Avalanche Beacon Parks:
Skill Development and Team Coordination in a Technological Training Ground

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Photo: eGuide Travel

THE MESSAGE

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Technological training grounds can stimulate amateur practice in context
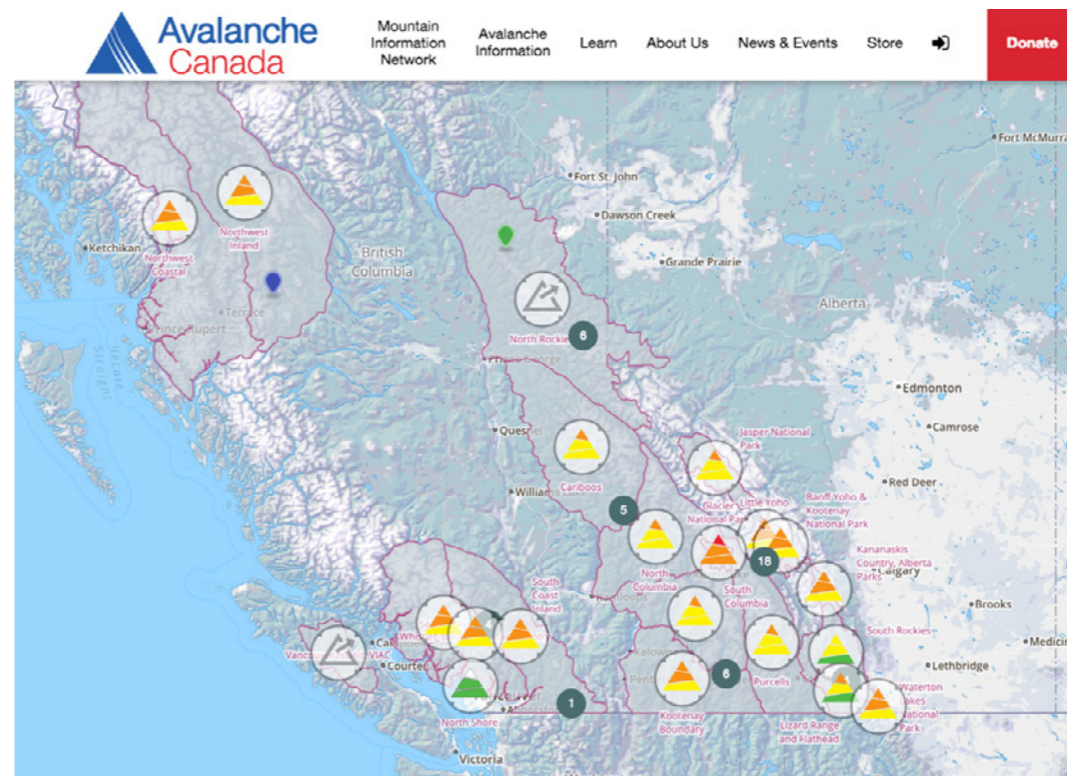
Extreme sports

Balance between risk-taking and knowledge of dangers

Extreme sports

Start to include technological devices

Motivation

Growing need for practice and simulations for amateurs

Team training

Team training through simulations
(air traffic control, health care,
firefighting, real world emergencies)

(e.g. Conversy et al., 2011; Beaubien & Baker, 2004; Toups
et al. 2011; Linehan et al. 2009)

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On site and extremely fast

Case study: Backcountry Skiing

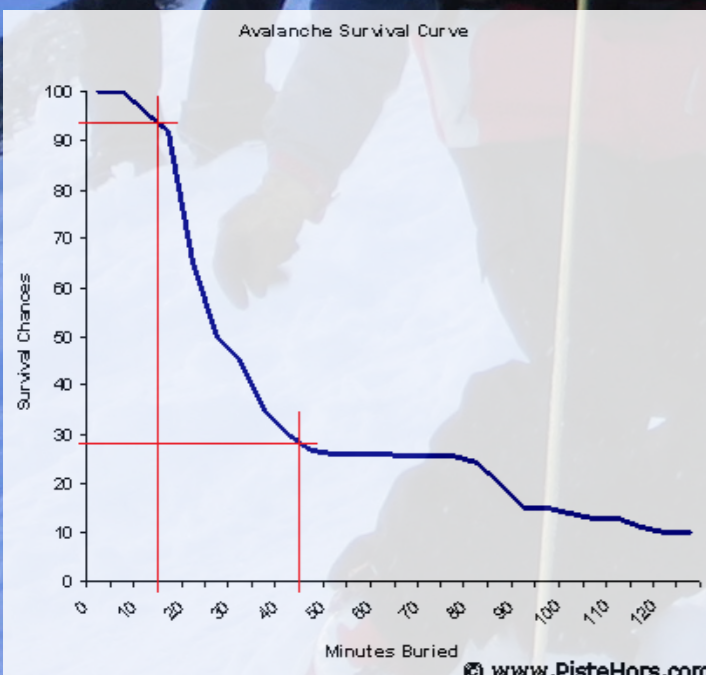Out of bounds - No avalanche control - No ski patrol

Avalanche

A rapid flow of snow down a slope that can catch and bury skiers

Companion rescue

If a skier is caught, his companions need to rescue him **IN 10 MINUTES**
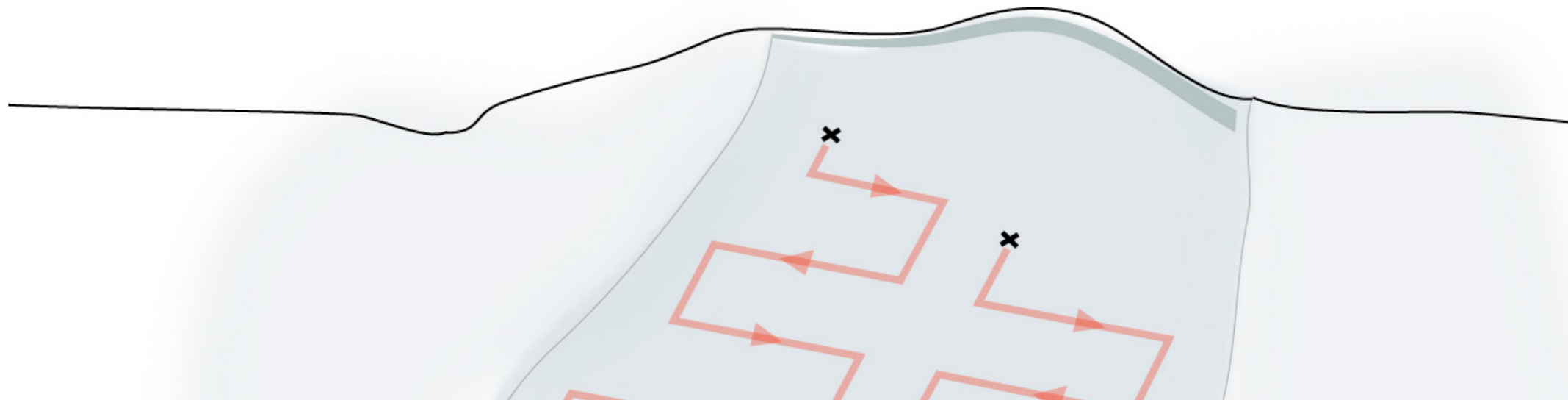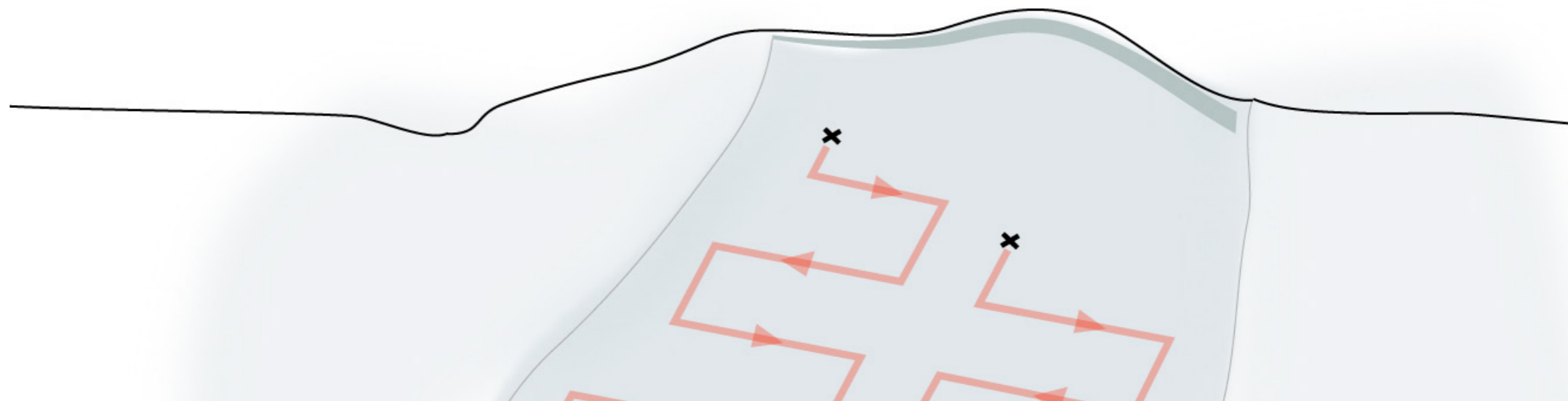
Beacons

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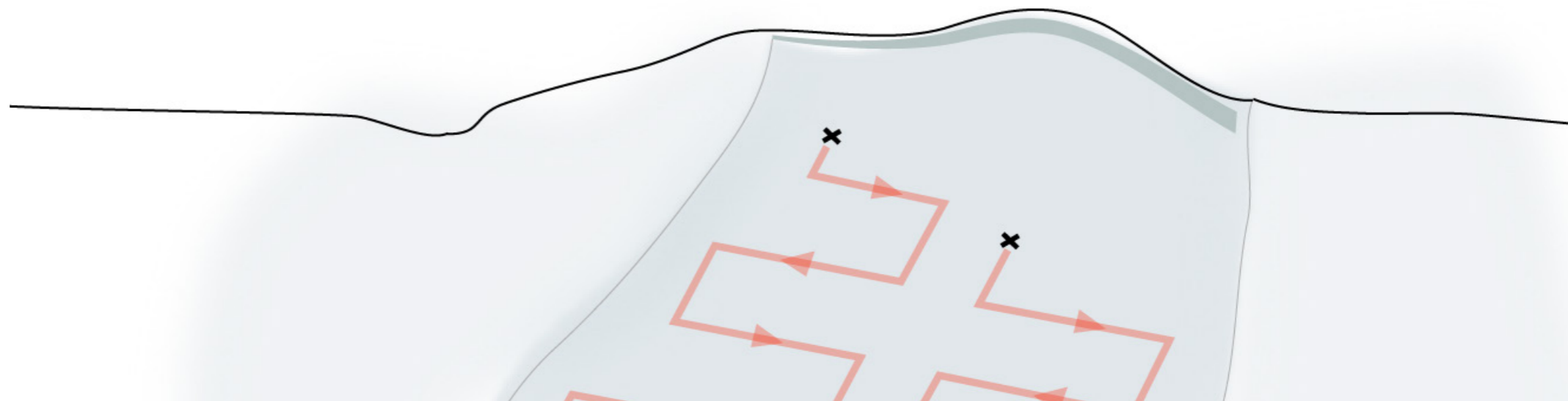# Companion Rescue Challenges

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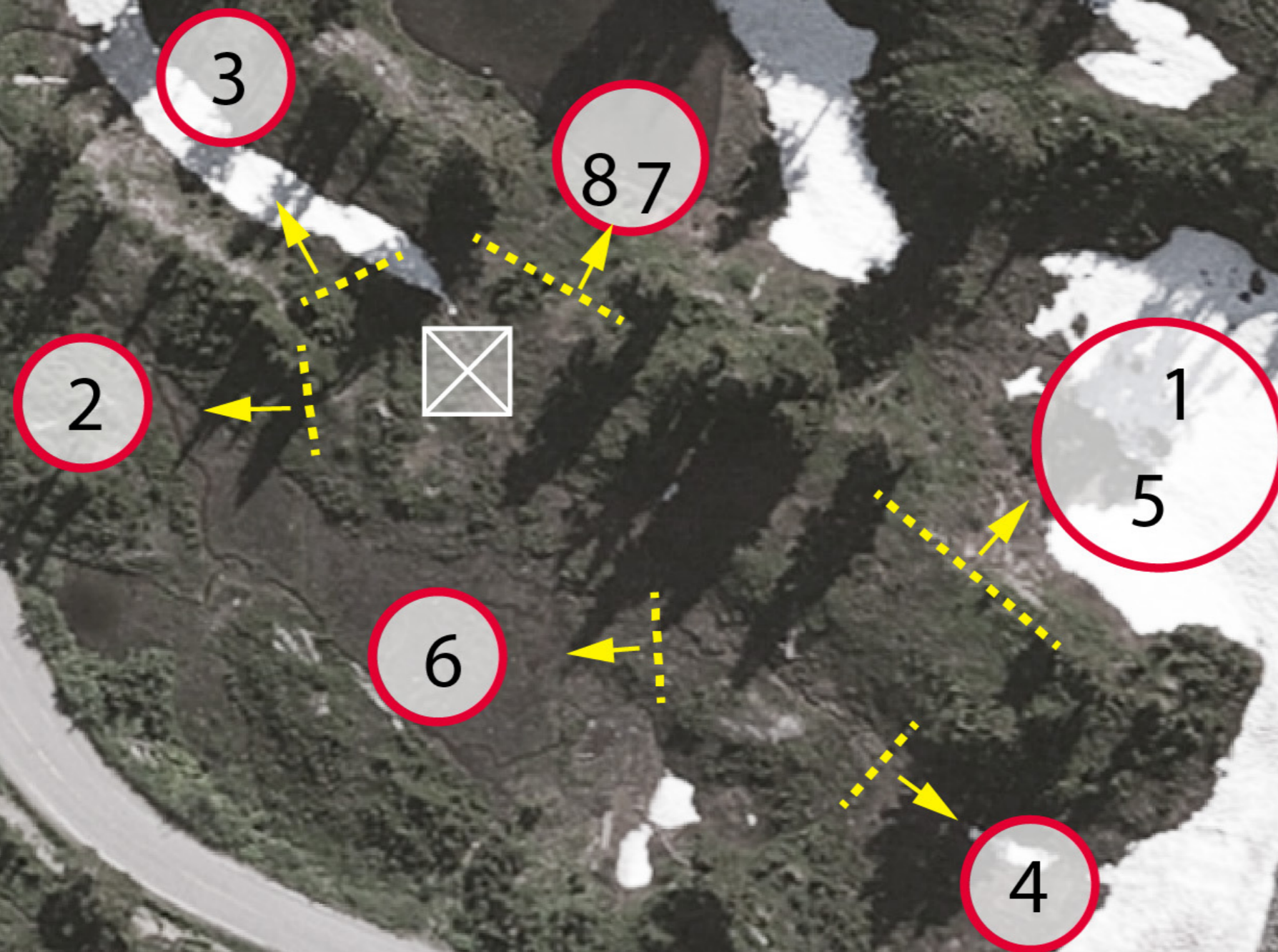3 - Gaining relevant practice

* Technology is only ONE facet

(Desjardins et al., 2014)
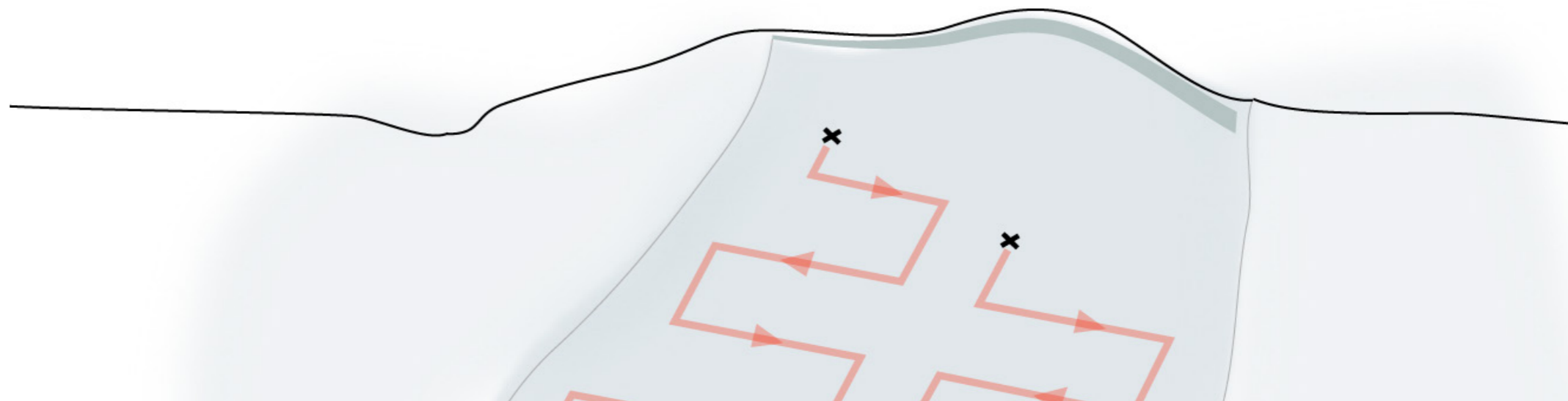
Avalanche Training Beacon Parks

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Research Questions

1- How do recreationists use beacon parks?

2- How can we design beacon parks to better fit the needs of the recreational community of backcountry skiers?

Methodology

Observations and Interviews

4 days at Mt Baker

Pre-activity questionnaire
Shadowing
Semi structured interviews

22 participants

10 general public

10 individuals
3 teams of 2
2 teams of 3

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Reflections

Written reports and photos

Desjardins: new recreationist

Hambelton: professional avalanche education specialist

Greenberg: experienced recreationist

Results - Individual skill development

Familiarizing themselves with beacon

Working on multiple burial scenes

Discussion - Progressive scale

Value of having a pre-installed training ground

Breaking the false sense of confidence

Results - Team coordination training

Beyond the beacon

Discussion - Balancing skill development and coordination training

Beacon park emphasizes the beacon itself

Encourage team coordination activities

Results - Setting up the beacon park

Physical constraints of the terrain

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Physical constraints of the terrain

"The beacon park is generally in a flat area, on snow that is easy to access and walk on. In a real avalanche, the terrain would be much steeper and walking in avalanche debris is more like walking on boulders. So this is not really realistic." (P3c)

Discussion - Levels of fidelity

Use technological and psychological fidelity when environmental fidelity is hard to reach (Beaubien and Baker, 2004)

Results - Role of the facilitator

Orientation, feedback, debrief sessions

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Orientation, feedback, debrief sessions

"Having [the beacon park] *staffed also really helped, because when you have someone teach you, this makes a large difference."*
(P10c)

Discussion - Supporting a community of practice

Presence of facilitator or mentors and Meet & Greet (structured clubs)

Conclusions - Technological training grounds

Non-experts and ad hoc situations

Other extreme sports and disaster relief

Less extreme situations, e.g. citizen science

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