up the hat
    e. Other games you know
12. Practice on ski lesson hill if appropriate.

Downhill Cross-country Ski Lesson Guidelines

Try to approach the whole day with a "choose your own challenge" philosophy, which means it is important to frontload the downhill practice area (or the whole day) with the idea of comfort/challenge/danger zones and the importance of getting out of your comfort zone and yet respecting yourself to not put yourself into your danger zone. Everybody has different comfort/challenge/danger zones. Perhaps one participant wants to bomb down from the top of the hill while another wants to go 10 ft. up and yet another just wants to support their friends and cheer them on! It is also important to remember that we should be celebrating all accomplishments instead of glorifying the downhill as the only pinnacle of the day.

This all being said, it is important to set our participants up for success at the downhill practice area if this is included in your route for the day. You can do so by instructing them in the following at the bottom of the hill:

1. Snow Plow – get them to practice the motion of pushing out with the inside edge of their ski with the tips close and tails wide
2. Hands out in front with ski pole tips behind them as if they were holding a tray out in front of their bodies
3. Loose and relaxed athletic position with knees bent and leaning forward
4. Herringbone and side step demo for uphill travel
5. Reminder: Choose your own challenge
6. Reminder: We are going to go down one at a time and please wait for ETC guide to give you the go-ahead.
7. Reminder: It is always an option to just sit down if they want to stop

Once participants get up the hill, make sure you get verbal confirmation from the ETC guide at the bottom of the hill before you allow someone to go down.

It will depend on the group for how you want them to start. For some groups, it might be appropriate to have one ETC guide in front blocking their skis from going downhill while another holds onto their waist. You simply let go and get out of the way when the participant feels ready.

For another group, it might be better to vocally direct them by explaining to stay perpendicular to the hill until you are ready to face down, plant your poles downhill of you and slowly, in a snowplow, pivot until your skis are facing downhill, make sure knees are knocked and inside edges are digging in. When ready, the participant simply brings their pole tips behind them and eases up on the inside edge of their skis.

Chapter 7

Disability Awareness

Disability Awareness

I. General Etiquette

As in dealing with anyone else, appropriate etiquette in interacting with persons with disabilities means having a reasonable perception of their needs. Many people with disabilities tire of helpers who hurry to assist at the first hint of struggle the disabled person encounters. Remember, independence is a product of struggle. In general, wait to be asked. On the other hand, sometimes a person may need to hear that you are available and that assisting is not a problem for you. Always remember that people are INDIVIDUALS with individual needs. In real life do not categorize people in terms of their disability as we have done here. Never assume you know what people's abilities, disabilities or needs are. Talk to the person, not the disability.

A. **Discussing the disability**

As guides, you get routine questions like: "So, what do you do for a living?" Persons with disabilities field similar questions and most of them are accustomed to talking about their disability. Often this discussion is a particularly good equalizer as non-disabled persons gain insight to the challenges facing those with disabilities and their development and use of adaptation skills. Bring it up if the curiosity becomes an issue in your relationship. Just as your participants are interested in you and what your life is like year around, you are generally afforded the benefit of the doubt that your curiosity is one of cultivating a better relationship.

B. **Communication**

Some participants may have difficulty with clear enunciation or general communication. Always be honest with participants who have communication disorders when you don't understand. Don't fake it. Again, as with all people, miscommunication can be the basis for hard feelings, accidents and missed jokes.

People with communication disorders are clever at getting their point across if they are aware that you didn't receive it. Patience on this one is tough because you are the one who begins to feel like you are understanding disordered. Hang in there—you'll get it.

C. **Treatment/Care of Personal Equipment**

Persons with disabilities are most often critically dependent on sound functioning of their personal adaptive equipment. For many, experiencing a pleasant and comfortable trip hinges on their adaptive equipment and supplies holding up throughout the trip. Handling this type of equipment and supplies (wheelchairs, crutches, refrigerated medication, specialized cushions, etc.) is probably a new experience for you. Talk with participants about care of the equipment and include them in your plans for packing, and general handling of this specialized equipment.

D. **Language**
Most persons with disabilities these days do not care for the term handicapped - especially when it is used as "I work with the handicapped." This use identifies the person chiefly as handicapped without acknowledging first that he/she is a person AND he/she has, among other personal characteristics, a disability. The term handicapped is a bit passé and disability seems to be more accepted. People without disabilities should be referred to as "non-disabled" rather than "able-bodied" or even worse, "normal".

Don't worry about choice of words, such as asking a person with a visual impairment if he/she saw this or that or asking a person in a wheelchair to go for a walk. Your normal verbal frame of reference is appropriate.

II. Mobility Impairments

A. **Introduction**
We all have experienced limited mobility at some point during our lives.
As toddlers, the man-made environment and much of the natural world presented hurdles that made it difficult and tiring for independent navigation.
Steps were too high, streets too long, chair seats too far from the floor. Too often we focus on the disability or limitations of that disability as we perceive it. Our reactions, conversation, and interactions are often aimed at the disability and not at the person. Many people with a disability refer to their condition as an inconvenience, rather than a handicap or limitation. This inconvenience may require the individual to be creative in moving around the environment and in accomplishing tasks of everyday living.

B. **Etiquette**
Use the same sound leadership and planning skills that you use with any other group of participants. Do not inflict your expected limitations in the capabilities and interests of the group. Make sure that the trip offers opportunities for success, new experiences and challenges to every participant. Allow participants to get involved in all activities offered to the group. Let individuals make their own decision of what they can and cannot do. Do not be overly helpful. If you think someone needs help ask them first and wait for their reply.

If someone is in a wheelchair, don't automatically grab hold of the handles and become the driver. Ask the person if they need and would like assistance. If they say no, honor their wishes, but don't run away. Do not remove someone's crutches, cane or walker the moment they sit down. The individual will be more independent and may feel more secure if they do not have to ask for their crutches to be returned before they can move on to the next spot.

Some participants who use a wheelchair may have found a safer method to go down a curb or steep incline. Ask them first, not everyone goes "by the book."
Be creative and ready to try new games, or old games with new twists.
Include everyone in the group. Ask members of the group if they have any ideas and how-to's.

Be patient. Just because a person doesn't move quickly, it doesn't mean they are less of a person, or getting less from the experience. Take the time to talk with individuals and get to know each other. Don't be afraid of participants and their equipment. Equipment is simply to improve mobility, safety, and independence of the user. Remember, the participant's condition isn't contagious. People with mobility impairments are not sick. Do not rule out activities for the group until you look at all the possible approaches and alternatives. Set high enough goals in your choice of activities to offer challenge to all participants. It is better to plan a little "over their heads" than to offer an activity that is "below their needs and capabilities".

C. **Types of Mobility Impairment**

People Who Have Difficulty Walking

People who have difficulty walking may or may not walk with aids such as crutches, a cane, a walker, braces, artificial limbs, or even holding on to a friend's arm. Reduce agility, speed of movement, difficulty in balance, reduced endurance or a combination of these factors may contribute to impaired mobility.

Often, energy reserves are used faster than average, as a person who walks with difficulty may be required to spend energy in trying to keep their balance or otherwise meet challenges of the environment as it confronts their limitations.

Some environmental elements of concern to people with walking difficulties include uneven walking surfaces, walks interrupted with raised or uneven expansion joints, slippery surfaces such as polished floors, wet rocks or wet shower rooms, walks filled with debris, areas that collect standing water, sand and/or ice etc.

People who wear leg braces or artificial limbs may find stairs with square nosing a great hazard. Their toe may get caught by the nosing, making it difficult to pass from one level to the next and may cause someone to trip or fall. Handrails on both sides of stairs and ramps are particularly helpful to people with walking difficulty. Handrails are needed on both sides, as someone may be stronger on one side over the other and not everyone is right-handed. Often people who may be using a wheelchair will use handrails along the ramp as an assist up the incline.

Heavy doors are often a problem for everyone, but people who use crutches, canes, or walkers may have another problem. The door may close too quickly and trap the crutch or tip below the bottom of the door.

People With Upper Limb Impairments

While we don't normally think of someone with "two good legs" having a mobility problem, our environment requires extensive and complex manipulation skills and strengths for people to function independently. Environmental concerns of people with upper limb impairments include styles of knobs, buttons, and handles to operate doors, drinking fountains, coin operated vending machines, telephones, elevator controls, and the weight of exterior doors, etc.

Fixtures to operate doors and drinking fountains, etc. should be lever style, with a non-slip finish. They should be large, and shut-off springs or quick self-closing devices should be avoided.

People with upper limb impairments may have some difficulty with balance, especially when climbing stairs, or walking up inclines. Handrails, along both sides of the risers or a helping hand, will be useful in providing support when the individual leans against them.

People with Less than Average Agility, Stamina and Slower Reaction Time
Many people have multiple health problems, which may include cardiovascular and cardiopulmonary diseases, hypertension, and degenerative conditions of aging. Pregnant women and young children may also have difficulty with limited agility, stamina, and slower than average reaction times.

There are many environmental elements that require people to make quick decisions and/or to be strong and agile. Such elements include revolving doors, escalators, street crossings, boarding buses and streetcars, etc. Not only do elderly people have difficulties with these facilities, but most children are impeded by these elements.

III. Visual Impairments

A. **Introduction**
It is very important to realize that the word "blind" includes much more than just the totally blind. A person is said to be "legally blind" if his or her actual acuity with best correction is 20/200 (this means that they are able to see at 20 feet what a normally sighted person is able to see at 200 feet) or worse or if his or her field of vision is less than an angle of 20 degrees. A person who is blind may have light perception with which they can tell if it is light or dark or light projection with which they can see distinct shadowy shapes and silhouettes. Blindness is not necessarily total darkness.

A low vision person can usually travel solely using their vision, but some low vision persons will use some type of assistance during the day. A little bit of mobility goes a long ways as far as allowing independent mobility.

There are many kinds of visual impairments, each with a wide range of ability and limitation. Someone who is described as legally blind may be able to read large print and walk without mobility aids in many or all situations. There are also factors, which may impact an individual's vision, such as fatigue. It is impossible to generalize visual impairments into one problem with one solution. People who have had visual impairments since birth may have skills in reading Braille and tactile orientation aids. People who have lost their sight later in life usually have visual memories of color, scale, and concepts such as reflections, that people who have been blind since birth do not have.

B. **Etiquette**

There are three basic types of travel aids: sighted guides, dog guides and the white long cane. The cane and the dog guide are the aids associated with independent mobility. With both of these aids the blind person must still be oriented as to where they are and where they are going. If you see a blind person who seems to need help, offer your services. Be ready for your offer to be accepted or rejected.

When you are approaching a visually impaired individual or group of individuals, introduce yourself. Do not shout - a person with a visual impairment is not necessarily hearing impaired. Speak in a normal tone. Speak directly to the individual or group, not through a third party. Don't get hung up on using the words "see", "look" or "blind". These words are a normal part of our everyday language and blind people use them too. When describing something to a group, use colors in your description. Even if someone does not have "visual memory" colors have their own emotional connotation. Yellow has a warm feeling while blues, green and browns may suggest coolness.

When you leave the room or area, say so, don't just leave the person talking into the air.

When you are directing a group to move from one place to another, give clear verbal instructions such as "We are now going to turn right and up a flight of ten stairs." When giving directions be as clear and specific as you can, don't just say something is "over there" or "just down the street." Some people who have been blind since birth may not understand measurements such as feet, yards, miles etc. If you are unsure how to direct someone - ASK THEM. You might say something like "I'd be happy to give you directions. How should I describe things for you?"

If you are demonstrating a skill, allow the visually impaired person to hold your hands as you work. Explain clearly and in concrete terms with you are doing as you do it. Sometimes it may be best to stand behind the participant, reaching through their arms, with their hands on yours so that they can better follow your exact movements.

Do not pet a guide dog without the owners permission. When the dog is in the harness they are "on duty". If the dog is distracted while working the owner may be placed in a dangerous situation. Under no circumstances offer the dog food or water. The dog is usually on a strict schedule and the owner is the sole caretaker.

Do not inflict your limitations or expectations on what visually impaired persons would like or are capable of doing. Let the participants make these decisions. Give them the opportunity for success or failure and exposure to new situations, just like anyone else.

When you would actually be taking the person somewhere, use the technique of sighted guiding. Ask the person whether they would like your assistance. After the blind person has accepted your offer of assistance, you should ask, "Would you like to take my arm?" Brush your forearm against theirs so the blind person can grip your arm above the elbow.

When walking with a sighted person, the blind person walks about one half a step behind the sighted person, firmly holding the sighted person's arm just above the elbow. The blind person can then feel and easily follow the guides movements up and down, straight, left and right etc. This technique also leaves the blind person in control of the situation as he or she can always let go of the guide, rather than being pushed through a space where the guide is holding their arm. Pick a comfortable pace. If the blind person pulls your arm back or tightens their grip, you are probably traveling too fast. Try to keep the person aware of changes in their surroundings. Remember to mention curbs, slopes, steps, narrow passages, doorways, etc. Let them know when they have reached the last step.

Children will grip the same as above, except at the wrist. Some older or disabled people may want to walk arm in arm. This offers more support than the grip.

When you are leaving a blind person, let them know that you are. Leave them where they've got their bearings. Leave them in contact with something in their environment (a pole, wall, tree, fence, door). To be left out in an open space is very disconcerting.

IV. Developmental Disabilities

A. **Introduction**

People who are described as developmentally disabled have a learning ability that develops slower than average. Reasoning and judgment capabilities may also develop at a slower pace. For most people with mental retardation, it is not that the ability to learn that is missing, but the speed and ease at which things are learned is slower.

The range and capabilities in people with developmental disabilities is probably greater than in any other disability group, and it is with mental retardation and emotional impairments that the general public has the most apprehension and misconceptions.

People with developmental disabilities are often overprotected and discouraged from exploring the world or interacting with others. Often, these people are limited to participating in programs that are designed 'especially for their needs' and allowed to socialize only with 'their own kind'. After finishing a specialized education program as a child or young adult, many may spend their adult years in inactivity.

Fortunately, the practice of institutionalizing mentally retarded people is changing. With more appropriate training and education, many people learn to become independent citizens, managing their own home or apartment and money. Many are able to get and hold a non-skilled or semi-skilled jobs.

Many people with developmental disabilities have problems with coordination, balance, agility, strength, body awareness, and self-image. These problems are often the result of inactivity and lack of the opportunity to participate in group activities.

Mildly to moderately retarded people will not usually behave very differently from their peers. They may be more interested in things that we perceive to be more appropriate for younger people and some social skills may be below their expected age level.

While learning skills of a person with developmental disabilities may be more concrete, more repetitive, and perhaps less focused than their non-disabled peers, their emotional life, sense of humor, and sensitivity to others may be more sophisticated than expected.

B. **Etiquette**

Presentation must be friendly and unhurried. Remember that this program is a new experience for most of the participants. It is the quality of the experience and not how much they do or see during their visit that is important.

Before beginning activities, make the group feel that you are their friend, while holding their respect and maintaining discipline. Review simple safety and conduct rules with the group before you begin a trip. Repeat safety instructions and conduct rules. Be consistent in all dealings with individuals and the group. Tolerance, kindness, patience and imagination are essential skills that you will need when working with mentally retarded people.

Do not inflict your expectations on the individual or group's interest and performance. Do not underestimate their abilities and interest, but do not expect them to act as others of their own age in every way. As for all people, activities selected should be based on their abilities and not on their IQ., mental age or chronological age.

People with a developmental disability often have short attention spans.
Unruly behavior is often the result of boredom, and exposure to unfamiliar or frightening environments. Keep your explanations simple and exciting. Do not bribe individuals for their attention and participation. Many people with mental retardation are eager to please and gain your approval. Do not take advantage of their willingness to work and do favors for you. Some participants may be fearful of everyday noises or new activities and environments. Do not decide that you are going to 'cure' them of their fear. If after some non-pressure encouragement they still do not want to try, move on to a new activity.

Do not eliminate a participant simply because he or she does not understand your goals or directions the first time, or even the thirtieth time that you explain. Try rephrasing your instructions in less complex terms. They may have to watch the activity for a while before they understand it enough to try. Recognize that participants may have both physical and mental limitations. Don't lose your composure and patience if they are unable to comprehend what you think is important.

Talk with the group and not at them. Do not patronize or talk down to the participants. Listen to what the participants are saying, they may have something valuable to contribute to your discussion or activity. When instructing on an activity or introducing new materials keep your instructions simple, clear and concise. Teach through demonstration and give only one direction at a time. Repeat your directions as often as necessary. Reinforce your information with visual aids. Do not rely on verbal explanations alone. Allow opportunity for participants to reproduce your actions several times independently.

Games and activities introduced to the group should be non-competitive and bring about group cooperation, not competition. Do not select games or activities that eliminate participants.

Restructure games and activities so that all participants can experience success. Stop a game or activity while interest is still high, do not wait until participants are bored. A variety of activities should be planned to keep the participants interests heightened, but do not introduce so many that individual become confused or frustrated. Never embarrass, confuse or make a participant the victim of your humor. If you think that someone needs help, offer to assist, but wait until your offer is accepted. The person may prefer to do the activity by him or herself.

C. **Emotional Impairments**

There are many situations or behaviors that may lead us to label someone as emotionally impaired. These behaviors may develop as part of an individual's coping strategies to survive in their environment. People with emotional impairments have adapted methods to interact with their surroundings as a matter or a perceived fight for survival. Some may have a variety of behavior problems and may act them out, may become aggressive and perhaps harmful to themselves and/or others. Still others may be people whose lives are filled with extreme fears, withdrawal, depression, anxiety and stresses. Some people have developed problems as a result of alcohol or drug abuse.

Conditions that may be labeled as autistic, schizophrenic, psychotic and other severe impairments may appear as a lack of contact with the real world and an inability to relate to others. These people may have severe language impairments, a strong need for predictability in their lives and repetitive behaviors. Sometimes the greatest barrier in working with a group that has been labeled as emotionally impaired is fear and expectations about their behaviors.

Our fears and expectations may affect our approach and our programs. Knowing the cause or definition behind a label does not improve our services or skills. What is important to remember is that people with emotional impairments are just like any other group. Any problems that arise will be few and far between. Be supportive and friendly, but remember that emotionally impaired people may be very sensitive to stress. Don't run away in fear that they will become violent or do something strange. Offer support and structure on your trips.

V. Epilepsy

Epilepsy means seizure, but not all convulsive seizures are due to epilepsy. Basically seizures are classified by variations in severity, duration, frequency, and warning of impending attacks as follows:

1. Grand Mal - Easily recognized by rigidity, loss of consciousness and falling. Biting of the tongue may occur from strong contraction of the jaw muscles. Jerking, twisting, involuntary cries and complete amnesia are also characteristic of this type of seizure. The seizure itself may last for only a few minutes, but the deep sleep that follows may last several hours. Upon waking from a grand mal seizure, the person may experience weakness, mental dullness, or headaches.

2. Petite Mal - A short lapse of unconsciousness occurs followed by immediate recovery. The eyes blink or roll or fix upon some object, and fine muscular twitching may be unnoticed except by the epileptic.

3. Psychomotor Attack - Characterized by a sudden strange behavior in which there is consciousness without apparent recall. The person experiencing this type of rare attack may go out of the room without reason, may have a sudden temper tantrum, or appear to act out a bad dream. During the seizure the individual is apt to be injurious to others. Most often these types of attacks are associated with psychosis.

An epileptic person may participate in activities designed for the general population provided there is supervision by a leader who is considerate of the individual's special needs and is educated in such a way to effectively meet those needs. An epileptic's seizure threshold seems to be lower when experiencing emotional upsets, bodily discomfort or if the blood sugar level is lowered due to hunger. Many studies indicate however that lying around and constantly resting seems to spark emotional upsets. It is advisable for an epileptic to get a reasonable amount of physical and mental activity. It has been shown that seizures rarely occur when the person is alert and active.

VI. Other Disabilities

A. **Cerebral palsy**

Cerebral palsy is a neurological disorder resulting from damage to the brain before, during or after birth. Control of the muscles is lost or impaired ranging in degree from mild to severe. Four general groups of cerebral palsy are spastic, athetoid, ataxic, and rigid. Persons with cerebral palsy (CP) may fall into more than one of these categories. It is common for developmental disabilities to occur with CP, while many people with CP range from average intelligence to genius. Do not assume anything!

B. **Spinal Cord Injuries**

Spinal cord injuries are generally caused by trauma rather than congenitally. Diving and motorcycle accidents are the most frequent causes of trauma, followed by auto accidents and falls. Depending on the level of injury, a person is either a quadriplegic (quad meaning four) where all limbs are impaired or paralyzed, or a paraplegic (para meaning two) where two limbs are affected. When the cord is damaged or severed, sensory and motor nerves are not able to send impulses below the level of the injury. Some of the nerves that are damaged relate to loss of bladder and bowel control.

C. **Poliomyelitis**

A disease which affects motor cells in the spinal cord, which in turn destroys the nerve impulses in certain muscles. Residual effects of polio are varied. If nerves are not completely destroyed there will usually be a certain amount of recovery. Some persons will have mild effects of the disease while others can become quadriplegics.

D. **Stroke**

Destruction of brain substance resulting from a rupture of a cerebral blood vessel, an occlusion of a cerebral blood vessel or vascular insufficiency. Hemiplegia and speech disturbances are specific symptoms.

E. **Multiple Sclerosis**

Multiple sclerosis is a slowly progressive disease of the central nervous system characterized by partial paralysis involving one or more limbs, visual disturbances, or heaviness of limbs. In its mild or early form, its symptoms may be minimal: numbness or tingling in the limbs, blurry vision, loss of balance. In some people, these symptoms go in and out of remission, never worsening. In others, late or advanced form of MS brings exhaustion, loss of strength or coordination, partial or complete blindness and paralysis.

One person may have reduced vision, another faulty balance or coordination and another may be partially paralyzed or in a wheelchair. What almost everyone with MS has in common, though, is sensitivity to heat and cold, which reduces nerve conduction and worsens symptoms and increases fatigue. Keeping MS individuals cool/warm is paramount.

People with neurological disorders (spinal cord injuries, multiple sclerosis, etc.) typically have compromised circulation which results in their chilling more easily and having a more difficult time rewarming themselves. Any time on a trip when you become chilled and a person with these health concerns is clad more lightly than you but states he/she is not chilled-*be aware*. This person could be running the risk of becoming hypothermic. Explain your concern. This is usually all the passenger needs to take the necessary precautions (put on another layer, get into dry clothes, eat a snack, etc.).

F. **Amputees**

Individuals who have lost a limb(s) or part of a limb are included in this group. A large number of amputations are a result of automobile, machinery or explosive accidents. Certain diseases like diabetes also cause many amputations. Some terms used to describe the location of amputation are:

- unilateral - one arm or leg
- bilateral - two arms or legs
- double - one arm and one leg
- multiple - more than two limbs

A person who loses an arm or leg experiences not only physical loss but psychological damage as well. It is desirable that the injured person adjust to the loss. Perhaps, the most important action in developing a maladjustment to a loss is a process of re-evaluation. The person must rearrange their thinking and place added value on those things such as personality and social contribution, that may have little concern or value. At the same time the amputee must try to devalue, for himself, if possible, those things that he is unable to do because of his physical condition.

A person bothered by physical appearance may increase their scope of values to include surface appearance within personality appearance. Because many people quite naturally judge a person's attractiveness in terms of their personality, it is reasonable to expect this rearrangement of values to add to the adjustment of the loss. The injured person who has adjusted to their loss will consider themself an equally worthy member of a group of non-disabled persons. They have widened their scope of values, counts their improvements in terms of their performance after the injury rather than before the injury, and realizes that although their productive capacity has been altered, their personal contributions are at a maximum because of their efforts to apply themself.

G. **Arthritis**

Joints of the body are inflamed and may become enlarged and painful to move; causing loss of range of motion.

H. **Spina Bifida**

A congenital malformation of the spinal column in which some portion of the vertebra fails to form over the spinal cord (thus leaving it exposed). This can be corrected with surgery. Spinal cord involvement may occur producing varying degrees of neurological impairment affecting strength and movement of the legs as well as bowel and bladder control.

I. **Muscular Dystrophy**

Muscular dystrophy is a chronic, progressive disease of the muscles manifested by the gradual weakening of the voluntary muscles. Muscular dystrophy (MD) itself is not fatal. However, eventually all of the voluntary muscles become involved and the muscles are unable to perform their functions in respiration and circulation.

Special Needs Considerations
ETC Nordic Ski Program

This is meant to be an easy reference for particular ways of adapting our ski program to ensure the most independent and satisfying experience for our participants. The chapter on disability awareness, which is general and does not mention skiing specifically should be read and understood as well.

Visual Impairments

When participants arrive, verbally orient them to the cabin's lay-out. Keep group gear, personal gear and furniture around in the same place. If something is moved, notify the group or individuals. Blind people are usually very conscious about where they put things so that they can find it later.

At meals ask what kind of assistance is desired. Don't assume a person will want a guide to get a plate of food for them. They may just want some verbal information about what and where things are. If you do get a plate of food for a blind person, the "clock face" method is good for describing where things are on the plate. e.g. The spaghetti is at 12:00, the salad at 4:00 and the bread is at 9:00. When fitting equipment let the person with the visual impairment handle the skis, boots and poles so that they can orient themselves as to how the equipment works.

When warming up and doing a lesson, be sure to describe in detail the stretches you are doing. Guides can help participants to do the stretches properly with physical cues, but as with anyone you should ask before you touch someone. e.g. "Is it OK if I move your arm to where it will get the proper stretch?"

We generally have a one-to-one ratio of blind to sighted skiers. The sighted person can be either an ETC guide or a group staff person. Because we do mostly track skiing if the guide skis in front, the blind person can ski behind and hear and feel where the trail leads.

Be sure to describe when the trail goes up or downhill or makes a sharp turn. Each individual will be different in terms of how fast or slow they will want to go or to how much description of the environment they will want to hear from you.

People with visual impairments should protect their eyes with sunglasses, hat and/or goggles just like anyone else.

Mobility Impairments

For participants who use a chair, crutches, a walker, any orthopedic support or have poor balance we have different equipment to use. Sometimes it is clear that a participants will be using a sled, sit ski or walker. But also expect participants to try out all the equipment to see what is the best fit for their abilities.

For folks using sleds, be sure to check in often on ski day in regards to their warmth (and get to skin level to feel if there are unable to assess themselves) and their personal needs in accessing a bathroom.

The walker ski allows a person to use their arms for balance along with their legs. The walker also allows weight to be taken off the feet and put onto their arms, which can assist in mobility and is a great asset to participants with MS.

People with Head Injuries

Traumatic Brain Injury (TBI) affects each person differently. TBI can cause physical limitations as in a stroke affecting one side of the body. It can affect short term and/or long-term memory, emotions, moods and basically any aspect of human beings controlled by the brain. Each individual will have different abilities and limitations. Staff are a good source of information as to what to be aware of.

People with TBI often have poor balance and may need the walker. (See above section) Because memory is often affected, a person with TBI may forget where the bathroom is, where the warming hut is or any other piece of information given to them. Do not patronize, but do be aware of people's limitations. Wear nametags when possible!
When giving a ski lesson and guiding be sure to repeat things and check that people understand. Remember the philosophy of experiential education: All people learn best when they 1) Listen to how it's done, 2) See it demonstrated, and 3) Do it themselves!

If a person has an emotional outburst do not take it personally or get defensive. This could be part of the TBI.

People with Developmental Disabilities

Enjoy the fun and energy of people with developmental disabilities, but remember that many are on some sort of behavior modification program, which is encouraging or discouraging certain behaviors so they can function more independently and inclusively in our society. For example, it may be really funny to hear the same joke being said over and over for ETC guides, but encouraging the joke telling may not be helpful to the participant and their progress in their program. Staff will let you know.
People who are developmentally delayed often have poor balance and may need the walker. (See above section)

Do not over load people with developmental disabilities with a lot of information. When doing a safety talk or cabin orientation, keep it simple and to the point. Demonstrate whenever possible and check for understanding.

When giving a ski lesson and guiding be sure to repeat things and check that people understand. Remember the philosophy of experiential education: All people learn best when they 1) Listen to how it's done, 2) See it demonstrated, and 3) Do it themselves!

People with Hearing Impairments

Remember you must have **visual** contact with a hearing impaired person to get their attention. You cannot yell "Hey, watch out for that tree limb!" when you're behind them on skis.

In the cabin, one-way to get somebody's attention who is not in visual contact is to stomp your foot or clap your hand.

Instead of applauding, wiggle fingers when with a group deaf people.

Demonstrate tasks and lessons.

Lots of eye contact and facial expression help communication with deaf people.

Learn the ASL alphabet!

"Youth-at Risk", "SED Youth" and Youth in General

Be aware of "boundaries" with all youth. The kind of physical touchy-feely expression that is appropriate among other guides and pears is not appropriate with youth. For example, it is probable not appropriate to massage another guide in front of youth because they may misconstrue it.

Be direct and clear with instructions and setting limits **in the beginning** at both the cabin and at the ski area. Be clear about what is OK and what is NOT OK and where participants can and cannot go, etc.

Environmental Traveling Companions
(ETC)
Etiquette Guidelines

Etiquette guidelines when assisting participants with disabilities:

- ALWAYS ASK if you can offer assistance BEFORE you provide assistance.
- NEVER touch or grab, without permission, one's manual wheelchair, power chair, crutches, cane (s), scooter, or communication device (s). Have respect for one's personal property and this can be harmful to the individual.
- If a person is blind or has low vision, be specific with directions. Do not say, "over there," or "go that way."
- If a person is blind or has low vision, OFFER the use of your arm. NEVER assume that all blind or low vision passengers need assistance.
- Always look directly at the person who is deaf or is hard of hearing when speaking and NOT at their companion and/or interpreter.
- If a person has a speech impairment, DO NOT interrupt, DO NOT attempt to rush the conversation, but DO ask to repeat if needed to insure both parties understand the conversation.
- Keep ALL paths clear and accessible.

Guidelines for Acceptable Terminology

USE	**DON'T USE**
A Person with a disability	**Cripple, gimp, handicapped**
A Person who uses a manual wheelchair **A person who uses a power chair** **A person who uses a scooter** **A person who uses a cane or crutches**	**Confined to a wheelchair, wheelchair bound, physically challenged, "special", deformed, lame, electric chair, a victim, stricken with, suffers from, etc.**
A person who is deaf **A person who is hard of hearing**	**A deaf person, dumb**
A person who is blind **A person who has low vision**	**The blind**
A person with a developmental disability	**Retarded, mentally challenged, idiot, stupid, slow, moron, crazy**

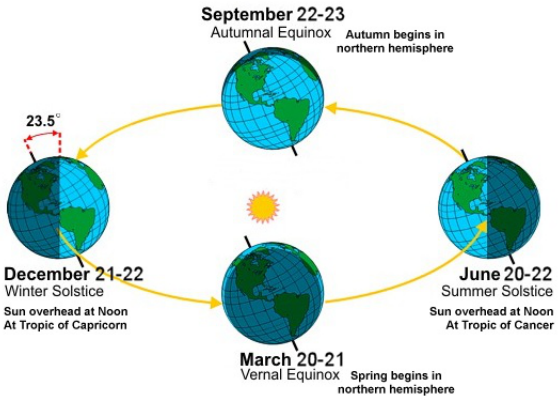
Remember—Put the person **FIRST.

Chapter 8

History & Environmental Education

Winter Ecology

What is Winter?



Winter is the season of the longest night, the shortest day, the least light, as well as the presence of snow, cold and wind chill. It is the slowest growing season for plant life. Food supplies dwindle and it is a hard time for animals. Winter poses many challenges to plants and animals. Winter Ecologist, James Halfpenny, refers to these challenges as the SCREW factors: snow, cold, radiation, energy, and wind. In northern latitudes winter is the longest and most difficult season of the year. Temperature, snow depth, snow density as well as the duration of winter (a deep snow pack and late season snow extend the winter season) determine the severity of winter and play a role in how many animals survive. Many animals will die during winter. Winterkill refers to the combined effects of bad weather, malnutrition, starvation, disease and predation. Winter is a time for economy: food is scarce and energy must be conserved. It is truly a time of survival of the fittest.

What Causes Winter?

As the earth travels around the sun, different regions receive more direct sunlight than others. The tilt of the earth on its axis is responsible for the different seasons in the northern and southern hemispheres. In the summer, when the North Pole is tilted toward the sun, the northern hemisphere gets more direct sunlight and the days are longer than during spring, fall and winter. In winter, the tilt is away from the sun and sunlight strikes the northern hemisphere at a lower angle. Latitude is what determines both the length of the day and the angle of the sun. The amount of sunlight striking the earth's surface (solar insolation) and the length of the day are determined by the position of the sun in the sky. The reduced amount of winter sunlight striking the earth due to shorter days and angle of the sun causes colder temperatures. As the land and its air mass cools, surface waters turn to ice and precipitation freezes to cover the land with snow.

Snow

Snow has many different "personalities" depending upon how much water, ice, and air it contains. Snow with high water content can easily be formed into snowballs. Powder snow is so fluffy and dry that it's nearly impossible to pack. Temperatures and wind can affect what happens to snow after it falls. It can be a light fluffy layer or it can harden into an icy surface. Snow crystals not only change as they fall through the air, but they continue to change within the snow pack over time, in a process know as age-hardening.

Now let's consider how temperature affects snow and thus animals. Fallen snow is not always the same temperature. When the bottom layers of snow are much warmer than the top layers, water vapor creates a bottom or in-between layer that is granular and resembles sugar. This type of snow allows small animals like mice, voles and shrews to readily tunnel through it. Because it contains a lot of air it also is good insulating snow for grouse to hunker down in on a cold night. Animals that paw through snow like moose, deer and elk can easily uncover grasses.

But air temperatures and wind can also alter snow crystals over time to form a hard, compacted snow mass with an even temperature throughout. This type of snow is difficult for mice to burrow through. (Yet, this same snow allows snowshoe hares and deer to reach up higher in shrubs and trees in search of food.) Compacted snow such as this can cause a build-up of carbon dioxide in the lower layers as a result of decaying vegetation. Many of the small "mouse holes" seen on the surface are actually vent holes that allow carbon dioxide to escape. Without them, mice and other subnivean (under the snow) dwellers could die.

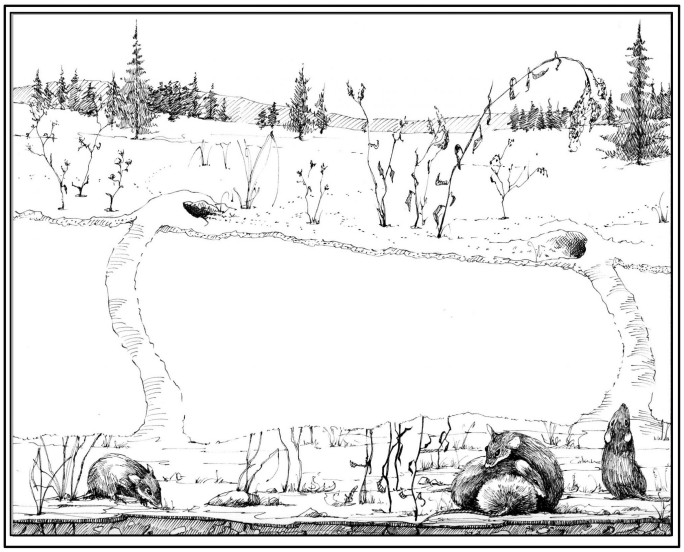
Why does temperature affect snow this way?
Melting and refreezing changes the physical characteristics of the snow. It causes snow crystals to reshape and form a very solid layer. The strength of the snow varies, depending upon whether it is in the melt or freeze stage. Some animals can travel on the surface, while others not as well adapted, will fall through and flounder, becoming easy prey for predators. An icy crust allows small animals to move with ease, but may cut a deer's legs, allowing bacteria and infection to spread in an animal already in a weakened condition.

What about the depth of the snow?
How does that affect wildlife? When snow gets deep, deer will yard up (stay in one location) since bounding through snow requires a lot of energy. Deer have such small feet in relationship to their size, they sink through snow. By yarding, they pack down a network of trails that permits them to reach areas containing winter food. At the same time, there are risks associated with it. During long, hard winters, there is the risk of over browsing their winter range. And there is an increased risk of spreading diseases when many animals are confined to a relatively small area. Moose and elk can "plow" through deep snow. Moose are especially well adapted for it with their long legs. However, moose will frequently follow already established trails, while elk tend to follow in trails made by a strong lead animal. These modes of travel are known as trailing, and they are a means of reducing energy output. Many other animals take advantage of already established trails. Even snowshoe hares establish trails or "bunny runs" as they travel to and from their feeding areas. By using trails, winter animals can help minimize their energy output.

The depth, density and hardness of the snow can help or hinder animals depending upon the situation. A build up of snow on branches of trees may break and snap or bend young trees. Heavy snow on trees can restrict tree travel for pine martens and squirrels, making it more difficult to catch prey or to escape predators. Willows and alders bent by the weight of heavy snow provide food and shelter for snowshoe hares. Where the branches of spruce and fir catch Glacier National Park 7 falling snow, snow depth becomes unequal on the forest floor. In open areas snow is deeper than beneath trees. Trees with full crowns collect most of the snow on branches. The small amount that reaches the ground quickly melts or evaporates leaving a "snow shadow" or tree well. Many small animals avoid tree wells during the coldest part of winter since they offer little insulation or protection but if the branches are heavy enough with snow and press close enough to the ground, wind breaks are formed and tree wells become cozy hideouts for animals like snowshoe hares. As winter merges into spring, tree wells are the first places that juncos and other returning birds search for food.

How Do Organisms (living things) Survive in Winter?
Adaptations: Migration, Hibernation, Resistance (Toleration)

Organisms, or living things, all have adaptations - structures or behaviors that help them to survive in their environment. Winter ecologists classify organisms according to how they experience winter and how they have adapted to it over time. The commonly used system based on the Greek work "chion" for snow has three levels: chionophobes = "snow fearers" have been unable to adjust to life in the snow and are usually found in warmer regions (black vultures, palm trees); chioneuphores = "snow tolerators" have adjusted their life to winter and can survive but have no special adaptations (shrew, red fox, vole); chionophiles = "snow lovers" possess definite adaptations for life in winter and whose geographic distribution is generally limited to winter-dominated regions (spruce tree, mountain goat, snowshoe hare, ptarmigan, and weasels). An even more basic classification system for how animals cope with winter is based on their main adaptation strategy for winter survival: migration, hibernation, or resistance/toleration. Basically, living things either leave to find an area that is more suitable for them in winter (migrators) or they stay and are not active (hibernators, or organisms that have periods of torpor), or they stay and are active (resistors/tolerators). The following is generalized information about how different groups of organisms deal with winter.



Plants in Winter

By the end of summer or early autumn many plants have died back. Annuals will have produced seeds that have fallen to the ground and will germinate next year while the "mother" plant dies. Other seeds, housed inside plump, juicy berries will be eaten by birds, bears or other animals. Since the seeds are not digested, they will be "planted" in new locations within the droppings of these animals. The stems and leaves of biennials will die their first winter, but their roots will remain alive while the second year plants produce seeds to ensure survival. Perennials die back to the ground each year, but their roots live through winter and the plant will grow back each spring. The leaves of deciduous trees and shrubs change color as daylight hours wane. Soon the leaves will be shed. Lowered temperatures will retard plant growth. Leaf scars are sealed with a corky layer and next year's buds are covered with scales to conserve moisture. Winter is similar to drought as water is unavailable when it is frozen as ice or snow. Woody shrubs and trees survive the winter in a state of dormancy. Evergreen trees and shrubs have thin or small needle-like leaves with waxy coatings to conserve moisture. The conical shape of many evergreen trees makes them more resilient to heavy snow loads. Since their branches slope out and downward, the weight of snow pressing down allows snow to fall off. If enough snow falls from the branches it can pull the branches until they touch the ground and make a wall of snow and branches around the base of the tree. These tree wells can become shelter for wildlife out of the wind. Evergreen trees will photosynthesize at the first available light in spring.

Insects in Winter

Just as many plants go through a resting phase in winter, many insects time their particular life cycle stage best suited to withstand cold, drought-like conditions and lack of food. During this time, activities and/or development discontinue until conditions become favorable in spring. Individual species of insects overwinter at different stages of their metamorphosis. Insects comprise the base of the food chain and the absence or presence of their populations has a large effect on food availability for other organisms. Chickadees feed largely on insects and have the ability to hang upside down on branches to look for insects hiding on the undersides of leaves and branches. It is interesting to think about what happens to insects, an important food source in winter.

Insects that overwinter as adults usually find a sheltered place: under leaves, in crevices in trees, under bark, rocks, plants, in buildings, or they descend into the ground and remain dormant. Staggered timing of life cycles ensures that food will be available when they reach the eating stage. Insects react to cold temperatures by slow, stiff movements and a lowered metabolic rate. They lose a high percentage of water and produce glycol, a substance that acts as a kind of antifreeze. We think of these organisms as hibernating to avoid winter, but they actually have complex strategies to resist severe cold stress. On warm days adult insects move around as their bodies warm up sufficiently.

Animals in Winter

Hibernation

Animals that hibernate in the winter are either active or dormant. Dormancy ranges from short periods (torpor) to long periods (hibernation). Skunks and badgers, for instance may undergo periods of torpor as an energy saving measure during times of extremely cold weather. Hibernators generally sleep through the winter although they may awaken and move around. Hibernation can be defined as a physical state where an animal's body functions slow down in order to conserve energy through a season of no food and water, and cold temperatures. The extent to which the metabolism slows in order to be considered a "true hibernator" is debatable. Hibernators such as Columbian ground squirrels and marmots have drastically reduced body temperatures. A ground squirrel's temperature may drop to 39 degrees Fahrenheit compared to its usual 90 degrees Fahrenheit temperature. Reduced temperatures slow other processes so pulse and respiration rates drop. Breathing may be once every 4 to 6 minutes. At this slow pace, a minimum of energy is expanded and the animal's fat layers can usually meet their slight demand. Many hibernators also curl up into a ball to conserve heat. Ground squirrels and marmots therefore, are considered "true hibernators."

Whether animals, like bears and chipmunks, hibernate or not depends on your source and definitions. Living things do not follow definitive rules. Thus, there is a continuum between the "true hibernation" of ground squirrels and marmots in which all bodily functions are greatly slowed, the deep sleep of bears and chipmunks, and the occasional sleep of raccoons and gray squirrels. Hibernation is the extreme end of the continuum. Bears are said to not truly hibernate because although their bodily processes are slowed, they do not have the reduced body temperatures of other "true hibernators." But bears develop thick coats of fur and have less surface to mass ratios than smaller hibernators so they stay warmer. Bears' metabolism drops by half and their digestive system tightens into a knot, with the limited waste products reprocessed into the bloodstream in the form of proteins. Bears, if not true hibernators, are certainly close. Bears sleep for months without eating, drinking, urinating or defecating. It has been said that while bears may not be true hibernators, they are "digestive hibernators".

Migration

When we think of migration, we generally think of birds. Some of birds may fly hundreds or even thousands of miles to their wintering area. As birds migrate to warmer climates, they alter their food source and wait for spring or summer to return to their home territory. These amazing migratory treks vary in length; some may span the length of the globe.

While migration may seem like an easy option, it places a major strain on these animals. Huge energy reserves are required to make these seasonal journeys and migrators often face competition with native species once they arrive at their wintering site.

Resistance (or Toleration)
To many animals, winter means staying and enduring the challenges of the season and resisting its stresses. Because many organisms cannot simply flee from the cold winters, they have found numerous ways to survive the harsh climate. There are many fascinating adaptations in the animal world that help them resist winter's hardships.

For animals that remain active in winter, snow is a mixed blessing. It can offer shelter and protection. Snow acts as insulation, holding in earth-warmed air and keeping out cold air.

Humans in Winter

Although humans do not have the capability of hibernating like bears or marmots, we are able to migrate or resist. American Indian tribes relate how in the past, groups followed seasonal animal migrations in order to have access to more food or to find shelter from the wind during the winter months. Today, we don't have to move to find food, but the infamous "snow birds" from the northern states (and Canada) do move (migrate) in droves in December to southern states and remain there until the end of winter to escape the cold. Each Indian Tribe had well established systems for obtaining and making warm clothing out of native materials, and for caching and storing food to last throughout the winter. Today, all of us wear clothing made of native materials - animals (leather and fur), feathers (down) and plants (wool and cotton), but we also have clothing made from synthetic materials like polypropylene or capilene. We all still must obtain food throughout the winter but we can get it from the local grocery stores and have systems in place for growing, harvesting, and transporting the food to stock the stores so we are not so dependent on what we've cached or stored at home. People have, and will continue, to use many different strategies to cope with winter.

Overview of Big Trees State Park

"Throughout the many millions of years that Giant Sequoias have lived on this changing earth, they have done so without the benediction, the care, or even the consciousness of human beings. Only in the past few thousand years have people come to know anything about 'the Big Trees' and except for the last century and a half all of these people were Indians." (Engbeck)

Introduction
Three miles north of Arnold off Highway 4, the colossal trees of Calaveras Big Trees State Park stand in quiet testimony to prehistoric times. These massive relics, which can reach a height of 325 feet and a diameter of 33 feet, are descended from trees that were standing when dinosaurs roamed Earth and birds, mammals, and flowering plants began to appear. Some of today's trees are thought to be as old as 2,000 years. Located at the mid-elevation level of the western Sierra Nevada, Calaveras Big Trees State Park is a prime example of a mixed conifer forest in the yellow pine belt. Giant sequoias dominate ponderosa pines, sugar pines, incense cedars, and white fir. The Pacific dogwood displays white blossoms in the spring. Wildflowers along the Lava Bluffs Trail include leopard lily, Hartweg's iris, crimson columbine, monkey-flowers, harvest brodiaea, wild hyacinth, and lupine.

Native People
Though some native groups saw the trees as sacred and untouchable, the Miwok respected them and made careful use of them. These skilled fishermen, trappers, and hunters built their seasonal villages alongside the flourishing rivers of the Sierra Nevada foothills. The acorns and other seeds the Miwok harvested in the fall were a vital part of their diet. Their way of life was rich in ceremony and social activity, including the important harvesting and grinding of the fall acorn crop. Throughout this area, large granite outcroppings and boulders with groups of mortar holes bear witness to the Miwok method of grinding seeds and acorns. Today, approximately 3,500 Miwok descendants live in the area.

Park History
In the spring of 1852, Augustus T. Dowd was tracking a wounded grizzly bear through unfamiliar territory when he came upon a forest of enormous trees. The giant sequoia that first caught his attention was the largest in what is now the Calaveras North Grove. At first, Dowd's description of what he had seen was considered a "tall tale" until he led a group of men to the grove. Word of the giant sequoia grove's existence spread rapidly. Newspapers picked up the story, bringing curious visitors and entrepreneurs eager to make their fortunes from naive spectators.

The Discovery Tree that had earlier stopped Dowd in his tracks was the first casualty in the rush to exploit the giant sequoias. It took five men 22 days to cut it down. Sections of bark and a portion of its trunk were shipped to San Francisco to be placed on display. Later it was sent around Cape Horn to New York City, where it was considered a "humbug" by many skeptics. The financially unsuccessful showing closed, and while the

tree's artifacts were awaiting shipment to Paris, a fire destroyed the entire exhibit. The Discovery Tree's stump remains in the North Grove. Further depredations continued in the North Grove. A magnificent tree named the "Mother of the Forest" was stripped of nearly 60 tons of its bark to a height of 116 feet. The bark was sent to the East Coast and abroad for exhibition. In 1861 the Mammoth Grove Hotel was built in the North Grove. The resort hotel operated until 1943, when it was destroyed by a fire**.**

The Trees

Two redwood types are native to California — the coast redwood along the northern and central coast, and the giant sequoia in scattered locations along the Sierra Nevada western slope. Conservationist John Muir declared that these giants, survivors of the Ice Age and the ravages of time, were "rapidly vanishing before the fire and steel of man. . . . " In 1878, after a protracted ownership battle was settled, the Calaveras property was sold at public auction. The winning bid, from James L. Sperry, was $15,000. In 1900 Mr. Sperry sold out to lumberman Robert Whiteside, raising great public protest. Whiteside declined offers from federal legislators hoping to establish a national park at Calaveras. The struggle to acquire and protect the groves stretched over the next three decades

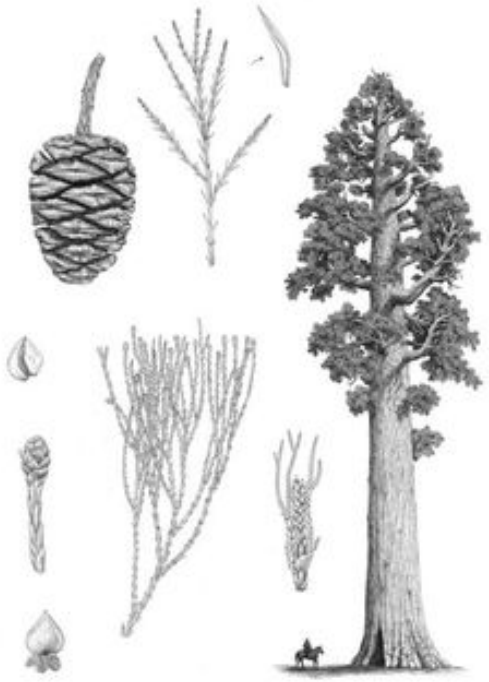
While their scheme was neither popular nor profitable, it did result in worldwide publicity for the Sequoia's of Calaveras County. The North Grove quickly developed into one of California's most visited tourist attractions.

The Giant Sequoia: General Ecology and Interesting Facts

1. The Uniqueness of this place:
Fossils reveal that in the age of the dinosaurs, Sequoias and Redwoods occupied the landscape from Alaska to the Midwest and from Europe to Asia. Intense climatic changes during the past two hundred million years, coupled with logging in the past century, changed all of that. Today, three types of Redwood trees remain in three different places in the world. One, the Coastal Redwood, exists only in the fog belt along the Pacific coast in Northern California and slightly into Oregon. They are the world's tallest trees. Another, the Dawn Redwood, recently discovered in 1944, exists only in a remote mountainous region of central China. Finally, the worlds largest tree, the Giant Sequoia (also known as "Sierra Redwood" or "Big tree"), exists only right here in the Sierra's. They exist in a series of scattered groves scattered along the west side of the Sierra, mostly between 4,500 (the rough elevation of Big Trees) and 7,500 feet.

2. Age:
Giant Sequoias rank among the world's oldest trees. Felled trees reveal annual rings indicating up to 3,200 years of age. The Sequoia's of Big Trees are younger but may still be well over 1500 years old. Try to place their age in context. What was going on in the world 2000 years ago?

3. Size:
Giant Sequoias are the largest living trees on Earth. The largest known Giant Sequoia is the General Sherman Tree in Sequoia National Park. It is 36 feet across at the base and 275 feet tall. "In 1978, the General dropped a branch which was, in itself, larger than any tree east of the Mississippi River, 150 feet long and nearly 7 feet in diameter." (Verna Johnston) While the Coastal Redwoods are taller, they do not have as much volume. The Giant Sequoias are simply more massive.



Giant Sequoias rank among the fastest growing trees in the world!

- *5 years old* : They are as tall as an average man
- *10 years old*: They are roughly 20 feet
- *50 years old*: They top 100 feet
- *Beyond 100 years*: They gradually take on the rounded dome of the mature tree and continue adding girth to two and three hundred-foot heights. Even 3,000-year-old Sequoia's are still growing.

4. Germination

"The chances that any given seed will ultimately produce another giant like its parent approach one in a billion." (Stephen Arno)

Some Quick Facts:

- The Sequoia seed is so small that it takes 91,000 of them to make a pound.
- Cones mature in their second year when they are about the size and shape of an egg. (Note: Many people expect Sequoia's to have massive cones. Their small cones are worth pointing out)
- Large Sequoia's may bear 40,000 cones, each cone holding 100-300 seeds.
- The Douglas Squirrel or Chickaree is the number one releaser of Sequoia seeds because it loves the fleshy thick green scales of young Sequoia cones. While stripping these cones, the squirrel dislodges many seeds, sending them down to the earth. The Chickaree's incisors can nip off tender green cones at an incredible pace--"over 500 in 30 minutes at peak performance." (Johnston) The Chickaree also buries cones in cool wet places. In the process it spills lots of seeds, some of which, if the site is favorable, will germinate.
  **Note: This is a good example when discussing interdependencies and the circle of life in the forest.
- The long horn beetle, fire, and other random natural means also release sequoia seeds.

5. Death

Unlike most trees, Sequoia's do not seem to die from old age or from insect damage (see *section on Bark).* Old Giants tend to lean towards light and sink into saturated soil. They die most often by toppling. Growth regulators, called auxins, help to counterbalance the tree by stimulating limbs on the lighter side of the tree to grow larger, faster, and heavier. But ultimately, the shallow roots of the Sequoia loose their ability to support the off-center weight and the tree falls.

Primary causes of toppling:

- Despite its fire retardant bark (see *Bark),* fire is the greatest contributor to the toppling of a Sequoia. 90% of fire scars occur on the uphill side of the tree and 90% of trees fall uphill. How does this happen? Over centuries, branches and debris rolling downhill collect in fuel piles at uphill tree bases. When fire strikes, it burns into the trees' heartwood, destroying surface roots and weakening the roots' mechanical support. (Johnston)
- Streams can undercut the trees, causing them to topple.
- Heavy snow loads on a tree's crown can pull a leaning tree over.

6. The Bark

The texture of Sequoia bark is unique. The bark feels soft and it is thick and spongy. The bark is also rich with tannic acid. The tannin protects the tree because it acts as a fire retardant. Also, since the tannin is bitter tasting, it discourages insects, etc. from eating the bark.

The Story of the Stump

1. Augusts T. Dowd the Bear Hunter--When the World Finally Heard

Augusts Dowd arrived in San Francisco in 1848. He began to work as a backwoods hunter and quickly acquired a reputation as a reliable, honest and passionate man. In the spring of 1852, Dowd was hired by a Murphy's construction crew to supply its men with fresh meat. One day, when pursuing a wounded grizzly bear through an unfamiliar forest, he was awed in his tracks by "a tree of monstrous proportions." Dowd was so impressed by the tree that he let the bear scamper off while he "verified his first impression."

When he told his "discovery" to his friends in Murphy's, Dowd, like the many people before him, was met with laughter and jokes. But "Old Dowd" was determined. He trekked back up to the same tree and wrapped a piece of string around its trunk. When he showed the string to his friends, they still would not believe him. After all, the string that he wrapped around this "Discovery Tree" was over 100 feet long. To end the controversy, Dowd led the men from Murphy's on an expedition to the grove. And sure enough they found Dowd's "Discovery Tree" and camped the night beneath it.

When they returned to Murphy's, their story quickly spread. Soon after, San Francisco newspapers sent reporters to investigate. Within 6 months, the big trees story had spread internationally. Yet, like the men of Murphy's, many people who read or heard about the big trees insisted that it was "unbelievable and obvious nonsense."

2. Taking Big Trees to the World---When the World Finally Saw

In 1853, the year after Dowd's discovery, a group of local businessmen developed a plan to exploit the trees for profit. They reasoned that much money could be made of the big trees in the East and in Europe, so they set to cut down the largest Sequoia in the forest. They selected the very tree that Dowd had labeled his "Discovery Tree" and they got to work. Since no saw was large enough, the men used mining tools to bring the massive tree down. You can see marks made by the augers on the nearby fallen tree. It took 5 men 22 days to cut the holes in the tree, and it still took a large wind gust to bring her down.

The men then stripped the fallen tree of its bark. Their plan was to ship the bark to New York City and reassemble it into the original form of the tree for display. Unfortunately, the New York show was a disaster because it coincided P.T. Barnum's much-anticipated opening of the Crystal Palace. One year later, the reconstructed bark display was destroyed in a fire.

While their scheme was neither popular nor profitable, it did result in worldwide publicity for the Sequoia's of Calaveras County. The North Grove quickly developed into one of California's most visited tourist attractions.

3. And what of the Stump?

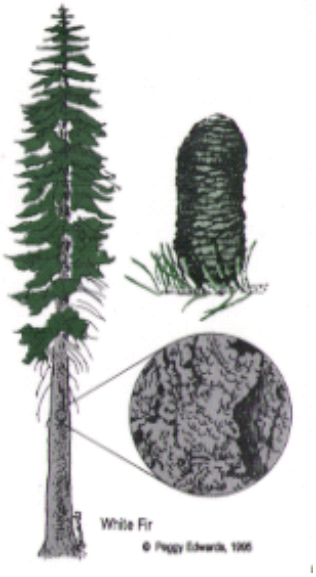
The Stump itself was transformed into a tourist attraction. It was smoothed out and used as a dance floor; and a 2-lane bowling alley and saloon were built on the fallen trunk.

Even though the stump served to attract many visitors it was a topic of heated controversy. Several people, including Augusts Dowd himself, protested the destruction of this majestic tree. John Muir stated, "The Vandals then Danced Upon the Stump."

Just Imagine... How tall would this tree be? How thick? Imagine this tree alive through earthquakes, fires, and thunderstorms, alive in warm summers with the Washo and Miwok and in the cold and snowy winters where stillness ruled the land. Imagine this tree alive to feel Dowd's coarse hands and then fighting with all its might against the fatal chomp of human tools. Imagine that this tree was born only shortly after Jesus and had stood still and strong as hundreds of human generations came and went.

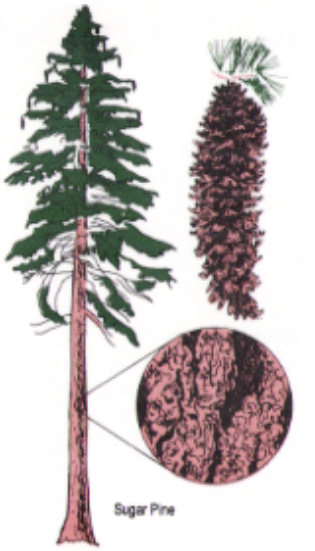
It is believed by many that, if left to live, this "Discovery Tree" may have rivaled the largest of the Sierra Redwoods. It might well have been 32 to 34 feet in diameter today. The largest living tree is the General Sherman Tree in Sequoia National Park measuring 36 feet in diameter.

More Trees at Big Trees State Park



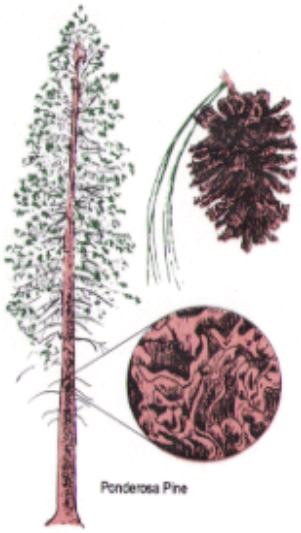
White Fir

White fir is probably the most prevalent conifer species in our park. They are very shade-tolerant, and able to grow easily under the canopy of the larger pine and sequoia trees. White fir is known as a "climax species" – which means that, without changes or disturbance in the forest, eventually the trees that require more sun and open space to grow will die off, leaving a forest of white fir trees. White fir are identified by their ashy-gray bark, and flat needles. The large female cones grow upright on branches, and can be 6-12 inches long; when they mature, the scales disperse, leaving little evidence of the full cone.



Sugar Pine

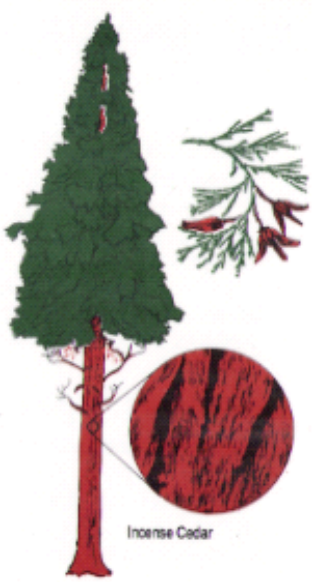
Sugar pine is the biggest and tallest PINE species in the world, and they produce the longest cones (up to 2 feet). They get their name from their sugary sap, which was used by California Indians as a sweetener. Their edible seeds are also an important food source for many animals. Sugar pines are a white pine species, with short needles bundled together in groups of five. Along with ponderosa pines, sugar pines were an important timber species sought after by logging companies during the late 19th & early 20th centuries.



Ponderosa Pine

Ponderosa pine are the most widely distributed pine species in North America, and the second-tallest (after sugar pine). They're named for their heavy, "ponderous" wood, and are the second most important timber species in the U.S. (after Douglas fir). Ponderosa are a yellow pine species, often identified by the yellow color in the bark; the bark is also thought to resemble puzzle pieces. "Prickly" ponderosa cones are a medium size, with sharp scales. They have long needles, bundled in groups of three. Ponderosa pine populations have suffered greatly in recent years from mountain pine bark beetle outbreaks.

Incense Cedar
Incense Cedar are also in the Cypress family, and also have a reddish color of bark that can be confused with giant sequoia. However, cedar bark is much harder and appears more "muscular" than the soft, fibrous texture of giant sequoia bark. Incense cedar gets its name from the spicy, resinous fragrance when its wood is cut. The wood is useful for many things, and incense cedar is probably most famous for its use to make #2 pencils: the wood sharpens without creating splinters. Incense cedar wood was also preferred by California Indians for hearthboards, to make fire.



Fauna at Big Trees State Park

Douglas Squirrel *(Tamiasciurus douglasii)*
Douglas Squirrels are active year-round, and one of the most common animals seen in the park. They are a small tree squirrel, very territorial, and noisy – nicknamed 'Chickaree' for the sound of their frequent calls. In winter they make their nests in tree holes; and they hoard food such as nuts and seeds in a single location. New trees sometimes grow from squirrel hoards, buried and forgotten. Douglas Squirrels eat the seeds from most conifers, except for giant sequoias: they harvest giant sequoia cones, but eat only the fleshy cone scales – leaving the seeds to potentially grow new trees.

Black Bear
Black bears are the most common bear species in the world. They vary greatly in size and color: many black bears are actually brown or blonde. Their diet is mostly vegetation (nuts, berries, plants, etc.), and the majority of their animal diet consists of insects (such as carpenter ants or bee larvae). Feeding is a full-time activity for black bears in autumn, and these bears may or may not hibernate – depending on weather conditions and availability of food in winter months. Mother bears with cubs are often sighted foraging around the park in spring.

Common Raven

Ravens are large (hawk-sized), all-black birds with long, wedge-shaped tail feathers (seen in flight) and thick, sharp bills. Ravens are scavengers and omnivores, eating just about anything they can get ahold of. They are noted for their great intelligence, and have brains among the largest of any bird species. They are known to mimic sounds of other birds, and are one of the few wild animals known to make their own toys to play with socially. Adults are often seen in pairs; we have a couple that hang around our visitor center; one is easily identified by a white feather in its left wing.

White-headed woodpecker

White-headed Woodpeckers are the most common woodpecker species seen at Calaveras Big Trees. They are the only North American bird with a white head and black body; juveniles and males also have a red patch on their head or neck. White-headed woodpeckers make circular holes in trees, snags, or stumps for nesting; and they forage for seeds and insects. They tend to work quietly, prying away flakes of bark from trees, rather than hammering loudly.

Black-tailed Mule Deer

These deer are sometimes seen browsing leafy green plants in the park, from spring until early autumn. During winter, they typically migrate to lower elevations. They are named for the solid black outer stripe on their tails, and their large ears (resembling a mule's) that can move independently to pick up unusual sounds. They also have excellent sight and hearing, and communicate using scent & pheromones. Fawns have no scent for the first week or so, allowing them to stay safe from predators while mother does leave in search of food.

Watersheds

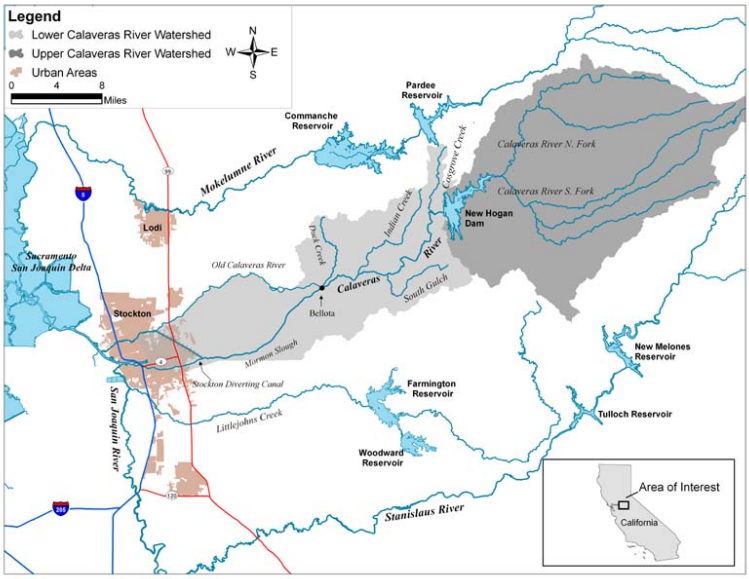
"*That area of land, a bounded hydrologic system, within which all living things are inextricably linked by their common water course and where, as humans settled, simple logic demanded that they become a community*." -John Wesley Powell

What is a watershed? Let's consider rainwater in the mountains. When water falls in the form of rain it is either absorbed into the ground water or it will "run off" to form streams and rivers. Since water follows the laws of gravity whether it is above ground or below ground, it will inevitably run downhill. As streams in the mountains streams become rivers and eventually join the ocean, this grouped network of water ways becomes a watershed. Visually illustrating this to your participants is usually the best way to get the concept across, and the simple yet effective Paper Watershed Activity below works very well.

Watersheds are nature's way of dividing up the landscape. In simplest terms, a watershed is defined as an area of land that captures rainfall and snowmelt, and then as the water flows downhill, all the streams and river collect in one place. That place may be a river, lake, estuary, wetland, stream, groundwater basin or even the ocean. A watershed becomes a complex web of natural resources, including soil, water, air, plants and animals.

Bear Valley Watershed

Arnold, California and Bear Valley, California are part of the Calaveras Watershed. The Calaveras Watershed is located in the central Sierra Nevada. Water runs off the Sierra Mountain Range into the South and North Fork of the American River and into the Stanislaus River. The Stanislaus River collects at the New Melones Dam to eventually continue out to the Pacific Ocean.



Global Climate Change

By disrupting the natural balance of greenhouse gases in the atmosphere, too much of the sun's energy is now being trapped. This leads to an enhanced greenhouse effect, which is causing an overall trend of the earth warming. It's important to remember that there is a lot of local variation and that warming is not uniform across the globe – some places are getting colder while others get much warmer – but the overall trend is undeniably one of warming. Worldwide, 2016 was the hottest recorded year since global temperatures began being recorded in 1850. Even more powerful evidence of the trend we're experiencing is that 14 of the 15 hottest years on record have occurred since the year 2000. There used to be some debate about the role of humans in causing global climate change, but almost all scientists now agree that anthropogenic (human-caused) emissions are responsible. This climate change has a multitude of interconnected effects, including:

Changes in Precipitation
As temperatures change, so do precipitation patterns. Some regions are becoming wetter, while others are becoming drier. Climate change is believed to be responsible for causing severe droughts in many areas where they did not previously occur. In our region, less rain and snow means that less fresh water is entering the San Francisco Bay Delta Watershed. Reduced flows in our rivers not only lead to water shortages for our society, but also affect the water quality of the Bay.

More Extreme Events
Globally and locally, climate change is considered to be responsible for an increase in extreme weather events, ranging from hurricanes and typhoons to heat waves and fires. The increased frequency of these events increases the vulnerability of both human populations and natural communities, and makes it more difficult for us to adapt and survive.

Habitat Shifts
Species that were once able to live in certain areas are no longer able to survive there when the environment changes. Many plants that thrive in warmer climates are expanding their ranges northward in the U.S., where they outcompete species that were adapted for cooler climates.

Sea Level Rise
As the earth warms, glaciers and the polar icecaps melt. When the water formerly trapped as ice enters the oceans, global sea level rises. Melting ice is one cause of sea level rise. The other cause is that as seawater becomes warmer, it becomes less dense. This is called thermal expansion, and causes the oceans to take up more space, or rise. At Crissy Field in the Presidio, tidal records show a sea level rise of about eight inches has already occurred in the last 100 years. This may not seem like much, but it is much faster than historical accounts have been. If global warming progresses at the predicted rates, based on the amount of carbon pollution we are producing now, sea level could rise three feet or more by the end of this century.

Sea level rise is a concern because it causes erosion of beaches and bluffs, increased flooding and storm damage, inundation of low-lying areas, and saltwater intrusion into aquifers and surface waters.

Stewardship

A steward is a person who looks after someone or something. To be an environmental steward, we begin to take responsibility for looking after the natural environment that we live in. We do this by becoming responsible for the use and protection of our environment through conservation and sustainable practices. Let's start with some definitions:

- **Conservation**: A careful preservation and protection of something; *especially* planned management of a natural resource to prevent exploitation, destruction, or neglect
- **Sustainability**: Capable of being sustained; of, relating to, or being a method of harvesting or using a resource so that the resource is not depleted or permanently damaged; of or relating to a lifestyle involving the use of sustainable methods
- **Stewardship**: The conducting, supervising, or managing of something; *especially* the careful and responsible management of something entrusted to one's care, e.g. *stewardship* of natural resources

We can do various things that our society considers "green" or "eco-friendly," but can we sustain the impact of these actions to make a difference in the long-term? Whenever we seek change or teach change, it is important to consider the sustainability of the change. Helping your participants to minimize their impact during your trip may create a lasting impression that encourages them to consider the environmental impacts of choices they make in their lives at home.

Leave No Trace Principles

Leave No Trace (LNT) is the most widely accepted outdoor ethics programs that teaches people to enjoy the outdoors responsibly. There are seven LNT principles:

1. Know before you go: plan ahead and be prepared
2. Choose the right path: stay on the trail, camp on durable surfaces
3. Trash your trash: pack it out
4. Leave what you find: don't take anything but pictures
5. Be careful with fire: keep fire in designated fire pits and know restrictions
6. Respect wildlife: don't scare the animals or deface trees
7. Be kind to other visitors: loud voices carry

If adults or youth participants are interested in learning further, there is an online course on the Leave No Trace website as well as workshops around the country each year.

Chapter 9

Games & Activities

Index

For easy use games are labeled with who they are most accessible for. People with visual impairments-V, deaf people-D, people in wheelchairs-W, People with low or no mobility-LM, people with difficulty speaking or who are shy- S

Some games require adaptations. Our ideas for adaptation are included in the description of the game. Please continue to adapt games and add adaptations for ability levels. We hope to include everyone in our favorite games!

Name Games

Give me Five

Accessibility
- Good for low mobility, people in wheelchairs, and all ages
- Requires sight
- Requires fine motor usage
- Requires speech

The group stands in a circle, and everyone puts out their hands. One person goes into the middle. A leader says someone's name. The person called then tries to say a new name before the person in the middle slaps their hand. If the person called flinches or doesn't say a name before their hand is slapped, they are in the middle.

Fun Introductions

Accessibility
- Great for VIP's and low mobility
- Deaf people may require an interpreter or can act out their answer

Have the group introduce themselves and a fun fact such as: what magazine cover they would be on, what tale they would have, their favorite place in the world

Instant Replay

Accessibility
- People with low mobility can stay put and use facial expressions or dramatic voices.
- Deaf people could show their name sign and actions dramatically
- For VIP's, skip the actions and just do dramatic voices

The group forms a circle and a leader explains that today we will practice our acting. For this to work, each person is to step into the circle and dramatically introduce themselves.
The rest of the group will mimic their actions and voice as close as possible before the next person goes.

Blanket Drop

Accessibility
- Great for all ages
- Good for people in wheelchairs
- This game could be used with deaf people if everyone has or gets name signs. Then participants would quickly show the other persons' name sign.
- This game requires sight

After doing introductions with the entire group, separate everyone into two groups and have two

people (not playing) hold a large, thick blanket separating the two groups so that neither group can see the other. The group sends one person forward from each side to face the blanket. When the blanket drops, the first person to correctly call out the name of the other group's designated person wins the round and the loser joins their team.

Ball Toss

Accessibility
- Great for people in wheelchairs
- Requires the ability to throw and catch
- Uses sight and speech

One player starts out in the center of the circle. Each person in the circle should introduce themselves briefly before the game starts. The action begins when someone in the circle who is holding a safe throwable object says their name followed by the name of someone else in the circle, and then tosses that person the ball. The person who received the ball has to try to say their name followed by another players' before they person in the middle can tag them. If a player is tagged, they switch places with the person in the middle. This game tends to gain speed quickly and it is sometimes helpful to call time out and remind the group to keep the ball in control.

Ice Breakers

Shoe ID

Accessibility
- Can be adapted for people in wheelchairs by putting shoes on a table and having everyone sit around it
- Can be adapted by people with low mobility by randomly passing out shoes and helping participants find partners
- Can use pen and pencil for deaf or mute participants' interviews o Good for all ages o This game requires sight

Everybody takes off a shoe and throws them in a large pile on the floor. On the count of three, each person grabs a shoe from the pile and finds the person with the matching shoe on their other foot. They ask their new partner their name and three things about them they didn't already know. Works best with larger groups.

Palm Tree

Accessibility
- Great for all ages, people in wheelchairs, and VIPs
- Deaf people would need an interpreter or participants would need to learn signs for "palm tree", "elephant", and "Elvis".

The leader explains that the point of the game is to make a palm tree, an elephant, or Elvis in a

group of three before the person in the middle counts to three. Each thing to act out is then explained:

- The Palm Tree: the person in the middle puts their hands above their head as leaves and the people on either side do the same while leaning out.
- The Elephant: the person in the center bends like they are going into a dive and the person on either side make large ears with their arms to form a trunk and ears.
- Elvis: the person in the middle acts as if they are singing into a microphone and the people on either side put their hands on either side of their face and act as screaming fans.

After explaining, the person in the middle points to someone and begins counting to 3 while they make their animal, person, or object. If the person pointed to takes to long, they are in the middle.

Hey, What You Doing?

Accessibility

- Requires mobility to do actions and speech

This game also doubles as a name game or is great when you only half the group is there and you just want an easy game that can start and end whenever. The group stands in a circle, the leader begins by doing some motion without talking, for example brushing their teeth. She prompts the person on her left to ask," Hey Mary, What are you doing?" (assume Mary is her name) Mary responds by naming an activity that is totally different than the action she is actually doing- she might say, "I'm waxing my car."

Whatever action she says that is what the next person has to do until there person on their left, asks, "Hey _____, what are you doing." This game can be played for a long time and become very amusing depending on how creative the group gets. For example, "I'm break dancing," or "I'm proposing to someone." Be aware that some groups may need you to tell them to keep it rated PG-13.

Mime Rhyme

Accessibility

- Although this activity does not require speech or hearing, deaf people may find it difficult to find rhyming words
- Great for VIP's if a person who is picking the word cannot see, the game would be adapted by adding a sighted person to explain what people are acting out as their guesses
- Requires some mobility for acting out words

We gather in a comfortable group. (What? No circle?) One of us reveals that he's thinking of a word and it rhymes with-deep, for example. The rest of us try to figure out the chosen word, testing our guesses by acting them out in pantomime. For instance, one of us closes his eyes and rests his head on his hands, only to be told by the person who selected the word, "No, it's not sleep." Other players try crawling sneakily and jumping high in the air, but the answer isn't creep or leap. Other possible guesses to mime: honking a horn, wiping away imaginary tears, driving a vehicle that can take on bumpy roads, or peering through a tiny hole.

Have you ever?

Accessibility
- Great for all ages
- Deaf people will need interpretation
- People with difficulty speaking can use paper and pen or have a few pre-written questions to choose from o Requires movement

Have the group stand in a circle with one person in the middle. Each person in the circle puts an object at their feet. The middle person then says something they like to do or have done (I like to ride my bicycle). Everyone who has also done that has to find a new spot. The person in the middle will then try to steal a spot. Whoever doesn't get a spot is now in the middle.

Tag Games

Capture the Flag

Accessibility
- Great for all ages
- Deaf people will need interpretation of directions or to be shown this page
- Requires mobility but can be played on a large field for wheelchair accessibility
- Best played in a wooded area. Great for behind the cabin on snow days.

Players divide into two teams each on one side of the playing area. Each side places a "flag" (baseball hat, bandana, etc.) behind the dividing line on their side. The object of the game is to capture the opponents' flag and bring it back across the dividing line without getting tagged. As player is subject to being tagged or caught as soon as he enters enemy territory. Those caught are placed in prison. A prisoner may be freed by a free member form his own side by getting close enough to touch him. Both may then walk back to their own side.

Blob Tag

Accessibility
- Great for all ages
- Easily adapted for VIP's by having a few sighted staff or participants around the edges to tell people when they are leaving the boundaries or having people play in pairs
- Great for deaf people. Directions are simple and could be mimed easily.
- Requires mobility. May be difficult for people in wheelchairs to hold onto the blob while moving

Leader explains to the group that a Blob is a nasty, sticky, oozing, living thing that eats everything it comes in contact with. With children, you can tell them what the Blob sounds like, and have them mimic the noise. Start with one person as the original Blob. It's great to play this in a field or on a beach with designated boundaries. The Blob counts to ten, giving everyone time to scatter. Then they run and try to tag someone.

If you are tagged by the Blob, you become part of it by linking hands with it. If the Blob grows to become four people they can divide in half, and there are now two Blobs on the loose.

Ro-Sham-Bo Tag

Accessibility
- Great for all ages
- Deaf people will need interpretation of directions or to be shown this page
- Requires mobility but can be played on a large field for wheelchair accessibility

Two teams line up facing each other on the center line of the playing area. At the count of three (or "Ro-Sham-Bo) each team displays Rock (fists), Paper (open palm), or Scissors (two fingers out). The one symbol the whole team will display should be decided between each round in a team huddle. The team that throws the winning symbol (rock beats scissors, scissors beat paper, and paper beats rock) chases the other and tries to tag members of their team before they get to base line. Any tagged players join the other team, so there is no elimination and team size is always changing. If both teams display the same symbol, they should shake hands, and do it again.

Killer Eyes

Accessibility
- Great for all ages
- Deaf people will need interpretation of directions or to be shown this page
- Requires no mobility
- Requires no speech

Everyone stands in a circle with some object placed in the middle (backpack, sweater, anything). The leader instructs everyone to stare down at the object, and then when he says "Eyes Up" you stare at someone else in the group. If the person you are looking at is also looking at you, and eye contact is established, then you have both died and step out of the circle. The game continues until there are three people left, and the final "Eye's up" is called. The last one alive is the winner.

Finger Fencing

Accessibility
- Great for all ages
- Deaf people will need interpretation of directions or to be shown this page
- Requires some upper body fine motor skills
- Great for people in wheelchairs

This is a partner game. The partners shake hands, and while still holding hands, each person points their index finger at the other. With arms connected the object is to tap the other person three times with your index finger without being tapped yourself. Another variation of this is two grab your partner just above the wrist and then try to tap his forehead with your hand.

Bear/Salmon/Mosquito (= A group game of Rock/Paper/Scissors)

Accessibility
- Great for all ages
- Deaf people will need interpretation of directions or to be shown this page
- Requires mobility but can be played on a large field for wheelchair accessibility

To Set Up the Game:
Find an area with 15-20 yards safe running space. Break up into 2 even teams. Set up a goal line at either end of the field. Explain the 3 critters, they're symbols, and who beats whom:

The Bear - Stand on toes, stretch your body as tall as possible, spread your arms, and growl
The Salmon - Palms together over head, and jump while squirming in the air
The Mosquito - Squats down, put one hand on forehead, and the other hand thru the arm of the first hand with the index finger pointing outward.

Who Beats Whom... The Bear will eat the Salmon, but will get bitten by the Mosquito The Salmon will eat the Mosquito, but will get eaten by the Bear The Mosquito will bite the Bear, but will get eaten by the Salmon

Each team goes to its goal line and decides which critter all team members will portray. At this time, they will also come up with a second, back-up choice, in case their first choice is the same as the other group's critter. Now, the two teams face-off in the center between the two goals. On the count of three, **everyone** does the appropriate posture for the critter his or her team chose. The group that losses, runs for their lives to their safe zone (which is past their goal line) while the other team chases after them, trying to tag them. If a person gets tagged, he/she must join the other team. Stop the game when one team completely engulfs the other team (or until the Body Snatchers invade and devour everyone). Remember to end the game with the participants wanting more, not too tired and bored.

Guessing Games

20 Questions

Accessibility
- Great for low mobility and VIP's
- Deaf people may need an interpreter
- Mind game, may be difficult for younger groups
- There are no preparations or materials to play. Works best with small groups of 2 to 5 players.

Select one person to begin by choosing a person, place, or thing. Basically anything can be chosen, but try to make the selected item something that can be reasonably guessed. It's no fun to play a guessing game that is impossible to solve! After the person has chosen a person, place, or thing, the other players take turns and ask "yes" or "no" questions in an attempt to figure out what the chosen word is.

After each guess, keep track of the number of guesses that are used until it reaches the limit of 20. If a player correctly guesses the word before they reach 20 questions, they pick the next word. If not, the word is revealed and a new person picks a word.

Psychologist

Accessibility
- Great for low mobility
- Mind game, may be difficult for younger groups
- Deaf people may need an interpreter

Someone leaves the room and the remaining people decide a funny way to answer questions (starting with P, has to have a color, ends in L) then the psychologist returns and answers questions to figure out the pattern.

Contact

Accessibility
- Great for VIPs and low mobility
- Deaf people may need an interpreter
- Mind game, may be difficult for younger groups

One person selects a word and tells the group the first letter of their word. A person tries to guess the word by giving hints about a word that starts with that letter. EX: if the letter was A, the person may say it is a red fruit. The other teammates would know it was an apple and scream, "3 2 1 CONTACT APPLE!" Before the person giving hints said Apple. If the rest of the group says the word first the person giving hints has to the group the next letter in the word. The game continues until the group figures out the word.

Ghost letters

Accessibility
- Great for VIP's and low mobility
- Easily signed for deaf people if someone knows the sign language alphabet or writes on a board
- Mind game, may be difficult for younger groups

A player selects a letter and says it aloud. The next player must add a second letter to the first letter so that the two letters are the beginning of a word but not a finished word.

For example, if the first player says the letter "A," the second player should not say the letters "N" or "T," because they would produce the finished words "an" or "at." He can say the letter "G" because "Ag" is the beginning of possible words, such as agriculture or agrarian. The third player can either, add a letter to the first two letters (if they can think of a word), add a letter (and act like they can think of a word), or challenge the last player that no words begin with those letters.

If the third player thinks that no words begin with the letters A and G, she can challenge the second player. If the second player can name a word, however, player 3 loses. If a player cannot think of a letter to add to a word, or is forced to complete a word, he or she loses.

Two Truths and a Lie

Accessibility
- This game requires speaking or writing
- Great for VIP's, people in wheelchairs, and people with low mobility

Each person thinks of two true things about themselves and one lie. Each player gives a brief description of the three stories that have happened in their life, two are true, and one is false. The rest of the group then tries to figure out which story is a lie.

Mafia

Accessibility
- Great for low mobility and all ages
- Deaf people may need an interpreter
- VIP's may need help as mafia silently picking people to kill

There are 5 roles: Mafia, Doctor, Detective, Narrator, Town people. Narrator is chosen at the beginning as someone who knows the game and likes to tell stories. To give remaining roles, cards are passed out that represent each character. (Ace- Mafia, Queen-Doctor, Jack-Detective, 1-10 is town people.) There should be 1-3 mafias, 1 doctor, 1 detective, and the rest of the group should be town's people.

The narrator tells the story: everyone lives in a town that is being taken over by the mafia and the town's people are trying to find the mafia to save themselves. The narrator tells everyone to put their heads down and close their eyes* The narrator asks the mafia to look up, silently pick someone to kill, and go back to sleep. The narrator asks the doctor to look up, silently pick someone to save, and go back to sleep. The narrator asks the detective to look up and silently pick someone to accuse. The narrator tells the detective if their choice is correct and the detective goes back to sleep. The narrator wakes up the whole town and tells what happened during the night. EX: If Katie had been killed, the doctor saved no one, and the detective found out nothing, "Last night while everyone was asleep Katie went for a late night walk and witnessed the mafia committing a crime. She tried to run to the police station but was killed by the mafia. The detective is looking for clues.The group accuses a person of being mafia, votes to have him executed, finds out if he was mafia, and goes back to sleep. Game continues until all mafia are killed or all townspeople.
*If you are playing with deaf participants, the group should be told: when they feel one stomp, mafia should look up, two stomps, doctor, three stomps detective, four stomps everyone should wake up.

Famous Characters

Accessibility

- Deaf people may require an interpreter
- Requires speech
- Great for VIP's or people with low mobility

Prepare slips of paper on which names of famous people, both past and present are written. Tape one slip on each person's back and let them know they are not allowed to see it until the game is over. The group begins mingling and can start asking Yes/No questions of each other to try to find out whose name is written on their back. They can also choose to have a conversation with someone after reading who they are, and talk to them as though they were that person. For example, one might talk about professional athletics or basketball if the person's sheet said Michael Jordan. The conversation and questions continue until everyone figures out who they are.

Filler Games

Famous Person

Accessibility

- Deaf people may require an interpreter
- Requires speech and sight
- This game is an ideal after dinner game while sitting around the table, and is especially good for group with a varied age range.

The leader cuts or tears paper into small pieces (about the size of a Post-It) then gives about 8-10 to each person playing, along with a pen or pencil. The leader instructs everyone to write one name of a famous person (past or present, from any media or genre). The game is great when there is a good mix of well known people like Hilary Clinton, along with more obscure artists, musicians, poets, etc. Have everyone tightly fold their paper in half and place them in one large bowl or hat in the center of the table. Next divide the group into teams, they don't all half to be even and 2-3 people per team is the ideal, but that is also flexible. One team is designated to go first. One player on that team will be the reader while everyone else on the team are the guessers. Someone from another team should be the time keeper.

The reader will draw a paper and read the name to himself. He has to try to get his teammates to say the name on the paper without saying the name or any part of it himself. He can do this by giving clues verbally. For example, if the paper said "Judy Garland", he might say the star of The Wizard of Oz. He could also use action and/or sound to give clues. When the team gets it right that paper is kept in front of the team to keep score, and the reader quickly gets another. The reader only has one minute to get through as many papers as possible. If time is called while the group is still guessing, the answer is not given and the paper goes back in the bowl. When each team gets a turn, they should choose a new reader. If a reader draws a name of someone they don't know, they need to get creative and try to find a way to get the team to say it, or the players may decide to allow one pass per team. When all the papers are gone, each team counts their pile and the team with the most wins. You can play another round by using the back of the paper.

Rain

Accessibility

- This game is not good for deaf people
- This game does not require speech
    - Great for VIP's or people with low mobility

Everyone sits in a circle, and then closes their eyes for a few moments of quiet. Each person is instructed to repeat the sound the person on his right will be making. The leader begins by rubbing his palms together, back and forth. The person to his left joins him, and then the next until everyone in the circle is rubbing palms and we can listen to the drizzling rain building in intensity. Then the leader starts to snap his fingers. One by one around the circle, we replace palm rubbing with finger snapping and the drizzle turns into a steady patter.

Then the leader switches to hand clapping, as we begin to hear a hard rain. The storm now builds to a downpour as the leader begins slapping his thighs, then the skies open and thunder crashes as the next round has us stomping are feet. Then the storm begins to subside, just as it grew- foot stomping, thigh slapping, hand clapping, finger snapping, and back to palm rubbing. For the final round the leader stops rubbing his palms and takes the hand of the person to his left, as each of us does in turn around the circle until there is silence once again.

Human Bingo

Accessibility

- Deaf people may require an interpreter
- Requires speech or an interpreter and requires sight

This is actually an ice breaker put it requires a bit of prep work. Each person in the group receives a sheet with something that looks like a BINGO grid on it. In each of the squares is written each a description of someone (someone who never cheated on a test, someone who prefers frozen yogurt over ice cream, etc.) or it may have a description of an activity that someone has to do (ask some one to sing Happy Birthday to you, ask someone to teach you how to write something in another language.) Each square should have room for the players to get signatures from each other or write other needed information. The first person to either get all of their boxes filled is the winner, or you can set a time limit and the person with the most when time is called, wins.

Finger to Palm

Accessibility

- Great for all ages
- Deaf people will need an interpretation of the story or the game could be adapted to be a certain motion like putting the pinky up
- Requires some upper body fine motor skills
- Great for people in wheelchairs

This is a short game and very easy to play. Have the group stand in a circle with their right index finger pointed down on the left palm of the person to their right. So each person should have their left palm facing up at their side and their right index finger pointed on someone else's palm. The leader tells the group a key word and then begins telling a story. When the group hears the word everyone tries to grab the index finger in their palm while trying to keep their finger from being grabbed.

Team Building

Knots

Accessibility

- Great for deaf people, people who cannot speak and VIP's
- This game requires mobility

Knots can be a useful way to get a group to work as a team, and work on communication skills, as well as identify ones' role throughout the process. Each knots group should have about six to nine people to be effective and safe. Everyone stands in a circle shoulder to shoulder and the leader asks everyone to reach across with their right hand and take someone else's hand across the circle. Then repeat with the left hand. Make sure that know one in the group is holding two hands of the same person. Before they are allowed to start explain that safety is very important and if at any time someone shouts "Stop" then everyone needs to let go. The object is for the group to untangle themselves while still holding hands. Switching your grip on someone's hand is allowed, to avoid sprains.
Variations: Have the group complete the task without talking, or have some people blindfolded.

Count to 10

Accessibility

- Deaf people may require an interpreter
- Requires speech
- Great for VIP's or people with low mobility
- This activity creates group cohesion and almost a symbiotic feeling quite subtly.

The leader tells the group that they have two try to count to ten as a group, with one person saying each number. If two people say the same number they have to start over. They can not go around the circle, each saying the next number, plan out verbally who will say what number, or nod their heads of signal who should speak. Often a group will struggle for some time to get to "Three" then somehow they will get in the flow and keep counting to Thirty.

Birthday Lineup

Ask everyone in the group to see how fast they can lineup by their birth month and day, without talking. This is best done with about 20 people. Everyone is asked to shut their eyes (orbe blind folded) then the group is given a long rope. As a team they have to figure out how to make a large square by holding the rope and moving their bodies in the shape of a square. If the group handles the square quite easily the leader might ask them to make a star or hexagon.

Prui

Accessibility
- Requires some mobility, but could work with people in wheelchairs
- Could be adapted to deaf participants with a sign in Prui's hand or some other physical signal
- Great for VIPs

This game is as much fun to watch as it is to play. This game should be played in an open area without obstacles around. Ask for 2-4 volunteers to be spotters. Everyone else should be spread out randomly around the playing area. Leader tells everyone to shut their eyes, and says he taps their head than they are Prui. One person is tapped to be Prui. Prui's job is to stay in the same place and let everyone come to them. They also get to keep their eyes open. Everyone else is told that they need to go search for Prui with their eyes shut. They should put their hands up in front of them as bumpers. When they bump into someone, they should ask, "Are you Prui?" If the person is not Prui they say so and the both keeping looking. If you ask someone, "Are you Prui?" and they don't answer you will know you have found Prui because he doesn't talk. Now link arms with Prui and open your eyes to watch the rest try to find you. The spotters are needed to make sure nobody goes walking off away from the game.

Hug a Tree

Location: Any place with a lot of trees, and a safe area to guide participants around with a blindfold on.

How the play:
Everyone pairs up with a partner. One person is blindfolded; the other person is their guide.
The guide walks the blindfolded person to a nearby tree. The blindfolded person uses all his/her remaining senses to observe the tree. Encourage the participants to feel, smell, and hug the tree.
The guide then walks the blindfolded person back to the start.
The blindfolded person takes his/her blindfold off, and tries to find the tree he/she examined while blindfolded.
Both people then come back to the beginning and switch roles.
* This activity may take awhile, so you may want to walk some more and go to a new location before switching partners.

Big Trees Activities

Each One Teach One cards

We created 8 note cards with 1-3 facts about sequoias on them. They are divided into themes about seeds and cones, roots, height and size, wood and bark, mutual relationships, and human history. These cards can be given to groups to present to the rest of the participants. 2-3 participants per card could act, rap, sing, interpretive dance, create a game show or creatively present the information. These are done along the walk. The cards could be laid on the ground in a spaced out walk so participants could read on their own as they walked. Good for hearing impaired groups.

Big Trees Scavenger Hunt

This can be done in a structured way, with a list of items to find or every few minutes. Assign the group to find the next item and share.
List example:

a. small
b. alive
c. bigger than your hand
d. new to you
e. reminds you of home
f. different than home
g. Y shaped

Zoom in Maps

From the Scale of Big Trees to the World

a. Big trees: why is this park important here? (Habitat, natural cycles)
b. CA: How does this park impact the state? (Sierra snow-pack, agriculture)
c. US: How is it relevant to the country? (Food, more land protected in the west--later conservation efforts "America's best idea"
d. World: How does this park relate to the world? (We all live downstream)
e. How does this relate to you?

Speed Sequoia Game

Learn about the different types of trees at Calaveras Big Trees, how to identify different trees

- **Materials:** cones and branches of white fir, giant sequoia, sugar pine, ponderosa pine, and incense cedar; name cards for the different trees
- **Purpose:** to be introduced to Big Trees, get moving and active, and have fun!
- **Set Up:** everyone stands in a circle around the facilitator in the middle
- **How to Play:** When the facilitator points at somebody, they (and the person to either side of them) does a motion/sound combo depending on which prompt is given. The four prompts are: *General Sherman, Fire, Chickaree and Imposter*. Be sure to end the game while it is still fun people have started to get the hang of it!
- Introduce the different motions and the background information behind them (I would usually do the background first to give context to the motion):
  - **FIRE:**
    - **Fire facts:** The Giant Sequoia has evolved with fire
      - Its bark can be up to 3' thick and has tannins that are fire retardant. Tannins are a natural chemical that give sequoias the reddish color bark
      - One way the cones open to release seeds is by fire. This is called serotiny. Seed release from an environmental trigger, i.e. fire.
      - Fire also clears the forest floor for new seeds to germinate. There is a 1 in a billion chance that each seed will become a full maturity Giant Sequoia.

        - Motion → person in middle wags one finger out in front of them as if to say no and with other hand on their hip, sings MC Hammer's "Can't touch this, na na na na, na na, na na, can't touch this." While the two people on either side use their arms to become the flames.
- **GENERAL SHERMAN:**
    - **Size facts**: The Giant Sequoia is the largest (by mass) living organism that we know of
        - General Sherman is the largest of the Giant Sequoias and it is located in Sequoia National Park
        - It's mass is greater than that of 9 Blue Whales or 13 Space shuttles
        - A limb off of General Sherman is still bigger than any tree east of the Mississippi River
        - These trees started being protected in 1864 when the Mariposa Grove in Yosemite was deeded to California as a park (Same time Yosemite Valley was granted state park status) by Abraham Lincoln
        - The North Grove became protected when Calaveras Big Trees became a State Park in 1931.
            - Motion → person in the middle stands tall with arms outstretched like the limbs of a tree while the people on the sides look up at the tree and sing, "You are so beautiful to me! Can't you see, you're everything I hoped for, you're everything I need…"
- **CHICKAREE:**
    - **Chickaree facts**: Also known as the Douglas Squirrel, the chickaree is a small gray squirrel with not a very bushy tail.
        - Chickarees' like to eat the green fleshy part of the Giant Sequoia's. They prefer cones that are 2-4 years old, but the cones can last up to 20 years with viable seeds for germination
        - At peak performance, the chickaree can eat 500 cones in 30 minutes
        - Once the chickaree eats the green flesh of the cone, it opens it up to allow the seeds to fall to the ground.
        - The seeds are tiny and it takes about 91,000 seeds to make a pound
            - Motion→ Person in the middle pretends they have a giant sequoia cone in their paws and chews on it making a squirrely noise while the people on either side wiggle their fingers while bending down at the knees, as if their fingers are seeds falling from the cones, all the while singing, "I get knocked down, but I get up again, never gonna keep me down, I get knocked down, but I get up again, never gonna keep me down."
- **IMPOSTER:**
    - **Incense Cedar Facts**: While the incense cedar is commonly mistaken for the Giant Sequoia, here are some helpful hints to tell the two apart
        - What are the 3 ways of IDing a tree? Bark, Leaves (Or needles), and cones (or flowers, i.e. reproductive parts)
        - Bark of the Incense cedar is similar to Giant Sequoia in that they are both reddish brown and has long ropey strips of bark

        - The leaves are also similar, except the cedar has flat and fan-like needles while the Giant Sequoia is rounder and more like the tassels on the end of handlebars on a bike, pass around the cedar branches
        - The cones are like little duck bills, pass them around
            - Motion → Person in the middle makes duck bills out of their hands and moves them open and closed while quacking, the people on either side make their hands into jazz hands and wave them around while saying, "Flat and fan-like, Flat and fan-like, etc."
- **Adaptable:** For folks with VI, explain how to act out each motion and have everyone in the circle go around and say their name so folks know who is on either side of them. For folks with hearing impairment, you can make a motion as the prompt instead of the word (helpful to have an interpreter). *This game may be too complicated for certain groups with developmental disabilities.

Alternate (Simpler) Game: Evolution

- **Purpose:** to be introduced to incense cedars, get moving and active, and have fun!
- **How to Play:** This is the ultimate rock/paper/scissors game. Everyone starts out as a cedar cone (make your hands into duck bills and quack) and you must find another cedar cone to play rock paper scissors with. Whoever wins, evolves into an incense cedar tree (stretch your arms tall and wide like tree branches, wave your hands around like the flat and fan-like cedar leaves/needles). Whoever loses, stays the same. Then two cedar trees find each other and play rock paper scissors. Whoever wins this round becomes a nurse log (put your hands under the side of your face as if you were sleeping) and whoever loses becomes a cedar cone.
- It is good to introduce why we are playing a game about cedars. They can be misidentified as a Giant Sequoia. Good to talk about the life cycle of a tree.
- **Adaptable:** This game does require the use of hands. People do not need to be mobile. For VI groups you could have people say rock, paper, or scissors instead of making the motion.

Explore! Explain!

- **Option 1** – Pair up and meet the trees of the forests
    - Each group gets cones and branches of the following trees. Along the hike, when they locate the tree they shout out to the group and talk about their observations of the needles, the cones, and the bark)
        - White Fir
        - Giant Sequoia
        - Sugar Pine
        - Ponderosa Pine
        - Incense Cedar
    - Ask each group to pair their branch and cone up to the tree it comes from along the trail
        - Ask the group what may be some different clues to find their tree
            - Look beneath trees for fallen branches and cones
            - Look up at different trees for branches
            - Look up their trees in some of the field guides
- **Option 2** – Hike along and introduce each tree as the group approaches the species
    - The lead of the hike gathers the group around each respective tree

- Facilitator passes around cones, and branches of the tree
- Have participants walk around the tree to get a feel of how large the tree is
- Questions:
  - What does the bark feel like?
  - How is the bark/ needles/ cones different or similar with this tree compared to past trees we have encountered?
  - What would you name this tree?
- Then, introduce the names of the tree and information about the trees
- Introduce the giant sequoia last, and talk about the differences in size of tree, cone, and feeling of branches compared to the other trees

Elaborate!

- For the rest of the hike, have participants shout out if they find different cones, branches, or trees they just learned the names of to show the group
- Possible activity: have a reflection hike back for participants to experience the forest

Art and Reflective Activities

What: This is a collection of activities that are designed to prompt reflection both on an individual and group level

Activities Available:

- Andy Goldsworthy Activity
- Reflective Walk Activity
- Group Haiku or Poem Activity
- Creative History

Andy Goldsworthy Activity

Goal: Help participants to see the beauty and details of their surroundings by engaging in a creative hands-on art activity

Time: 30 minutes to an hour

When: At a point when individuals need some mellow, quiet exploration and reflection time

Where: Any place that has natural materials available. Beaches with lots of stones and debris along the high tide line are ideal.

Materials: Andy Goldsworthy Cards; an open outdoor area with natural materials

Andy Goldsworthy is a British sculptor, photographer and environmentalist that creates site-specific art made out of collected natural materials using only his hands and found tools. Most of his sculptures are temporary and only survive in pictures that he takes shortly after completing a piece. His main goal is "to understand nature by interacting with it."

"I enjoy the freedom of just using my hands and "found" tools--a sharp stone, the quill of a feather, thorns. I take the opportunities each day offers: if it is snowing, I work with snow, at leaf-fall it will be with leaves; a blown-over tree becomes a source of twigs and branches. I stop at a place or pick up a material because I feel that there is something to be discovered. Here is where I can learn."

Andy Goldsworthy is the perfect inspiration for participants to use what is around them for a reflective and creative art activity. It is common that everyone will ask for more time for this activity than you might have available. (without harvesting anything alive)

Setup

Begin by introducing Andy Goldsworthy and who he is. Reading the above quote works well. Then allow everyone to see the example photos of work by both Andy Goldsworthy and other outdoor education participants. Explain that now we are going to have the opportunity to create our own Andy Goldsworthy art projects. If you have a short amount of time, break everyone into small groups. If you have more time, encourage participants to complete their art projects individually. Be sure to preface with everyone the boundaries (how far they can go) and that they are not to harvest anything alive (they must collect things that are already down or unoccupied).

Activity

Spread everyone out and give them a time limit. They may have questions, so be sure to wander around and check in with people as they are working. Give a five-minute warning when the time is close. This will give you an idea of where everyone is in their process and whether they need more time or not.

Wrap-up

Come together as a group and announce that now you will travel around as a group and admire each art piece. The artist can offer an explanation of their work – or not. Preface with the group to watch out for other pieces as they move and to be quiet and respectful when each artist is presenting their piece. Leave time for photos!

Group Haiku or Poem Activity

Goal: Participants pause to reflect and observe their surroundings
Time: 20 minutes
Who: 6th grade and up
When: This is a great activity to do on a hike as you move down the trail. If you do not have time to hike, this activity fits well when paired with another sitting activity like drawing.
Where: On the trail or a good stopping point with a view.
Materials: Plain paper and pencils for everyone

Background

A Haiku is a traditional Japanese poem of 17 syllables. The first line has five syllables, the second line has seven syllables, and the third line has five syllables. You group poem will wind up being like a collection of Haikus with each participant adding one line.

Set-up

1. Get a plain sheet of paper. Notebook paper works best because it has lines, but blank paper will work as well.
2. Count the number of participants you have and count out that number of lines on your paper in advance so that you have one line for each person.

3. Label the lines with the number of syllables that should go on that line – use the order of a haiku: 5, 7, 5, and then repeat: 5, 7, 5, 5, 7, 5, etc. If you have a group size that is not a multiple of three, try to use other guides, staff, or yourself to finish it off so that it ends after a sequence of 5, 7, 5.

Activity

It works best if you as the facilitator write the first line of five syllables. Let everyone know what a haiku is and that they will be creating a series of haikus as a group with each one of them contributing a line. Once you add your line, fold over the paper so that the next person cannot see what you wrote. Instruct everyone to do the same. Once everyone has written their line, take a minute and read aloud the whole series.

Additional

If you choose to do this activity along the trail, the haiku usually comes out almost like a snapshot of your hike because participants usually write what they see. Feel free to be creative with this and set a theme. Ideas for themes could be: living things, auditory sounds, or subtle things they didn't notice until starting this activity. When the haiku comes out particularly well it can be copied into participant's journals if they brought them.

Reflective Walk Activity

Goal: Participants learn to observe what is around them and appreciate the beauty of what they are seeing
Time: 15-20 minutes
When: Any trip where you have the time to do at least a short hike
Where: The beach is ideal, however, a clearing in the trees offers a wealth of material as well.
Materials: Reflective Walk Cards

Pick a section of trail or road that is straight and where there is *no possibility* of getting lost, e.g. no major junctions or forks. You will walk along the trail first, placing cards with enough space between them so that participants will not be disturbed by each other (at least 20 feet, or more if space allows). Place a small rock on top of each card to keep it from being blown away by the wind.

Have another guide or staff member monitor participants and send one person up the trail every 3 minutes. Participants will proceed along the trail, stopping and reading the cards at their own pace. Remind participants to put the rock back on top of each card when they move on. You will be at the end of the section of trail or road to collect everyone. Your helper who is responsible for spacing participants should come up the trail last and collect the cards as they come. Feel free to use as many or as few cards as you would like on the trail.

It's often a great idea to have a discussion afterward where everyone shares one card they liked and what it made them think about.

Creative History

Goal: To use your imagination and engage with the trees.
Time: 10-15 minutes
When: At a point when individuals need some mellow, quiet exploration and reflection time
Where: Any place that has natural materials available.
Materials: Pencil and paper

Most of the trees in Calaveras State Park have extensive histories. Have participants pick a tree and come up with personal histories. What has the tree witnessed in the past hundreds of years? Who has visited the tree? What kind of weather has the tree endured? Encourage creativity!

Sensory Awareness Activities

Impulse Activity

Goal: This fun game is great to explain predator/prey relationships in nature and the concept of competition between species who rely on the same food source. It is also a great way to talk about the role of the spinal cord and what happens in the case of a spinal cord injury.
Time: About 20 minutes.
Who: This is a great adaptive game for people of all ability levels and ages.
When: Anytime – after lunch works well
Where: On a field or beach. This could also be done indoors.
Materials: Water bottle and a coin

To Play

1. Divide the whole group into two equal groups and get each group to decide on a bird of prey name. For example, you could use Red Tail Hawks and Ospreys.
2. Have the two types of hawks line up together, across from one another. One species in one line, the other species a couple feet away in a different line.
3. Explain: the person at one end of the line is the **brain or eyes** of the hawk. The person at the other end of the line is the **talons** of that hawk.
4. Put a water bottle or some other object at the talon end of the lines on the ground, equal distance from the talons of both birds. This is the **mouse or prey.**
5. The game leader stands between the brains of each hawk and explains:
    - Everyone in each hawk line need to hold hands to connect your brain/eyes to your talons. You are creating the spinal cord of each hawk. Now everyone must close their eyes except the brains.
    - The game leader flips a quarter coin. If it is heads, do nothing. If it is tails, the brain/eyes sends a squeeze down the hands or spinal cord of the bird to the talons. When the talons feel the squeeze they open their eyes and try to grab the mouse before the other hawk gets it. Competition. Fun!
    - Whichever hawk get the prey first wins that round. To show they won, the talons of that hawks moves up to become the new brain and everyone else slides down a position.
    - If the brain squeezes when the coin is a head instead of a tail, it wasted energy when there was no mouse. To show this loss of energy, the brain must go down to become the talons and everyone shifts one position *backwards*.

- When a hawk completes a full forwards rotation and gets back its original brain, it WINS!
- If you don't have time to complete a full rotation, you can say the winning hawk must get 3 new brains or 4 new brains.

Adaptation

If you are playing with a visually impaired group, you can use one and two squeezes of the hand of the brain instead of a coin.

Discussion Questions for the Group

1. What did your team do well? What could you have done better?
2. What happens if a spinal cord is injured and it can not send the signal from the brain to the talons? Explain what happens with a spinal cord injury in a person.
3. What are some other predator/prey relationships in nature?
4. What are you the predator of?
5. Who is a predator of humans?

Five Senses Activity

Goal: To tune people in to all of their senses to better appreciate the environment we are exploring
Time: 10-20 minutes
When: At a point in the trip where group energy is conducive to a reflective activity
Where: This is a great activity to do on the water in a calm and protected area.
Materials: None

Opening

We rely on our five senses to provide us with information daily. Let's go ahead and name the five senses. Of course, the five senses are: smell, taste, touch, sight, and hearing. Now we are going to do an activity to tune us in to our five senses. We will begin with everyone closing their eyes.

Procedures

1. Have the group form a circle, or raft up their kayaks, and then close their eyes.
2. Ask a question to a particular sense each time (usually hearing first because it is the second most important sense). Choose questions from the list below that are appropriate to your surroundings, and feel free to add your own!
3. Depending on the question and the group, allow a number of seconds or even close to a minute between questions.

Sample Questions

Hearing

1. Lift up your fist and lift a finger one at a time, as you count off five different sounds from nature.
2. Do you hear the wind blowing? Is it loud or quiet today?
3. Identify the different sounds the birds make, some are high pitch, some are low pitch. Can you identify which sound belongs to which bird?

4. Can you hear seals? Listen carefully and tell me which one is really making the noise.
5. Listen for the loudest sound. Now, listen for the quietest sound.
6. Can you hear the waves? Are they big or small?
7. Can you hear you own heartbeat? Is it fast or slow?

Smelling
1. Can you smell the salt in the water?
2. Do you smell the sunscreen you put on today?
3. What smells do you notice? How are they different from where you live?

Feeling
1. Can you feel the sun on your skin? Which direction is the sun shining from?
2. Can you feel the people around you?
3. Feel the wind on your skin. Which direction is it coming from?
4. Dip one of your fingers in the water and stir it. Is the water colder or warmer than you expected?

Tasting
1. Dip one of you fingers in the water and taste it. Is it salty? Or less salty than you expected? Do you like the flavor?
2. If you are near anything edible such as pickle weed or wild radish, have them taste it. What does it taste like? Does it taste similar to something?

Sight
1. Now open your eyes. Look around and count how many different colors of green you see.
2. Can you identify anything you might find back at home?
3. Can you identify anything you have never seen before?.

Closing Remarks

They say that the more senses you use, the more you remember. Through our senses we make connections to the places we live and explore. So, now that your senses are tuned in to your new environment, we want you to use them. Become aware of the new things that are around you as well as those things that are familiar. And when we are out here today remember how people and the natural world are tightly bonded. We get everything we need to live life from the natural world. All our water, food, energy, and materials to build our homes, comes from places life this. Let's use our senses to appreciate these gifts today!

Powers of Observation Activity

Goal: To get participants ready to observe their surroundings with a keen eye
Time: About 5-10 minutes per activity
Who: Participants of any age. These activities are focused primarily on using our sense of sight, so they are not well suited to visually impaired participants.
When: Before starting a hike is a perfect time for these activities.
Where: These can be done anywhere outdoors
Materials: No materials needed for Activities 1 and 2. For Activity 3, you need a pen or pencil.

As the facilitator, you can choose to do all three of these activities in sequence, or just try one of them.

Opening

We want you to increase your powers of observation today. These are some fun activities to challenge you to take notice of the details around you. We want you to start watching things like a **Hawk!**

Let me share a few things with you today about a hawk's vision. Did you know that a hawk can see something from 20 feet way that people can only see from 5 feet away? A hawk can actually see a mouse from the height of one mile. Most predatory birds, like hawks or owls, have binocular vision. This is the ability to focus on an object with both eyes, which creates a single image. Humans have this kind of vision, but a hawk's vision is obviously much better.

Chapter 10

What to Bring

Cross Country Ski Guide What to Bring List:

ETC provides winter clothing to our participants. Guides typically bring their own clothing. Following is a list of things that you will want for a typical 2-day, 2-night program.

6. **For maximum warmth and safety please bring and wear LAYERS of clothing for snow days. This allows you to adjust your body temperature depending on exercise and weather conditions.**
7. **Wool and/or polypropylene (a synthetic material) are best for cold, wet conditions.**
8. **Cotton is not appropriate for the snow. Do NOT wear cotton socks, tees, long-johns or sweaters as cotton makes you COLDER when wet.**
9. **For cheap winter clothing, try the following stores at a location near you: Wilderness X-Change, Goodwill, Army Supply Surplus Store, any thrift store. If you need assistance call ETC and we'll help you locate a store.**

FOR SKIING:

___ wool/fleece hat and scarf
___ mittens or gloves (waterproof)
___ backpack
___ 2 pair wool socks
___ waterproof jacket and pants
___ 1 wool/fleece sweater
___ 1 pair wool pants or ski pants
___ warm jacket (fleece, wool, puffy)
___ sunglasses or goggles
___ sunscreen & lip balm
___ water bottle!!!!
___ thermal underwear top & bottom (synthetic NOT cotton)
___ Baseball cap/Sun Hat

FOR AFTER SKIING:

___ comfortable clothes
___ boots or sturdy shoes
___ personal items/toiletries
___ flash light/headlamp
___ sleeping bag
___ sleeping pad
___ face towel
___ slippers or house shoes
___ sleep wear

ETC WILL PROVIDE:

✓skis, boots and poles

IF NEEDED, ETC can provide the following items. Because all gear is donated, we may run out of certain items or lack certain sizes:

✓sweaters	✓sleeping pads	✓ski pants	✓goggles
✓wool socks	✓mittens	✓hats	✓scarves
✓thermal underwear	✓rain gear	✓warm jackets	✓sun glasses

We encourage participants, staff, and guides to bring musical instruments, games, and stories to share...
Please do not bring iPods/iPads, video games or other electronic music or game devices.