Fact Sheet: Avalanche

In areas with snow slopes of >30°, there is a possibility for avalanches. Getting caught in an avalanche is extremely hazardous. In the US, avalanches kill 25-30 people and injure many more each winter. The odds of surviving after being completely buried during an avalanche are approximately 30%. The two main concerns with avalanches are:

- **Traumatic injury -** Being struck by flow debris or striking stationary objects can cause severe injury.
- **Asphyxia -** Burial in avalanche flow can result in lack of adequate air.

Personal Protective Equipment

- Slope meter
- Rescue beacon
- Shovel
- Collapsible avalanche probe
- Helmet

Preparation and Training

- Development of an avalanche specific emergency plan must be done before the trip.
  - Identify your procedures for handling various emergencies and situations that would require you to abort crossing an avalanche risk area.
- Consider taking a class in Avalanche Safety and Rescue
- It is recommended you take courses in: Wilderness First Aid

General Safety

- Check the most recent avalanche forecasts for the area you are going. Certain weather conditions make for a higher probability of avalanche trigger, such as warm weather above freezing in that area.
- Avoid hiking in avalanche country if there has been heavy rain or snowfall within the last 24 hours.
- Avoid any areas with signs of recent avalanches, as the area might still be unstable.
- Warning signs that you are approaching a dangerous area are when snow appears to crack, collapse, or make a "whumph" sound beneath you. These signs indicate that the snow is stressed and cannot bear your weight.
- Always cross dangerous terrain one at a time, to minimize how much of the team is exposed at any given time.

- Do not cross the middle of a slope, instead cross at the top or the bottom.

Emergency Response

- If you are caught in an avalanche, try to keep your feet down slope, try to grab a tree if you can, and "swim" trying to keep near the top of the slide. Try to slow yourself down by digging your feet down. As the slide slows, thrust yourself upwards and try to maintain a space in front of your mouth for breathing.
- If someone else is swept away, you do not have time to go for help. First, identify if it is safe to perform a rescue. If the rescue area appears to be safe, try to make verbal contact and use the beacon to identify where the person is located. Use the probe to identify their exact location and start to dig them out.
- If the rescue area is in hazardous terrain, like a ravine, or the warning signs for an avalanche still present, do not attempt to perform a rescue. Call for emergency services.

References and Additional Resources

- American Avalanche Association
- Short Online tutorial on basic avalanche safety
- Adapted from *Avalanche Fact Sheet*, by University of Maryland: Department of Environmental Safety, Sustainability & Risk (https://essr.umd.edu/about/research-safety/field-research-safety/planning) with permission.