



Drought and the Ski Industry

Concerns, Impacts, Conservation

Overview of Presentation

- Who we are
- Potable Usage
- Snowmaking Usage
- Challenges And Concerns
- Conservation Measures

Who We Are...

- Operations Based Environmental Depts



Vail- Like Nothing On Earth

- 1.6 million skier visits
- Six on-mountain dining facilities
- Three terrain parks
- 33 lifts
- 2,500 employees peak season
- 32 tons of freight in single busy day

Potable Water

- Supply- Spring-fed
 - Plow Springs-feeds Two Elk & snowmaking
 - Tourist Trap-feeds PHQ, WildWood, Mid-Vail, Eagle's Nest, Game Creek Club
 - Belle's Camp Well- feeds Belle's Camp Warming Hut

Approximate Locations

- Belle's Camp well (770 ft)
- Plow Springs
- Tourist Trap



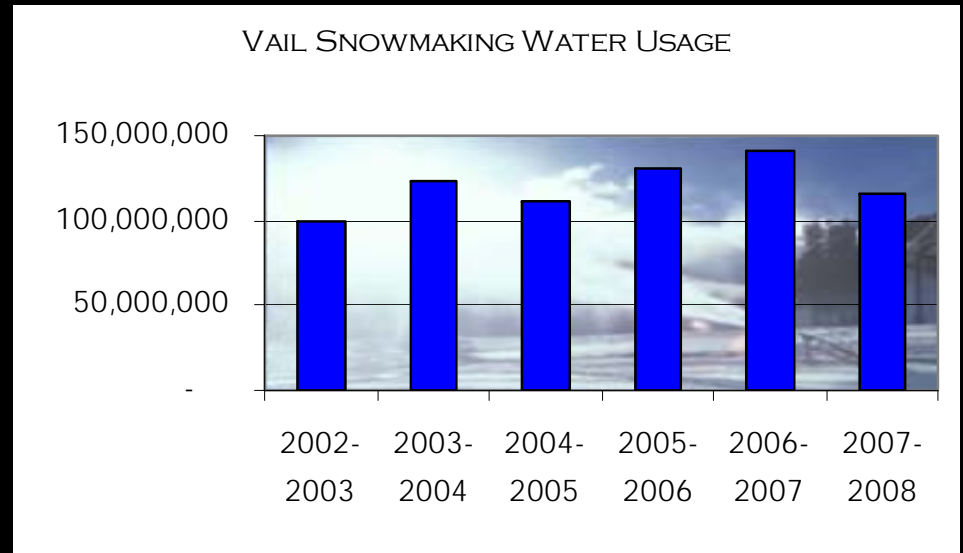
Snowmaking

- Starts November 1st
- Ends December 31st or Mid-January
- Water and Air
- 390 Acres (7.37% of total terrain)
- Energy Intensive- 36-42% of overall, 65-70% during December



Snowmaking Water Usage

- Pump Houses-Glen Lion and Dowd Junction
- Supplement flows of Gore Creek, Eagle River
- Snow Central Reservoir



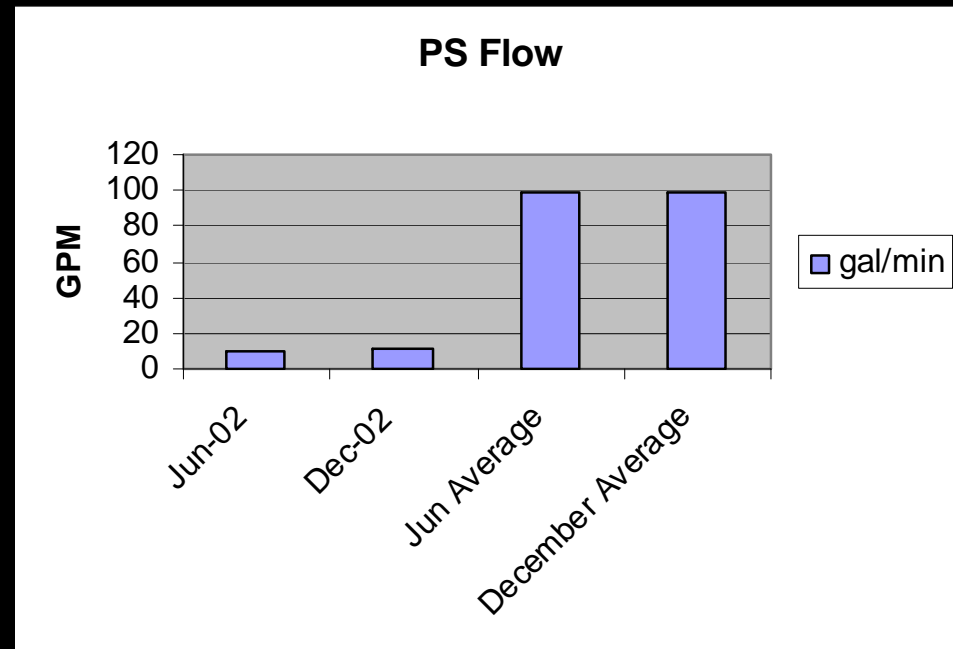
Challenges

- Luxury Low-flow



Potable Water- Drought Year

- Recorded Summer and Winter of 2002
- Average rate exceeds testing methods (99 gpm)



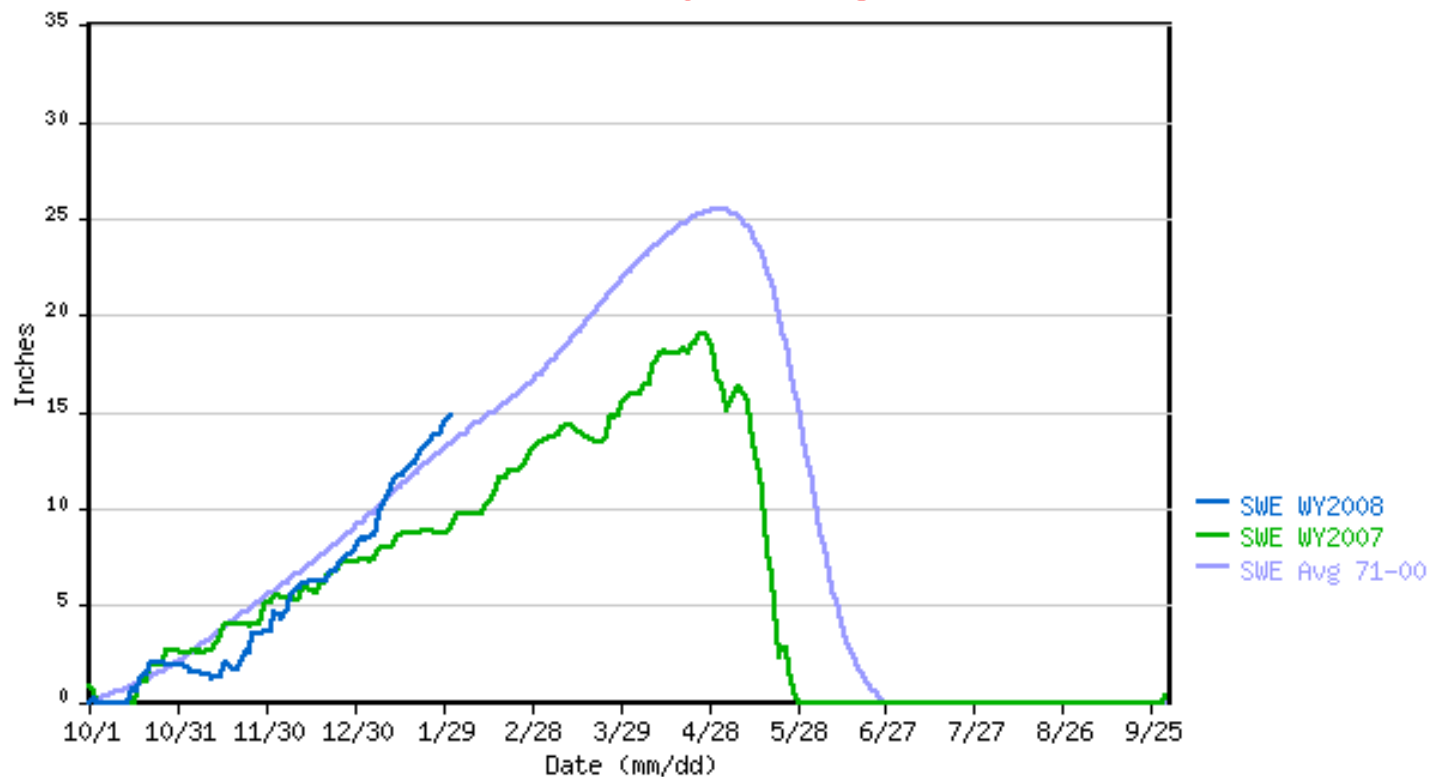
Warm Years vs. Snowmaking



Threat of Early Melt=Early Season Snowmaking

VAIL MOUNTAIN SNOTEL as of 01/31/2008

*** Provisional Data, Subject to Change ***

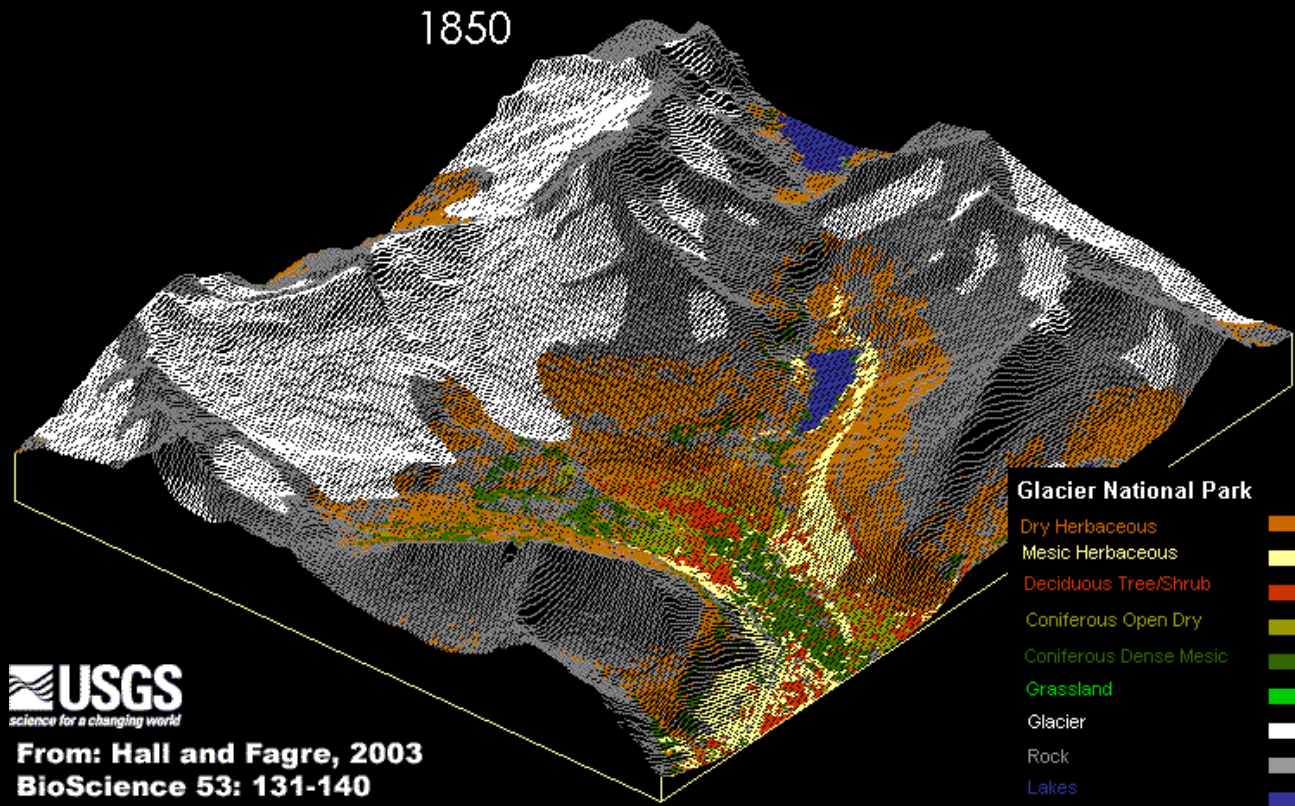


Mountain Pine Beetle-

- 80% tree mortality
- Not limited by elevation
- No more sustained cold (-20 Celsius/week)



Snowpack and Glacier Simulation



Europe

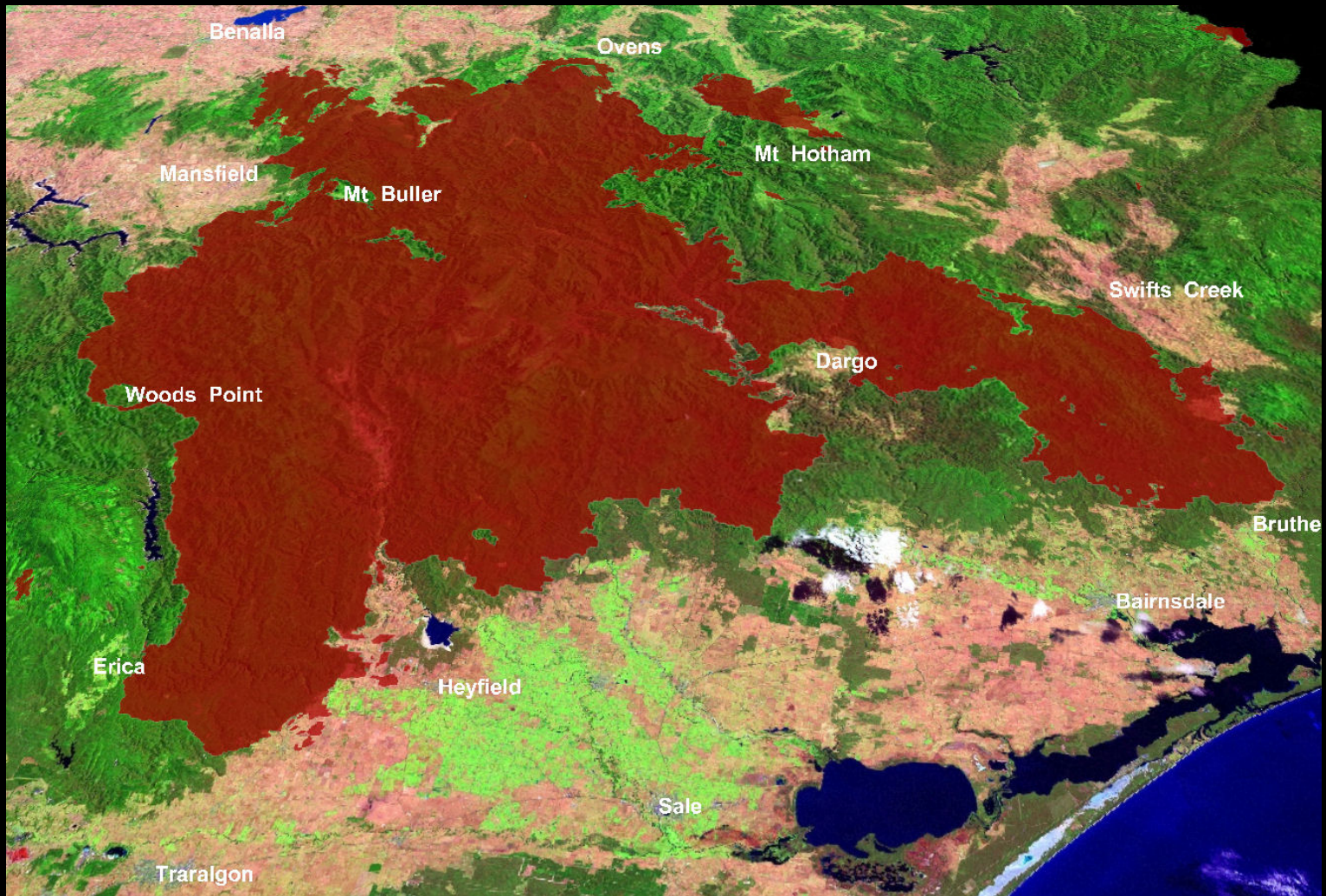
- Glencoe- oldest resort in Scotland- closed
- Glenshee- largest resort in Scotland – closed
- Val Thorens- glacier tarping



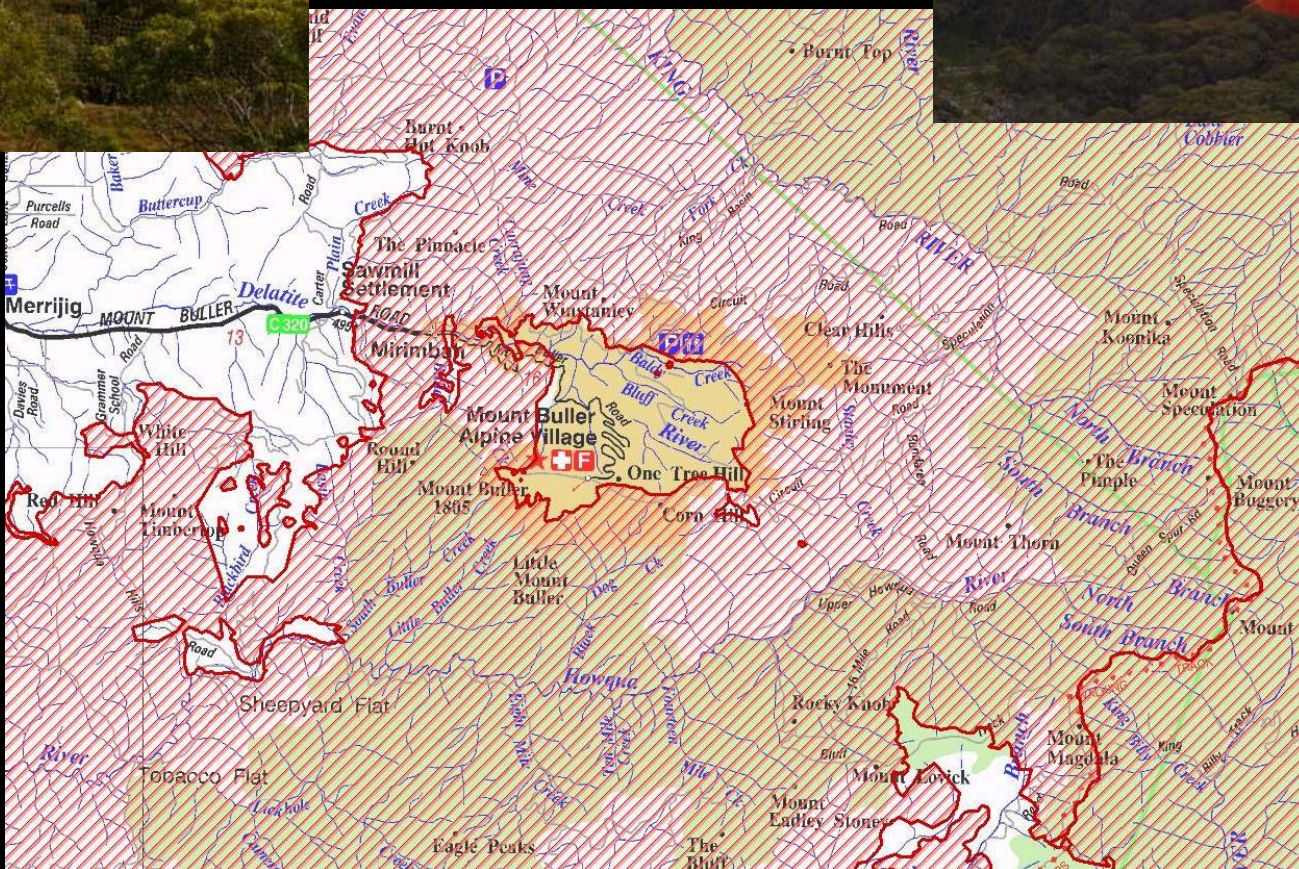
Australia

- Hotham- Reclaimed grey water for snowmaking
- Falls Creek- Exotic tree removal
- State of Victoria- Reservoirs below 30%

Fires of 06/07



Buller Fire



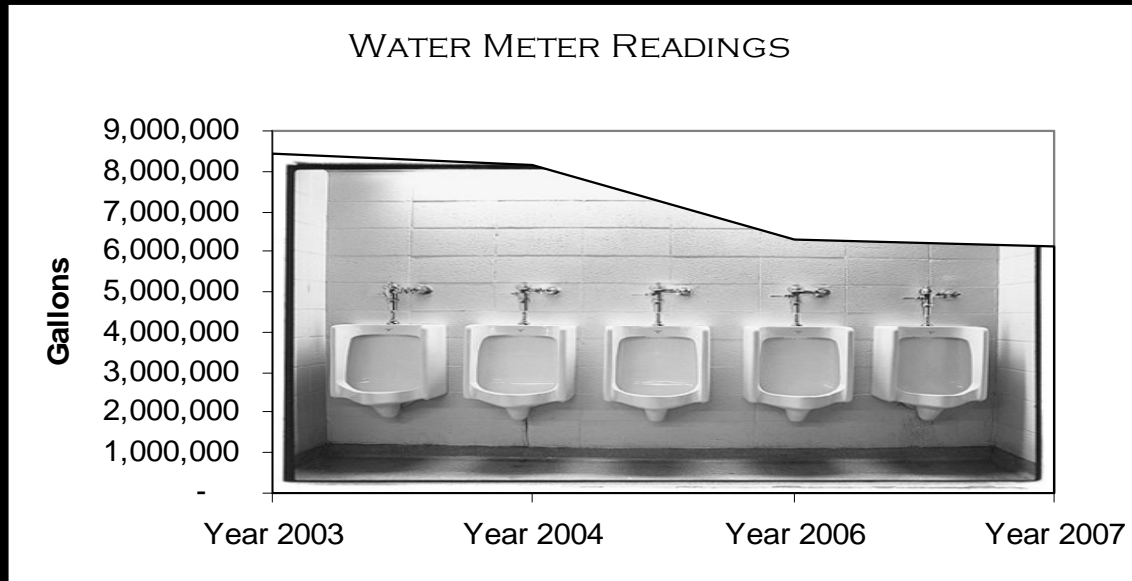
Conservation Measures

Potable Water

- Sink Aerators
- Low Flow Toilets and Urinals
- Waterless Urinals-PHQ, Buffalo's, Wildwood, Eagle's Nest, Belle's Camp

Conservation Measures

Potable Usage



27% Overall Reduction in Potable Water Usage

Conservation Measures

Snowmaking

- Snow tarping
- Grading
- Automation tests
- Increasing gun efficiency
 - (10% reduction in 2 years)

Snow Tarp – 10/06/2008



Chair 26 Cut



- 5000-7000 trees

Is Vail Resorts scared of Global Climate Change and Droughts?

- Aren't you worried about losing your job?
- What will they do with the lifts?
- What will happen to the real estate?
- Can you make snow in warm temperatures?
- What will happen to my ski-in condo?
- Will you refund my lifetime pass if I can't ski?

Global Warming

Loss of Snowpack

- Earlier Melting
- Less Water
- Provides Drinking Water for-
 - Colorado, Wyoming, New Mexico, Arizona, Nevada, California, Mexico

Implications

Serious for ski industry

VERY serious water issues for

60,000,000

human beings

Thank you...

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Luke Cartin, Vail's Environmental Manager plays a vital role in bringing new environmental initiatives to the resort. Cartin serves as a board member of Sustainable Slopes, a committee of the NSAA, which advises on ski industry environmental policies as well as the Keep Winter Cool Campaign, which is a partnership between the National Resources Defense Council (NRDC), NSAA and ski areas. The State of Colorado and the Environmental Protection Agency have recognized him regularly as an industry leader in pollution prevention and environmental leadership.

He has been referred to as "the encyclopedia of the mountain," and is well suited for his position within Technical Mountain Operations. Luke regularly speaks at college campuses, as well as environmental events internationally on topics of sustainability, tourism, and travel. He holds a degree in Environmental Resource and Forest Engineering from State University of New York – ESF as well as a Bachelor of Science from Syracuse University.