



Avalanche Research + Education

Backcountry Decision-Making Guide

**online sample
for precourse use**

Each Season

PREPARE

- Continue your avalanche education
- Practice avalanche rescue
- Track the season's conditions
- Research backcountry trip options

Each Backcountry Day

PLAN YOUR TRIP

- Assemble Your Group
- Anticipate The Hazard
- Plan to Manage Avalanche Terrain
- Discuss Your Emergency Plan

RIDE SAFELY

- Conduct A Departure Check
- Monitor Conditions Along Your Route
- Check In With Your Group
- Recognize Avalanche Terrain
- Use Terrain To Reduce Your Risk

TEAMWORK

- Travel together. Decide together.
- Listen to every voice.
- Challenge Assumptions.
- Respect any veto.

DEBRIEF THE DAY

- Summarize Conditions
- Review Today's Decisions & Improve Today's Plan
- Submit Today's Observations

PLAN YOUR TRIP

Assemble Your Group

Date: _____

Group Check In.

Record names, contact info, and emergency numbers

Discuss:

- compatibility of goals
- compatibility of skills, abilities, and equipment
- group size (optimal is 3-5)

- compatibility of risk tolerance
- any health issues
- if all agree to travel and decide together

Anticipate The Hazard

Read the local avalanche advisory. Seek expert opinion.

Discuss current & forecast weather factors that can affect travel or hazard.

Consider snowfall, wind, and drifting snow, and warming.

Identify the avalanche problem and location. Discuss the danger trend and timing.

List primary problem first
eg. Wind Slab

Size	Elevation	Aspect	Terrain Features	Danger Trend & Timing
#1				
#2				

Discuss the advisory's key message.

Highlight recent avalanches and travel advice.

Plan To Manage Avalanche Terrain

Decide by Consensus: Voice all concerns. Respect any veto. Challenge assumptions.

Use pg. 3 to choose a route plan that considers today's group, weather, and avalanche concerns.

Record the following:

- Today's terrain mindset
- Slopes and areas to avoid
- Route (include check-in stops). Note any important precautions on the route.
- Alternative route
- Turn around point and time

Discuss Your Emergency Plan

Assign group gear.

- Who else has our itinerary?
- Adequate food/water/warm layers
- S.O.S device (cell or satellite unit), emergency numbers
- Kit for evacuation and overnight emergency
- First aid kit
- Repair and tool kit
- Navigation tools

WHAT GIVES US THE CONFIDENCE TO CARRY OUT THIS PLAN?

PLAN TO MANAGE AVALANCHE TERRAIN

Decide by Consensus: Voice all Concerns.
Challenge Assumptions. Respect any Veto.

Discuss route options that consider today's group, weather, and avalanche concerns.

- Use maps, photos and guidebooks to locate avalanche slopes along your backcountry route.
- Identify terrain with less exposure and consequence.
- Consider your time plan as it relates to hazard factors.

Adapt a terrain mindset that considers exposure.

- When the danger is elevated choose less exposed terrain.
- When the terrain or conditions are unfamiliar, or the group is uncertain, choose less exposed terrain.
- Consider traveling with an expert capable of managing current conditions and more complex terrain.

Today's Terrain Mindset

"Keep it simple and avoid avalanche terrain". Choose low angle and/or primarily forested terrain. Simple terrain means you are not exposed, or "many options exist to reduce or eliminate exposure".¹ If necessary, cross a run out zone one at a time.

"Limit exposure" by avoiding the obvious paths, steepest slopes, and trigger zones. Consider entering slopes below start zones or lower in the track. Or if in doubt, avoid avalanche terrain. The terrain may have avoidable terrain traps, mid slope start zones, overhead cornices, and less obvious avalanche slopes. Managing exposure requires experience, but "options exist to reduce or eliminate exposure with careful route finding".¹

"Step it out cautiously" and reduce risk by choosing terrain with less consequence. Low or no chance of avalanches today. As the terrain may be steep and open, complex, and with multiple avalanche slopes, "minimal options (exist) to reduce exposure".¹

Choose your terrain.

Acknowledge consequences.

Have an alternative plan.

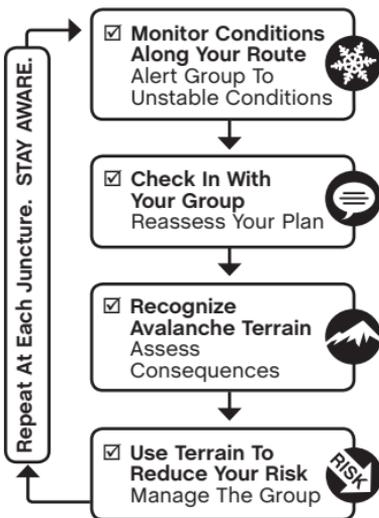
- Agree upon and document today's route through the terrain.
- Define the slopes or areas you plan to avoid.
- Note where you plan to stop, check in with the group, and reassess your plan.
- Discuss the precautions and backcountry travel protocols you will apply to your terrain choices.
- Identify a realistic less exposed alternative route, as conditions may turn out to be different than you think.
- Note your turn around point and time.

¹ From the Avalanche Terrain Exposure Scale (Parks Canada). Read about it in the AIARE manual .

RIDE SAFELY

Conduct a Departure Check

Confirm: gear, time plan,
communication plan.
Conduct a function check.



Monitor Conditions Along Your Route
Alert Group To Unstable Conditions

Check In With Your Group
Reassess Your Plan

Recognize Avalanche Terrain
Assess Consequences

Use Terrain To Reduce Your Risk
Manage The Group

Record Key Observations & Tests

Location	Observation	Relevance
~~~~~	~~~~~	~~~~~
~~~~~	~~~~~	~~~~~
~~~~~	~~~~~	~~~~~

## References/Notes:

- avalanches observed (p. 61)
- signs of unstable conditions (p.5 or 56-58) or snowpack observations (p. 44-51)
- field weather observations (p. 60)
- changes to the trip plan
- tactics used to reduce risk

# ? DEBRIEF

## Summarize Conditions

Review your pre-trip plan. Summarize how conditions developed.

- How did today's weather affect conditions? What is the primary (avalanche) concern?
- Is the danger increasing or decreasing?

## Review Today's Decisions & Improve Today's Plan

- What were the strengths & shortcomings of today's plan?
- Where were we most exposed to avalanche risk?
- If we repeated the outing, what decisions or actions would be similar and what would we do differently?

## Submit Today's Observations



## Monitor Conditions Along Your Route.

### ⚠ Alert Group To Unstable Conditions.

#### WEATHER

- **Heavy snowfall:** 30cm (12") past 2 days (even less with wind). Watch out for rapid accumulation (>2cm or 1"/hr.)
- **Recent drifting snow** means windslabs can form downwind of ridge lines.
- **Rapid warming** from sunshine or rain can make unstable snow. Extra caution with warming right after a storm.

#### SNOWPACK

- **Signs of avalanche activity** from today or yesterday.
- **Whumph!** This sound is a warning that weak layers are collapsing in the snowpack.
- **Cracks** in the snow surface that shoot out from skis or track.
- Overhanging or drooping cornices.
- A **slab above a weak layer** (reported or observed in tests).



## Check In With The Group.

### Reassess Your Plan.

- See anything **unexpected**?
- Hungry? Healthy? Engaged?
- Gear issues?
- **Will anything affect decisions or travel?**



## Recognize Avalanche Terrain.

### ⚠ Assess Consequences.

- Does the slope match with today's strategy to limit avalanche exposure?
- Does this slope have the same aspect/elevation as today's avalanche problem?
- Is the steepest part of the slope inclined near or above 35 degrees?
- Is there a dangerous slope above or terrain trap below?
- Is there a known or obvious avalanche path (open path, flagged or broken trees, run out)?
- Are there steep convex roll overs or other hard to avoid trigger points?
- Is this a committing slope? Once there, will we still have a less consequential option?



## Use Terrain To Reduce Your Risk.

### Manage The Group.

Regroup prior to entering avalanche terrain and apply appropriate precautions:

- Choose a smaller slope.
- **One at a time:** minimize number exposed.
- **Watch each other. Regroup away from the avalanche hazard.**
- If your partner is stuck on the avalanche slope let them dig themselves out.
- Avoid travel above or below other groups.
- **Choose high ground out of the flow** of the avalanche.

# PLAN YOUR TRIP

**Assemble Your Group** _____ Date: _____

Group Check In.

**Anticipate The Hazard** Read the local avalanche advisory. Seek expert opinion.

Discuss current & forecast weather factors that can affect travel or hazard.

Identify the avalanche problem and location. Discuss the danger trend and timing.

Discuss the advisory's key message.

**Plan To Manage Avalanche Terrain**

Decide by Consensus: Voice all concerns. Respect any veto. Challenge assumptions.

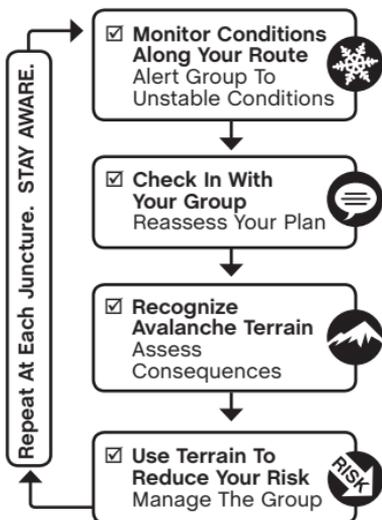
Use pg. 3 to choose a route plan that considers today's group, weather, and avalanche concerns.

**Discuss Your Emergency Plan** Assign group gear.

WHAT GIVES US THE CONFIDENCE TO CARRY OUT THIS PLAN?

# RIDE SAFELY

- Conduct a Departure Check**  
*Confirm: gear, time plan, communication plan.*  
Conduct a function check.



Record Key Observations & Tests

## DEBRIEF

- Summarize Conditions**

- Review Today's Decisions & Improve Today's Plan**

- Submit Today's Observations**



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