

Proposal for the Greening of Prospect Mountain



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Table of Contents

Executive Summary	4
Project Background	6
History of Prospect Mountain	6
The Prospect Mountain Association	7
Town of Woodford	7
Current Operations	8
Current Plans	8
Involvement with Nordic Skiing	9
Nordic Ski Teams	9
Williams Outing Club	10
Nordic Skiing and Climate Change	10
Case Studies	11
Craftsbury Outdoor Center	11
The Dublin School	13
Rikert Nordic Center	14
Dartmouth College Outing Club Cabins	14
Maps	16
Site Description	21
Location	21
Facilities	21
Current Usage	21
Recreational Usage	23
Skiing	23
Snowmaking	23
Trail Homologation	24
Snowmobiling	25
Other Uses	26
Energy Usage	28
Electricity	28
Minimal Impact Plan	28
Maximize Sustainability	30
Oil 31	
Wood	33

Propane	34
Other Changes	34
Marketing Initiatives	35
Business Identity & Publication Language	35
Current Marketing Techniques & Suggestions	36
Community Events	37
Merchandise	39
Social Media & Email Distribution List	42
Email Distribution List	43
Facebook	44
Instagram	46
Collaborations with Local Businesses	50
Print Materials	51
Promotions	54
Summary	54
Target Market & Customer Analysis	54
Local Competitors	55
Marketing Goals & Implementation Timeline	56
Branding	58
Marketing Budget	60
Sustainable Food	61
Overview of Previous Operations	62
Kitchen Management	62
Order of Operations	63
Production Capacity	64
The Menu	65
Sourcing	66
Sustainable Sourcing Alternatives	67
Waste Management	68
Compost	69
Community Feedback & Survey Results	70
Financial Feasibility	70
Expanding Operations	72
Breakfast	72
Special Events	73
Recommendations for Future	73

Implementation Timeline	74
Law & Policy	76
Conservation Easement	76
Grant of Development Rights, Conservation Restrictions, and Public Access Easement	76
Americans with Disabilities Act	78
Vermont Statutes Annotated Chapter 10: Conservation and Development	78
Forestry	79
Acceptable Management Practices for Maintaining Water Quality on Logging Jobs in Vermont	79
The Forest Legacy Program of 1990	79
Sugarbrush Management Standards and Tapping Guidelines for Forestland Use and Appraisal	80
Wetlands	80
Vermont Wetland Rules	80
Act 250/80	
Interviews and Surveys	82
Interviews	82
Survey	82
Alternative Solutions	85
No Action	85
Minimal Impact	85
Maximize Sustainability	86
Maximize Usage	86
Maximize Ski Experience	87
Recommendations	89
One-Year Plan	89
Two-Year Plan	92
Five-Year Plan	94
Further Plans	95
Conclusion	96
References	97
Appendix	101
I. PMA Board Members	101
II. PMA Board Meeting	101
III. Style Guide	103
IV. Interviews	104

V. Sticky Note Responses	106
VI. Survey	107
VII. Merchandise	136
Current Merchandise - Cost/Benefit	136
Suggested Merchandise - Cost/Benefit	137
VIII. Menu Cost-Benefit Analysis Spreadsheet Outline	142
IX. Evaluation Matrices	147
X. Article	148
XI. Photographs	149

Executive Summary

Prospect Mountain Ski Area of Woodford, Vermont is a treasured aspect of the region and its surrounding community. In 2018, management of the business was taken on by the Prospect Mountain Association (PMA), a conglomerate of locals who care deeply for the ski area and the community which has formed around it. Upon the request of clients David Dethier, a member of the PMA board, and Donald Campbell, the Vermont Land Trust's regional director for the area, this report presents a comprehensive overview of the current state of Prospect Mountain, alongside desirable paths forward to maintain its charm and function while promoting its viability as a ski area and small business. This operation of "Greening Prospect"—in both an economic and environmental sense—is guided by extensive community input, individual research, and consideration of workable solutions.

By location, the part of Prospect Mountain owned by the PMA is the southernmost Nordic ski area and the highest elevation base lodge in all of Vermont. As such, winter activities are the lifeblood of its business. Prospect currently maintains over 30 kilometers of Nordic ski trails, including a racing loop used by several high school and college Nordic teams, in addition to snowshoe trails, a base lodge, and a rental shop. Neighboring Prospect is U.S. Forest Service land, hosting snowmobiling trails, logging operations, and roads, and the George D. Aiken Wilderness, a parcel with great ecological and conservation importance. Prospect serves as a community center and way to get outside in the winter for people from Bennington, Woodford, Brattleboro, Williamstown, and beyond, making its successful management of paramount importance to the nearby area.

The purpose of this project is to produce a long-term plan for the successful operation of the Prospect Mountain Ski Area to be used by the PMA, with priority given to creating the most environmentally responsible and financially stable business possible. We take up this goal of greening Prospect through a three-pronged approach:

First, we hope to increase the recreational opportunities and maximize the recreational experience at Prospect Mountain. It is, first and foremost, a Nordic ski area, so improvements to the race course, grooming, and snow availability are paramount; it is also a conservation easement and valuable community hub, so extending recreational activities to include a greater number of people and seasons while maintaining accessibility is essential.

Second, we hope to increase the sustainability of Prospect Mountain's operations. Skiing of any type depends on snow; creation of snow is energy intensive, and requires cold enough weather for snow retention. There is thus a moral duty (and a wealth of opportunities) for Prospect to become an example of an environmentally sound small ski operation. Considerations of how the mountain can most effectively and efficiently meet its energy needs will cut costs as well as create environmental benefits. Responsible care for Prospect Mountain's wilderness and energy needs can only stand to benefit its long-term viability.

Third, we hope to increase the multigenerational community involvement which is the center of Prospect's charm. The mountain has long and successfully functioned as a community-centered family-owned business, and it is only through the wonderful maintenance of this community that Prospect persists today. Our goal is to maintain the strong ties Prospect already has, while increasing its positive involvement with its home town and neighboring areas. The opportunities to become an even larger community through outreach and marketing could play a big part in supporting Prospect's future.

These goals, supported by feedback from stake-holders and community members alongside our own research, will align to help the Prospect Mountain Association obtain its near-term goals in a future-oriented fashion, benefiting Prospect Mountain for years to come.

Project Background

History of Prospect Mountain

Prospect Mountain Ski Area has been an important recreational center for southern Vermont for the last eighty-one years. In 1938, Alex Drysdale began operations with the first rope tow on the mountain, on the edge of the Shea and PMA land to the north.¹ In 1960, Willie H. Morse purchased the ski area from Drysdale. Deemed an effective businessman, Morse further developed the area for wider use, particularly through building a gravel road connecting Route 9 with the lodge area and an expansive parking lot. Morse also moved buildings from one side of the property to the other, and attempted to illegally build a dam on the property's City Stream (until the state prohibited him from finishing the project). The T-bars for alpine skiing were put in in the early 1960's, but perhaps one of the most important projects of the decade was the collaboration established between Morse and abutting land owner, Edward Shea. Shea owns and runs the Greenwood Lodge where, for twenty-three years, Shea and Morse worked together to run an alpine ski camp. While the camp ran for almost a quarter-century, it ultimately shut down due to erratic snowfall and competition from other mountains in southern Vermont such as Haystack and Mount Snow. Shea reports being unsuccessful at recruiting Nordic ski groups and instead prioritizing group operations due to its cost efficiency. Morse and Shea also traded land in order to expand the trail system of the Prospect Ski Area.²

Eventually, the land was purchased from Morse by Joe Parks. Parks's main documented work focused on building the Nordic trails, the snowmaking pond (and getting it permitted), installing the lighting, moving buildings around the property, and hiring Steve Whitham to run the day-to-day-operations. Tom Trant took over next, but by 1993, Prospect Mountain was in foreclosure and was purchased by Steve Whitham and Andrea Amadeo. At this transition point, Prospect ceased alpine operations and focused solely on cross country skiing. Whitham and Amadeo operated Prospect for twenty-five

¹ For more details on Prospect's historical aspects, please see <https://prospectmountain.com/about/> under "How old is Prospect Mountain?"

² Email communication with Ed Shea on November 21, 2019.

years before ultimately selling the land to its current owner, the Prospect Mountain Association, in a complex transaction brokered by the Vermont Land Trust and supported by a grant from the Vermont Housing and Conservation Board.^{3,4}

The Prospect Mountain Association

The Prospect Mountain Association (PMA) is a registered 501(c)3 non-profit organization, with the “express purpose of keeping the area open to the community for cross-country skiing.”⁵ The PMA was originally founded in 2015 by a group of “Prospect friends” who wanted to ensure the longevity of the ski area’s operations. In 2018, the PMA pooled together grants from the VHCB and VLT, privately raised funds from the community, and donations from the Williams College Ski alumni, along with a mortgage from Whitham, to purchase the area from Whitham and Amadeo. The board makes all of the management decisions for the ski area and is comprised of a self-selected, nine-member committee. As their management goals are community-oriented, no more than four of the nine members can be representatives from Williams College. The PMA employs Steve Whitham as the mountain manager, with additional seasonal and part-time employees and volunteers to enhance daily operations.

Town of Woodford

We believe it is essential to maintain the community that has grown at Prospect under the leadership of Steve Whitham. Additionally, we interviewed the chair of the Woodford select board, and neighbor of Prospect Mountain, Ryan Thurber, and believe that our report must give recognition to the relationship between Prospect Mountain and Woodford town residents. Thurber remarked over the phone that Woodford has approximately 430 residents, about 10 of whom Nordic ski and 25 of whom partake in hunting, fishing, and snowmobiling on US Forest Service land surrounding Prospect Mountain.⁶ We urge the PMA to consider Woodford residents and their land uses. We also encourage the PMA to find ways to include Woodford residents in Nordic skiing in

³ The land was purchased with a \$285,000 grant from the Vermont Housing and Conservation Board, a \$100,000 grant from the Vermont Land Trust, \$320,000 in donor contributions from the community, and \$400,000 in donor contributions from Williams College alums.

⁴ Communicated by David Dethier.

⁵ Prospect Mountain Association Management Report (2018)

⁶ Phone interview of Ryan Thurber with Anna Bruce and Hannah Goldstein, November 21

any way possible, through the school skiing program or a subsidized day of skiing for Woodford residents specifically.

Current Operations

Prospect's main operations focus on creating a positive outdoor winter experience, primarily through Nordic skiing. In addition to 30 kilometers of Nordic ski trails on PMA and Forest Service land, Prospect maintains a network of snowshoe and hiking trails. At the foot of the mountain is the rental shop and the base lodge, where guests can warm themselves and buy food from the kitchen. The rental shop provides income through visiting guests renting gear. As of winter 2019, Prospect has some of the infrastructure to begin snowmaking on a small loop near the base of the mountain to provide insurance to allow for early starting dates and for bad snow years.⁷ When not functioning as a ski area, Prospect occasionally hosts events such as weddings, private parties, and reunions.

To run the mountain, Prospect operates with minimal staff. The mountain manager is the only full-time employee. The other positions, including a cook, rental shop worker, and assistant mountain manager, are part time, seasonal.

Current Plans

The 2019 Management Plan produced by the PMA for the Prospect Mountain community expresses action-steps to preserve Prospect's current state, guide community use of the property, and propose economic investments for the future through improved infrastructure and a widened scope of multi-season activities. The following is a list copied directly from the PMA Management Plan regarding phased implementation to follow through with these goals. Note that this is an extensive list meant to cover every possible option, without priorities or feasibility taken into account.⁸

Year 1:

1. Supplementing this Management Plan
2. Updating the existing Forest Management Plan, as necessary
3. Continuing to allow public access to the protected property
4. Catching up on deferred maintenance (existing buildings) *

⁷ Data suggests that if Prospect is unable to open during big ski times like Christmas, it will lose money regardless of snow consistency, making the ability to control the snow all the more key

⁸An asterisk denotes development in the Recreation Zone; see Site Description.

5. Creating a homologated ski racing course to International Ski Federation (FIS) Standards with upgraded trails
6. Mapping and flagging low-impact snowshoe trails
7. Maintaining trails, culverts, bridges, and log roads
8. Developing a ground-mounted solar installation in the Recreational Development Zone to offset PMA electrical use*
9. Install snowmaking equipment for snowmaking on approximately 2.5 kilometers
10. Install pump house at the snowmaking pond*
11. Expand parking lot to the south*
12. Remove T-bar equipment

Years 2-5:

1. Expand base lodge to include ticketing and rentals*
2. Evaluate and upgrade septic, as necessary*
3. Build a designated Waxing Building near the base lodge*
4. Build a rustic cabin for various programmatic uses
5. Improve drainage of the Stadium Area adjacent to the lodge*
6. Re-install former skating rink*
7. Consider re-starting rope tow for instruction and tubing on the open slope*
8. Consider renovating one of the existing buildings to allow visitors to pay a fee for short-term, overnight use on the property.*
9. Develop additional infrastructure needed for summertime public events (concerts, use of lodge for meeting space for businesses, mountain biking, trail running, other outdoor recreation, wildlife speaker series, weddings, special events, etc.) *

Years 5-10:

1. Work with ANR and other agencies to move snowmaking pond away from the City Stream flood zone, preferably somewhat uphill but still in the Recreation Zone.*
2. Design and build a dormitory within the high-use area. This facility will be designed to expand programmatic opportunities.*

Involvement with Nordic Skiing

Nordic Ski Teams

The Williams College Nordic Ski Team would not be possible without Prospect Mountain. The team uses the mountain up to 6 days per week and hosts their biennial winter carnival ski races there. Snow is essential to Nordic skiers, and the ski team is hopeful that Prospect will be able to provide snowmaking in the near future.⁹ Additionally, the Nordic team would love to see an official, FIS (International Ski Federation) homologated race course at Prospect, as their winter carnival will have to move elsewhere if homologation cannot be obtained in the next two years. Without homologation, it is possible that the team would shift at least their race operations to

⁹ Interview of Jason Lemieux with Anna Bruce, Oct. 30, 2019

upstate New York.¹⁰ This would be a costly change for all parties involved, as Williams would be pulling support from a local mountain, have to pay much higher transportation costs and usage fees, and face a much longer commute and larger carbon footprint, while Prospect would lose one of its most supportive and well-off connections.

Prospect also hosts the more local Bill Koch Youth Ski League, a cross country ski group for children ages 4 to 13 named after Olympic Silver Medalist Bill Koch. It advertises the largest membership group for cross-country skiing in the United States from Southern Vermont and Northern Berkshires, and is entirely parent and volunteer run under coach Katie Swabey.¹¹ Other important teams are the Mount Anthony Union (MAU), who practice at Prospect daily in the winter, and the Mount Greylock Regional Highschool Team, who visit Prospect most often when the snow further south is insufficient.

Williams Outing Club

The Williams Outing Club (WOC) has been traveling to Prospect for a number of years, primarily for Williams' annual Winter Carnival and P.E. classes. While a Nordic ski club has been present on campus intermittently, it has never been consistent enough to establish a steady relationship with the mountain. Even with a 35-minute drive, strong support exists for continuing and strengthening this relationship; Scott Lewis, the WOC director, cites the much more consistent snowfall than what is seen at Williams as the primary reason. The events at Prospect have gotten consistently high reviews, so he hypothesizes that the primary reason involvement is not higher is that most students just need to go on a first visit.

WOC interests in the future might consist of first, making Prospect a part of WOOLF, the Williams freshman orientation program, as a site for a trail crew to go and help maintain Prospect's trail system in late August; second, considering the possibility of a small WOC cabin on Prospect's land for use by various campus clubs throughout the year; and third, increasing consistent connections between Williams students and Prospect during Winter Study, in the form of both a Nordic physical education class and a

¹⁰ Ibid

¹¹ <https://sites.google.com/a/mgrhs.org/prospect-mountain-bkl/>

weekend shuttle with a base rate for Williams students.¹² Marc Mandel, the Williams Men's Crew Coach, is an avid Nordic skier at Prospect whose children are involved in the Bill Koch League; he has stated strong support for the latter option, and is facilitating this shift and working to get more students involved.¹³

Nordic Skiing and Climate Change

Nordic skiing in the Northeast is facing the imminent threat of climate change. The winter climate in New England has changed over the past century, with a shorter season of snow and average temperatures rising 4.4 degrees Fahrenheit in some areas over the course of thirty years.¹⁴ This problem is becoming so prevalent that it has become commercially challenging for a ski mountain to operate without snowmaking. Adding to this problem is the fact that Nordic skiing can be a carbon intensive activity at competitive levels due to extensive travel, constant changes in equipment, and snowmaking.¹⁵ Because of this paradox, many skiers find it painful to contemplate losing skiing.¹⁶

These changes and questions are apparent at Prospect Mountain. Ingrid Thyr, class of 2020 at Williams College, did a project on the future of Prospect in 2018. There were two major takeaways from her study. The first was the importance of Prospect to the community. People come from both southern Vermont and northern Massachusetts to use these trails.¹⁷ Prospect is open to anyone of any age, and the community there is unparalleled for many that ski there. It brings so much joy to everyone that uses it that people have spoken about moving away from the area if Prospect were to close. Bringing the issue of climate change into this dialogue is incredibly difficult. The problem is so large and threatening that it is paralyzing for many. Thyr went into her project thinking that the issue would be wholly unconsidered. However, even though it wasn't a public topic of conversation, every person she interviewed had clearly spent a lot of time

¹² Interview of Scott Lewis with Anna Bruce and Alison Robey, Oct. 31, 2019d

¹³ Conversation with Alison Robey, Nov. 1 2019

¹⁴ From 1970-2000. Jampel, Sonya. "Skiing without Snow: An Analysis of the Feelings and Future of the New England Nordic Skiing Community," May 15, 2017.

¹⁵ For example, the Williams Nordic ski team travels significantly more than the average varsity team and has a calculated carbon footprint of 12.5 tons of CO2 per year--twice as high as the average, though still less than the Alpine Ski Team..

¹⁶ Ibid.

¹⁷ Thyr, Ingrid. "Prospect's Prospects." Accessed October 17, 2019. <https://sites.williams.edu/ict1/>.

contemplating the issue. She believes that the next step is making these private thoughts into public dialogue, and mobilizing the powerful community of Prospect to take action to fight climate change.¹⁸ Such steps are essential to the goal of this project.

Case Studies

Craftsbury Outdoor Center

Preliminary research reveals approximately 31 Nordic ski centers in Vermont, with eight in the southern Vermont region, including Prospect Mountain. The Craftsbury Outdoor Center in Northern Vermont is one of these ski centers and has implemented eco-friendly initiatives that we think can serve as a case study on sustainable ski resort management and an example for Prospect.¹⁹ In order to survive as a Nordic ski center, it is essential to have snow; in the face of climate change, snowmaking capabilities are a necessity. However, snowmaking uses an immense amount of energy. To offset this energy use and promote eco-friendliness, Craftsbury has implemented solar arrays, a composting system, and a local food initiative, all of which can be attainable at Prospect.²⁰ Particularly relevant to our project are the following:

- Photovoltaic Energy: In 2010 Craftsbury installed 8 tracking solar arrays, which use GPS to track the path of the sun throughout the day. An additional array on the roof of the activity center was added in 2014. “The combination of the solar trackers and the Activity Center roof-mount panels produce a total of 100,000-120,000 kWh annually while the maintenance (roof) arrays are on track to produce about 40,000 kWh per year.” Craftsbury uses about 240,000 kWh of energy per year meaning their solar panels offset about 60% of their total energy use.²¹

¹⁸ Ibid.

¹⁹ As Craftsbury is a much larger and better funded operation than Prospect, it is a useful example more in terms of *types* of environmental initiatives than *scale* of environmental initiatives.

²⁰ Cornwall, Warren. “Creating Winter for Cross Country Skiers”, *New York Times*, Dec. 6, 2012, accessed December 10, 2019 <https://www.nytimes.com/2012/12/09/travel/creating-winter-for-cross-country-skiers.html?mtrref=sites.williams.edu&assetType=REGIWALL>

²¹ Craftsbury Outdoor Center, Solar Panels, accessed December 10, 2019, <https://www.craftsbury.com/solar-panels>

- Snowmaking heat recovery: Craftsbury has a heat recovery system to capture most of the waste heat generated from the diesel generator that is used in the snow making process. The captured heat is pumped to their hot water storage area.²²
- Composting: Craftsbury composts all waste from their dining halls and gardens on site in a windrow (long row) style composting system. They also participate in a zero-sort recycling system through Casella.²³
- Local Food: “Our dining hall is a member of the Vermont Fresh Network²⁴ program, which means we are part of a consortium of farmers, chefs, and consumers dedicated to eating more locally grown food. We grow some of our own vegetables, and work with numerous local farmers to source a variety of local products.”²⁵
- Waste: We learned that it is important to have trash, recycling, and compost bins in every building with educational signage posted near every bin showing what can be tossed into what bin. This way, there is no contamination between bins, which could cause recycling or compost to be thrown into the trash upon arrival at a waste facility.
- Electric Charging: Craftsbury has an EV charging station for electric vehicles free to all visitors. Craftsbury believes “that electric vehicles are the future of post-carbon transportation. In a rural area like ours where personal cars are nearly required on a daily basis, a huge part of our carbon footprint is due to transportation.”²⁶

The Dublin School

The Dublin School is an independent college prep school in Dublin, New Hampshire. The Dublin School is home to a Nordic center, “In 2015 the International Ski Federation (FIS) voted to award Dublin School’s Nordic Center a homologation

²²Craftsbury Outdoor Center, Central Heating System, accessed December 10, 2019, <https://www.craftsbury.com/central-heating-system>

²³Craftsbury Outdoor Center, Waste, accessed December 10, 2019, <https://www.craftsbury.com/waste>

²⁴<https://www.vermontfresh.net/>

²⁵Craftsbury Outdoor Center, Local Suppliers, accessed December 10, 2019, <https://www.craftsbury.com/local-suppliers>

²⁶Craftsbury Outdoor Center, Electric Charging, accessed December 10, 2019, <https://www.craftsbury.com/electric-charging>

certificate for its five kilometer John Morton designed race course. The homologation process establishes an international standard for race courses to provide guidelines for course design and construction. Today the School is adding an extensive snowmaking and lighting system to one of its race loops. The course plans to or has hosted College Carnivals, Eastern Cups, Prep School races, and Bill Koch League and Citizen's races."²⁷ Their snowmaking system will use a snowmaking pond, and a system of buried plastic pipes that will lead to high efficiency snow guns. The school pursued snow making to facilitate training between Thanksgiving and New Years. Their total project cost is estimated at \$500,000, but was very much a community effort, similar to Prospect, with people donating their engineering knowledge and excavators to the cause. "Artificially-made snow is four times denser than natural snow and therefore lasts longer before melting away. Compared to alpine ski trails, Nordic trails are flatter, narrower, and nestled under tree cover – all of which makes snow last longer."²⁸ The plan at Dublin for the 2019/2020 season is to rent an air compressor for November, and make snow during the first cold week of the year.

Rikert Nordic Center

The Rikert Nordic Center at Middlebury College is similar to Prospect as it is conserved through a conservation easement, and can serve as an example for Prospect with its snowmaking system. Rikert began the process of becoming a conserved area in 2014 when it was announced that "Much of the 2,100 acres will be protected through a conservation easement held by the Vermont Land Trust working in partnership with The Nature Conservancy."²⁹ Additionally, the "Prospect Mountain Nordic Center Snowmaking System and Concept Design" referenced in the Snowmaking section of this report was written by Sno.matic Control and Engineering, Inc, a snowmaking engineering firm located in Lyme, NH who designed and implemented the snowmaking system at

²⁷ The Dublin School, Nordic Center, accessed December 10, 2019, <https://www.dublinschool.org/dublin-school-nordic-center>

²⁸ Abbe Hamilton, "Improvements on track at Dublin School Nordic center", Monadnock Ledger-Transcript, last modified 9/4/2019, <https://www.ledgertranscript.com/Dublin-School-Nordic-Center-expanding-snowmaking-trails-27906368>

²⁹ Middlebury College, Newsroom, "Middlebury College's Historic Bread Loaf College to be Conserved in Perpetuity", last modified November 12, 2014, accessed December 13, 2019 <http://www.middlebury.edu/newsroom/node/488112>

Middlebury's Rikert Nordic Center.³⁰ Therefore Middlebury can serve as an example for snowmaking implementation.

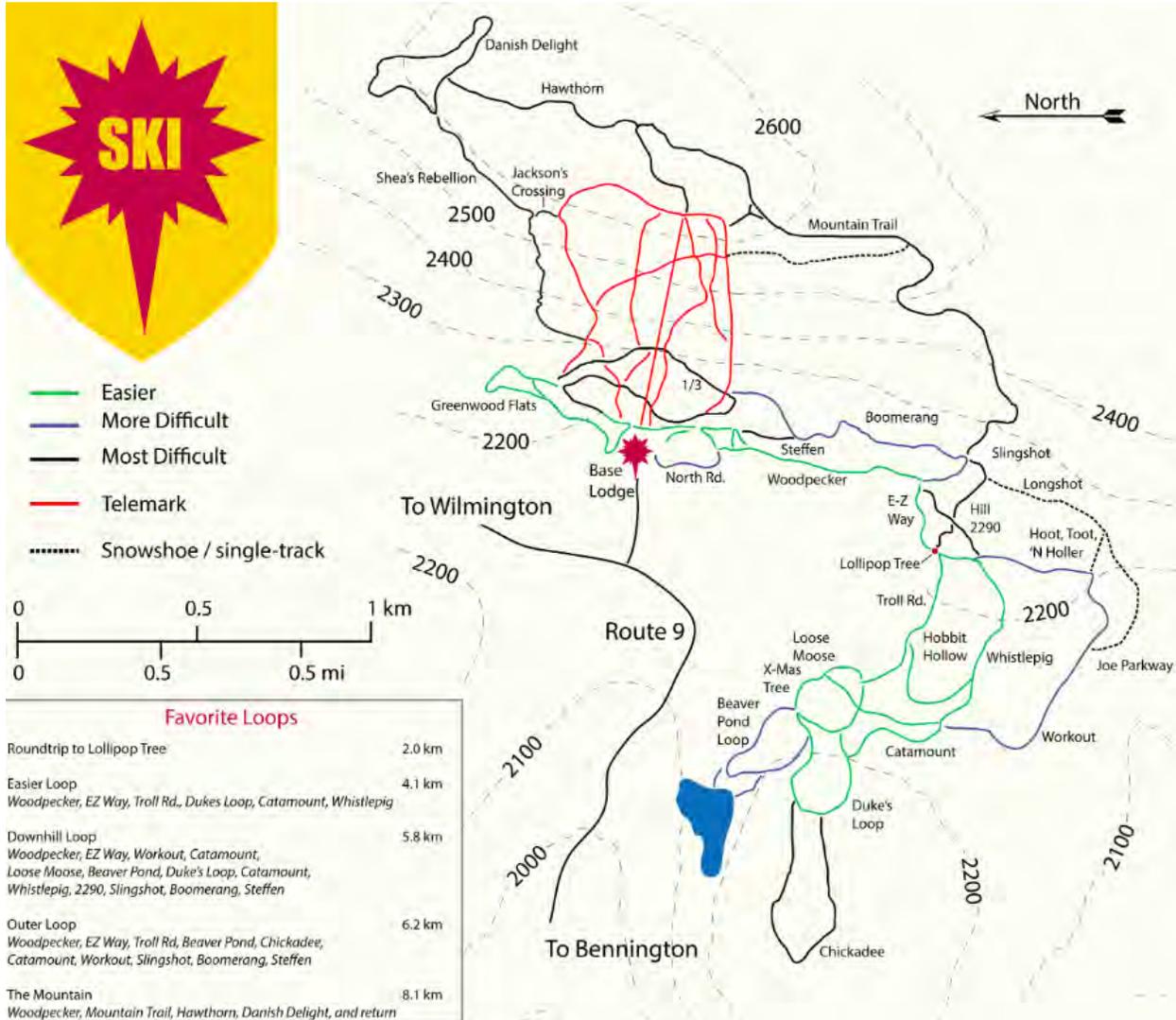
Dartmouth College Outing Club Cabins

The Dartmouth Outing Club (DOC) has a system of cabins that can serve as an example if Prospect ever wants to consider the possibility of a small WOC cabin on their land for use by various Williams College student groups throughout the year. Scott Lewis expressed strong interest in this possibility, as WOC already owns one successful cabin near the entrance to Hopkins Memorial Forest in Williamstown. It receives a lot of usage and would likely be a strong way to get more Williams students to Prospect, hopefully leading to more business from the school. DOC has 9 cabins that anyone can use, 3 cabins that Dartmouth students, alums, and employees can use, and 3 cabins that alums and employees can use. "Most of the cabins are log structures, one or two rooms, usually with a porch. Most of the cabins are heated by wood stoves (with wood provided to burn), have bunks with mattresses (but no linens, pillows, or blankets), and have an inventory of basic cooking gear: pots, pans and utensils, plates, bowls, glasses and silverware, etc. Most have only outhouses for facilities."³¹ DOC cabins are reserved through an online system.

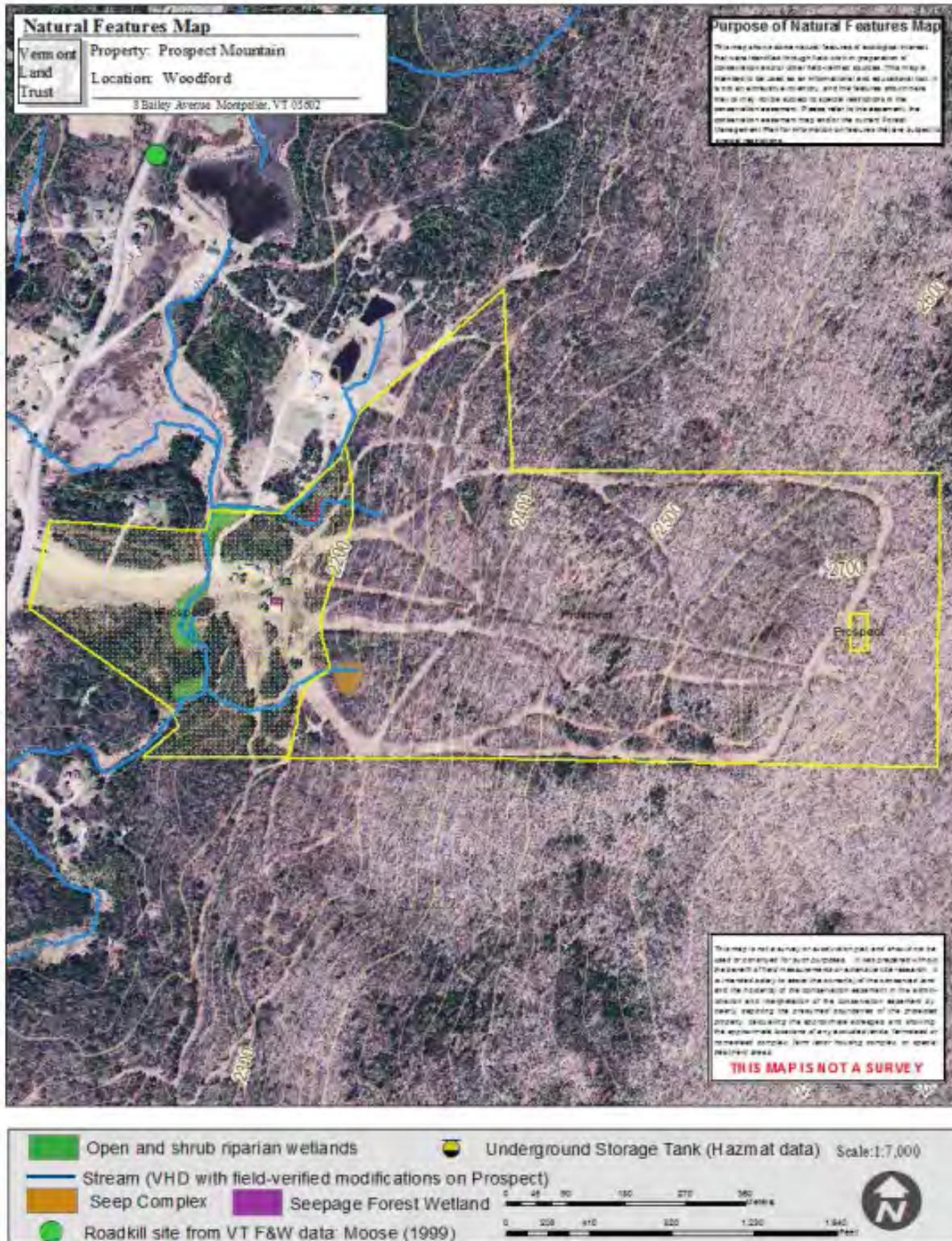
³⁰ Middlebury College, Newsroom, "Rikert Nordic center now has snowmaking" , last modified February 6, 2013, accessed December, 13 2019, <http://www.middlebury.edu/newsroom/archive/2013-news/node/447104>

³¹Dartmouth Outdoors, Dartmouth College, <https://outdoors.dartmouth.edu/services/cabins/index.html>

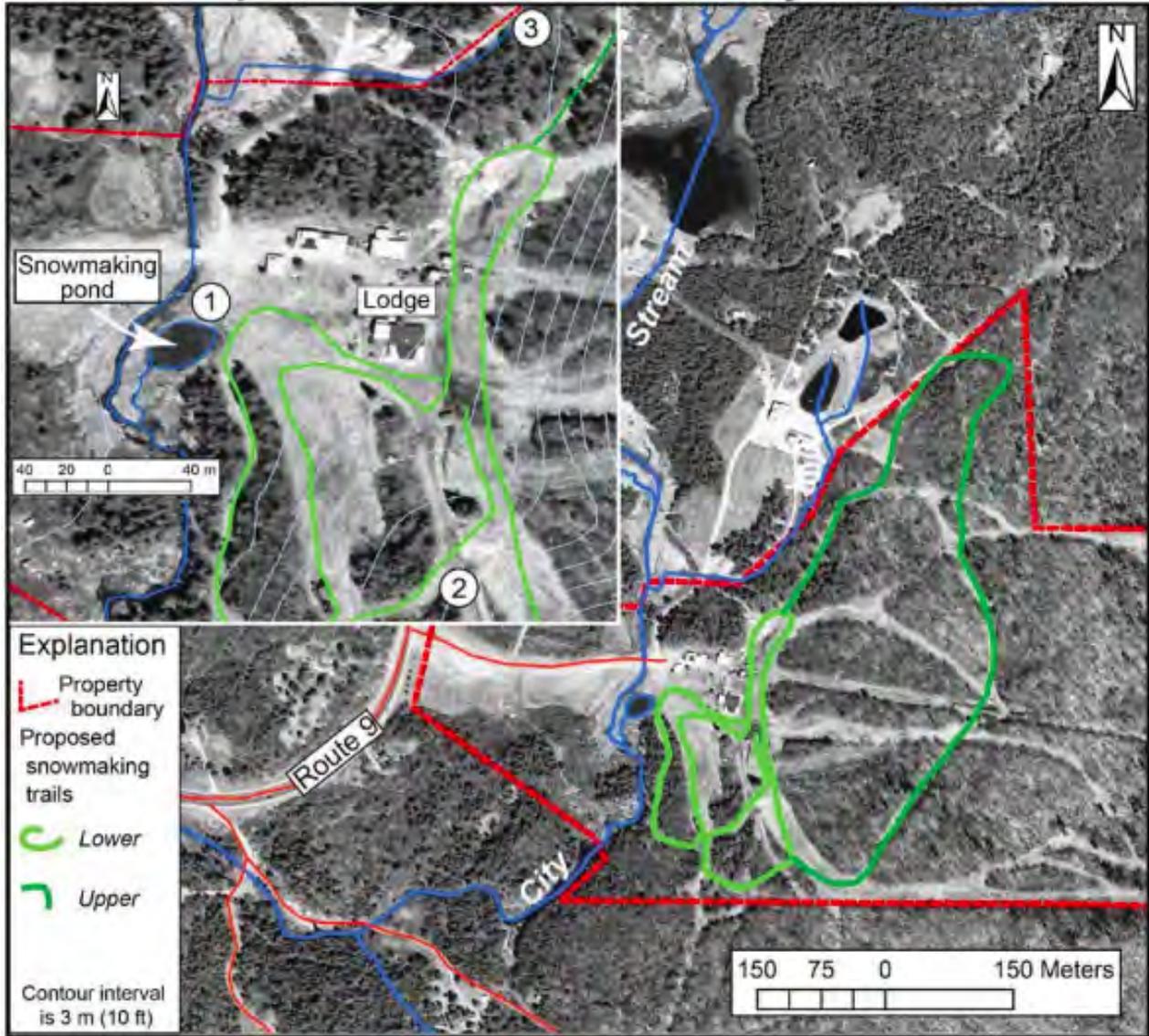
Maps



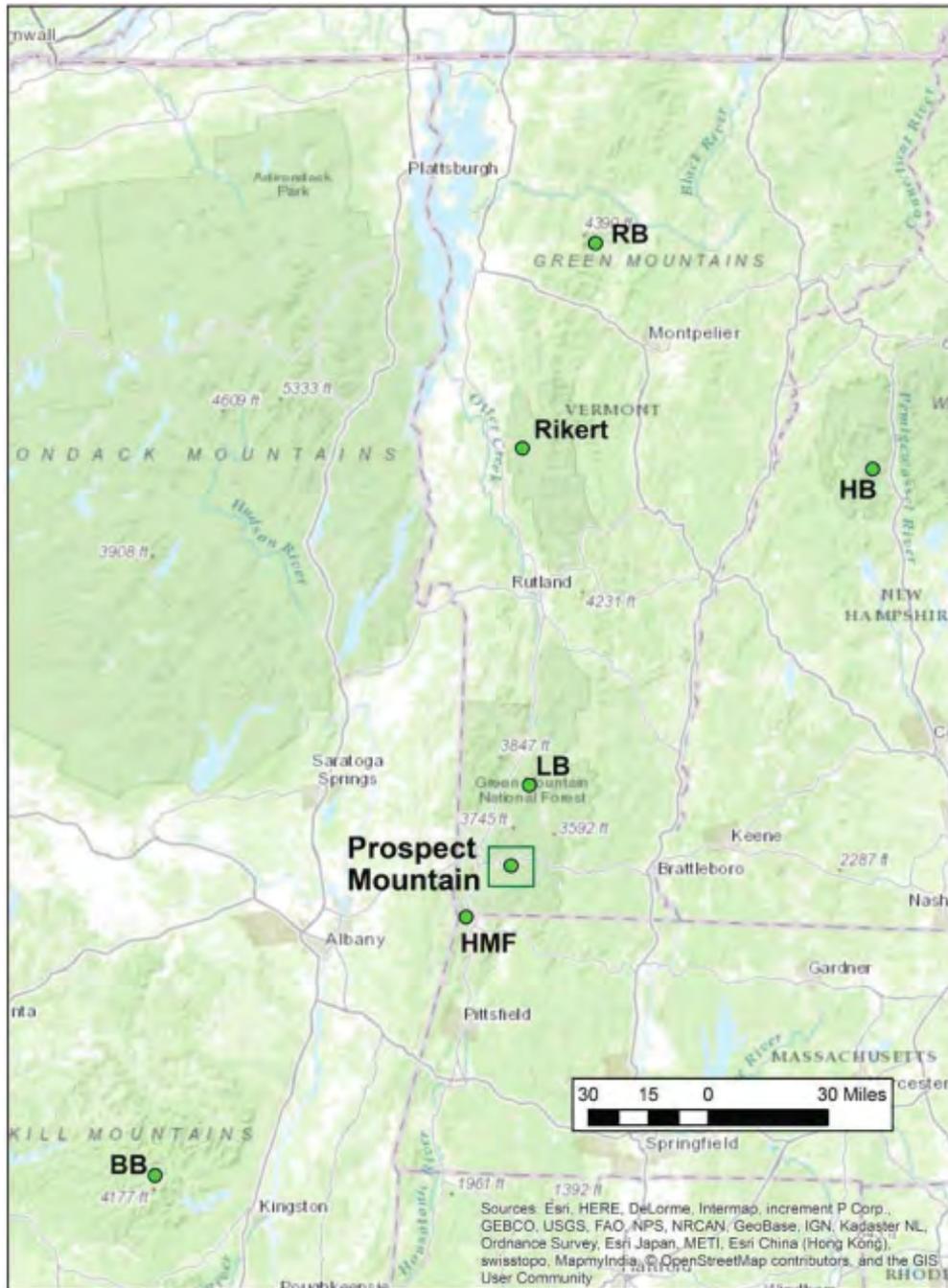
Map 1: Prospect Mountain's trails, as posted on the website and at various trail intersections.



Map 2: The natural features map as included in 2019 Management Plan. The PMA property boundary is the solid yellow stripe, with the recreational development zone in the yellow grid on the left.



Map 3: The map of the proposed snowmaking pond (now completed) and trails, as included in the 2019 Management Plan. City Stream, Prospect’s only extensive riparian wetland, is in blue.

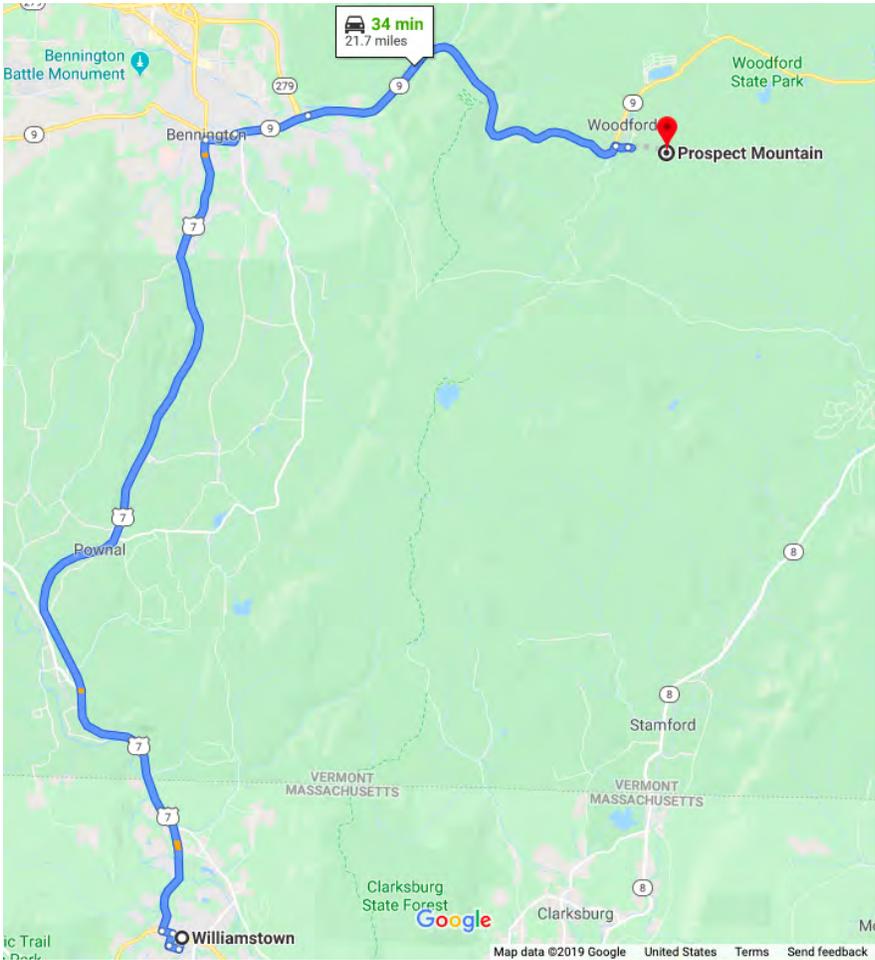


Map 4: Map showing Prospect Mountain’s location in Vermont, particularly in relation to the nearest weather and stream gauging stations (BB: Biscuit Brook, streamflow data; HMF: the Williams College Hopkins Memorial Forest weather station; LB: Lye Brook, temperature and snowpack data; HB: Hubbard Brook, streamflow data; Rickert: Middlebury’s Nordic center; RB: Ranch Brook, streamflow data).³²

³² “Prospect Mountain Ski Area - 2019 Management Plan”



Map 5: Satellite view of the entry road, parking lots, and buildings of Prospect Mountain (from Google Maps).



Map 6: Map of the drive from Williamstown to Prospect Mountain (from Google Maps).

Site Description

Location

Prospect Mountain is located in the town of Woodford in the southwest corner of Vermont. It is a thirteen minute drive east along the Molly Stark Trail from the central intersection of Bennington, VT and a thirty minute drive from Williamstown, MA (straight up Route 7 to the same intersection). The 144-acre property is now entirely owned by the PMA under a conservation easement.³³ The western edge is defined by the Molly Stark Trail, the northern edge by the Greenwood Lodge and Campsites (owned by Ed Shea), the eastern edge by the George D. Aiken Wilderness, and the southern edge by the private residential properties of Ryan Thurber and the Dufresne Family. There is a large sign for Prospect Mountain located on the west side of the Molly Stark Trail; the access road right before and after the sign leads directly into two large parking areas and from there to the main property.

Facilities

Prospect Mountain currently has four main and two auxiliary buildings (see Map 5), all located at an elevation of 2250 feet.³⁴ The larger buildings are the ski lodge, which has a kitchen, seating for 75 people and bathrooms, the rental shop, the maintenance barn, and the former gift shop. The auxiliary buildings are the timing shack and the old ski lift. Adequate parking (~145,000 square feet) is present both directly in front of the former gift shop and closer to the road. These amenities are all located in the 27 acre Recreational Development Zone; the rest of the property is divided between 115.7 acres of protected property and 1.3 acres for the cell tower near the eastern edge.

Current Usage

- I. Nordic Skiing: The primary usage of the land is Nordic skiing, which includes cross country skiing, telemark skiing, and alpine ski touring, throughout the winter months. About 30 kilometers of Nordic trails are currently maintained, including racing loops used by the Bill Koch League, Williams College, and several other local groups. The prevalence of Nordic skiing led to the creation of a

³³ See Law & Policy for more details.

³⁴“Location.” Prospect Mountain Ski Area. <https://prospectmountain.com/about/>

snowmaking pond,³⁵ next to City Stream which runs down the western-middle of the property, for the purposes of future snowmaking operations.

- II. Snowshoeing: A 5.5 kilometer network of snowshoe trails is woven in with the Nordic trails for individual recreational use.
- III. Hiking: In warmer months, all of the trails (including Nordic, snowshoe, and decommissioned alpine trails) can be used by hikers.³⁶ The usership of these trails unclear, but most trails connect to trails on adjacent properties. This is particularly relevant in regards to hikers who may come from the Greenwood campsites or the Aiken Wilderness, which connects directly to the Green Mountain trail system.
- IV. Snowmobiling: While snowmobiling is generally prohibited on easement land, an active preexisting VAST (Vermont Association of Snowmobile Travelers) spur trail running through the south western corner of the property was grandfathered into the easement.³⁷
- V. Events: The base lodge and the field behind it have sometimes been used for events, including gatherings of the ski community in the winter and parties in the summer.
- VI. Forestry: More passively, the site is considered an important ecological resource due to its high elevation and proximity to the Aiken Wilderness.³⁸ Some forest management is undertaken by mountain manager Steve Whitham, including the harvesting of timber to heat the lodge. The consulting forester is Mike White.
- VII. Open Access: The rest of Prospect Mountain’s activity comes from the public access qualifications in the easement; it is specified that the plans for this land must “[balance] the management of trail-based recreation with the rights of the public to access the property for free, dispersed pedestrian use...including free access to parking and the base lodge.”³⁹

³⁵ Created in 1982 and dredged in 2019, capacity of about 300,000 gallons. Currently home to a small beaver dam.

³⁶ The wider trails (particularly the ski trails) tend to grow grass which is only mowed biannually for wildlife protection, and thus are not always suitable for hiking.

³⁷ “Trail Maps and Conditions.” VAST. <https://vtvast.org/trails.html>.

³⁸ See “Prospect Mountain Ski Area - 2019 Management Plan” Features of Ecological Significance for more details.

³⁹ Easement I. B. 2. (b)

Recreational Usage

Prospect Mountain's primary use and focus is recreation. While various types of Nordic skiing are the priority of today, Prospect was once an alpine facility and still hosts a number of other types of trail-based recreation.

Skiing

Nordic skiing is paramount to Prospect's current goals and usage. As such, hopes to improve the racing trails, availability of snow, grooming frequency, and number of trails have been of the highest priority for those hoping to see Prospect grow.

Snowmaking

Prospect Mountain is currently in the process of installing snowmaking operations, with the goal to get snowmaking up and running in some capacity within the next 2 years. Snowmaking is particularly important for economic sustainability, as good snow near the lodge is essential for business. The ability to stay open more consistently in the winter without reliance on natural snowfall is important.

The "Prospect Mountain Nordic Center Snowmaking System and Concept Design" Report was shared with us by our client, David Dethier. It was commissioned by Williams College and completed on February 9, 2017 by Sno.matic Control and Engineering, Inc, a snowmaking engineering firm located in Lyme, NH (the same firm) that designed the snowmaking system at Middlebury's Rikert Nordic Center), and provides details on implementing a state of the art, best case scenario snowmaking system at Prospect. The analysis in the report looks at the infrastructure requirements, concept design, and budget for a snowmaking system that would cover a ~3 km loop at Prospect.

The snowmaking pond was completed in Fall of 2019 . For the 2019/2020 winter, the goal is to create snow that could be made into a big pile or several smaller piles and moved from the pile to the trails where necessary.⁴⁰ The system proposed in the report provides a much more state of the art, but more efficient and ideal snowmaking scheme,

⁴⁰ The intention would be to cover 2 to 4 acres in 1.5 feet of snow.

similar to that at the Rikert Nordic center in Middlebury. The proposed system consists of:

1. A small pump to transfer water at up to 250 gpm from City Stream into an existing pond. This pond will be excavated to hold 300,000 gallons. A future pond has been identified which can hold up to 1.6 million gallons, but due to wetland regulations it is unlikely that this second pond will be completed. (Pond Completed)

2. A small pumphouse (14' x 14' minimum dimension) could be constructed near the bank of the pond and will pump up to 400 gpm of water from the reservoir through a 6" high pressure steel line to the top of the trail network. A series of smaller 4" steel pipelines will connect to this line in order to feed the balance of the trail segments. The pipelines will be shallow buried through the field area in the lower portions of the trail network, surface mounted on upper elevations, and will be drained after each operating cycle.⁴¹

3. A compressor will be required for approximately 1,200 cfm. The compressed air will be transferred to each snowgun location through a separate 4" pipeline. Given a short operating season of 1-2 months, it is suggested that the compressors be rented (either electric or diesel).

4. The estimated capital cost of this snowmaking system is approximately \$910,000 (pond, piping, equipment, labor, all material etc.). The annual non-labor operating cost is estimated at approximately \$20,000/year (compressor rental, energy). For reference, Middlebury's snowmaking system cost around \$850,000 dollars to implement.⁴²

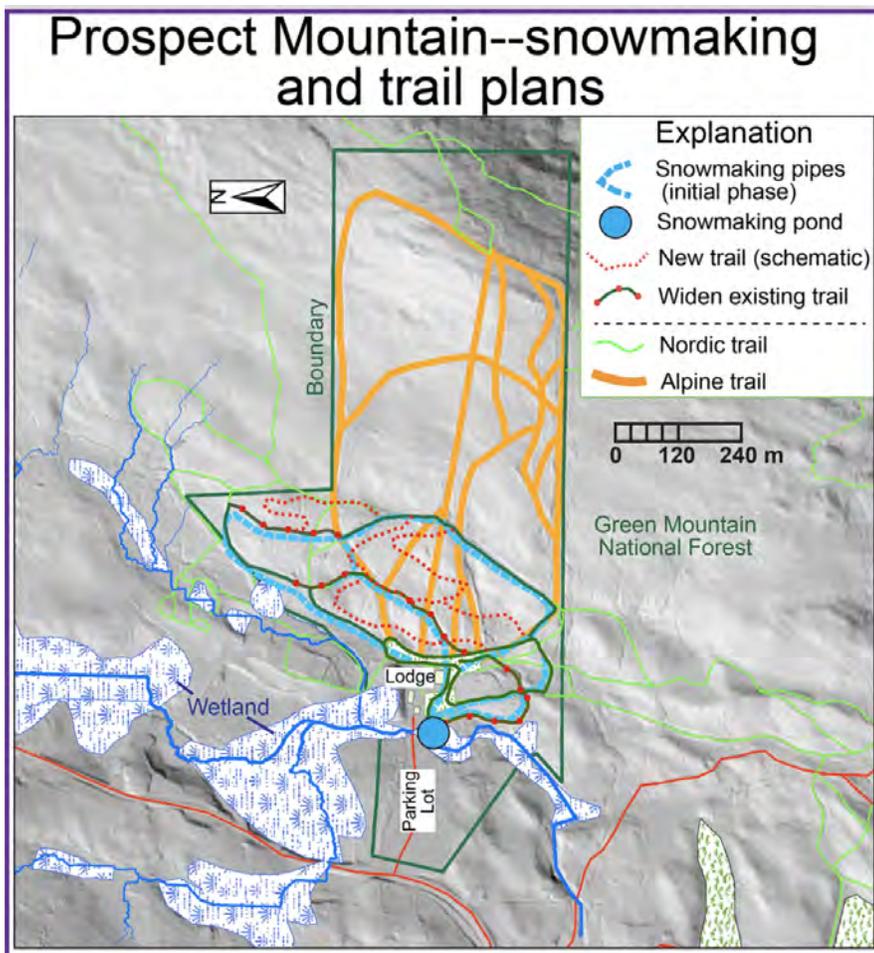
Trail Homologation

The Williams Nordic team would love to see an official FIS homologated race course at Prospect, as their Winter Carnival will have to move elsewhere if homologation cannot be obtained in the next two years. Homologation involves creating a course that meets a certain set of international race course standards outlined by the International Ski Federation (FIS). At Prospect the goal is to create a 3.75 km loop, making sure the trail is

⁴¹ This would require extensive permitting through both Act 250 and the Army Corps of Engineers.

⁴² Middlebury College, Newsroom, "Rikert Nordic center now has snowmaking", last modified February 6, 2013 <http://www.middlebury.edu/newsroom/archive/2013-news/node/447104>

9 m wide in most places. Homologation will have a positive impact for racers and the public, as the planned loop will confine racers to that area, making it easier for the public to reach trails during race day. "Woodpecker" currently is the trail that connects skiers from the lodge to trails beyond the race arena. Often, Woodpecker has to be used for racing, but a homologated loop (and snowmaking) would help provide better access to Prospect's trails on race day. The green trail outlined in the map below, marked for trail widening, would be part of a homologated loop, and the red dotted trails would hopefully be cleared, allowing skiers to go north past the race arena, or work their way up the "bunny slope" on the east side of the lodge and past the race trail after a couple race course crosses. Allowing all skiers to enjoy Prospect regardless of race competitions is an important goal for Prospect.⁴³



⁴³ Email correspondence with client David Dethier.

Map provided by client David Dethier.

Snowmobiling

While most types of mechanized recreation are banned from the mountain, since it is a conservation easement, there is a preexisting trail across the very western edge of the property. While legally, Prospect could try to get that trail rerouted, it does not seem to currently have any negative effects on the ski business or ecological functioning of the site. Encouraging more snowmobilers to stop in at Prospect on their way through for breakfast or lunch may be a beneficial way to draw in more residents of Woodford.

Other Uses

Currently, Prospect Mountain's trails host hikers and snowshoers alongside the Nordic skiers,⁴⁴ and this slightly more extensive trail network connects to trails on neighboring properties. Our survey indicates that Nordic skiing is by far the most popular activity at Prospect, followed by hiking, snowshoeing, and sledding. Increasing the appeal of hiking at Prospect in the summer would be an easy way to get more people involved outside of the winter, and could be achieved through expanding and publizing more maps of the trails and increasing directional signage.

As far as non-skiing winter usage goes, improvements to the race course and availability of data on snow conditions will be helpful for those who hope to use the larger trail network,⁴⁵ as it will be easier for them to get around it. A possible additional attraction for Prospect to bring back would be an ice skating pond (which doubles as the snowmaking pond); this would be a fairly easy change, since employees would only have to occasionally check the thickness of the ice. While there would be some overlap with snowmaking, it could additionally be another free aspect of the business which could help increase its connectivity with the more local community.

Out-of-season usage of Prospect is thought to be fairly low.⁴⁶ A few options other than hiking are specified in the easement. If Prospect would be willing to undergo more intensive trail usage and maintenance, mountain biking might be a future option as its

⁴⁴ Most hikers in the summer, while snowshoers have designated trails separate from the Nordic ski trails.

⁴⁵ See sticky note and survey responses in Appendix V.

⁴⁶ Interview with Steve Whitham

ecological impacts are similar to that of other summer trail use,⁴⁷ although this is unlikely to provide any revenue⁴⁸ and may be a problem with the neighboring USFS lands.⁴⁹ Hunting is also permitted, and could be another popular local draw. However, ski season generally begins in late November or early December,⁵⁰ which is when most of Vermont's hunting season begins; overlap between the two should be avoided.⁵¹

Considering where Prospect might be able to make more of a profit requires bigger changes. While there are some forestry related options—maple sugaring, for example—the fastest and easiest way to utilize Prospect's landscape in the summer would be through events. High interest was expressed in more events⁵² in the off-season, and Prospect has successfully hosted private parties and events before.⁵³ While doing this on a more regular basis would be a decent amount of work, Prospect's beautiful location and rustic lodge could be a huge asset in that business.

⁴⁷ Michael Quim and Grea Chernoff, "Mountain Biking: A Review of the Ecological Effects," (Calgary, Miistakis Institute, 2010), <https://www.lib.washington.edu/msd/norestriction/b67566091.pdf>.

⁴⁸ While Prospect could charge mountain bikers for trail use, it would require more employees and hands on work than is currently available.

⁴⁹ Mountain biking is not allowed on their trails as of 2019, and as long as that remains the policy, Prospect would have some responsibility to keep mountain bikers off of USFS land.

⁵⁰ The start of the season is likely to be consistently earlier with the implementation of snowmaking.

⁵¹ Vermont Fish & Wildlife Department, "Hunting and Trapping Season," Vermont Official State Website, 2019, accessed November 2019, <https://vtfishandwildlife.com/hunt/hunting-and-trapping-seasons>.

⁵² See Sticky Note responses

⁵³ Prospect tentatively plans to participate in a trail-running ultramarathon the summer of 2019, which currently looks economically promising and can serve as a good test case for that type of event.

Energy Usage

Currently Prospect uses a variety of fossil fuel energy types to operate throughout the winter. As Prospect relies on snow and cold temperatures in order to operate, the burning of fossil fuels goes against the long term sustainability of the ski area. While the emissions that Prospect itself produces plays a minute role in global climate change, switching to green sources of energy will both align with Prospect’s goal of getting more people out skiing and save Prospect money in the long run. In addition, advertising as a sustainable or green ski area could provide marketing advantages for the mountain. As of the winter of 2018/19, Prospect’s main fuel consumption came from using electricity, oil, wood, and propane. Below, each source will be discussed and the potential options for increasing sustainability will be assessed.

Energy	How Much Prospect Uses	Carbon Equivalent
Electricity	~6500 kw-hr a year	4.6 metric tons ⁵⁴
Oil (includes diesel for groomer)	~1600 gallons a year	16.3 metric tons ⁵⁵
Wood	~6-8 cords	15-20 metric tons
Propane	~600 gallons a year	3.5 metric tons ⁵⁶

Electricity

Minimal Impact Plan

This plan refers to Prospect offsetting the electricity that the mountain currently uses. Over the last 5 years, Prospect has used an average 6540 kw/hr a year. Based off of online research and how productive solar panels are in this area, we are recommending a 5 kw roof mounted system to be installed. The ideal roof would be the south facing aspect of the main lodge, which by our calculations has at least 480 sq/ft of space when

⁵⁴ Greenhouse Gas Equivalencies Calculator. United States Environmental Protection Agency. <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

⁵⁵ Carbon Dioxide Emissions Coefficients. U.S. Energy Information Administration. https://www.eia.gov/environment/emissions/co2_vol_mass.php

⁵⁶ Ibid.

only 330 sq/ft is needed for 5 kw systems⁵⁷. On average, 5 kw systems in Vermont cost about \$16,000⁵⁸. However, these systems usually pay themselves back in about 10 years and have 20 year savings averaging over \$23,000⁵⁹.



Blue area is proposed location of roof mounted solar panels.

Before installation, the roof of the main lodge would have to be inspected in order for the solar panels to be installed. There is a chance that this inspection will reveal that the roof will have to be strengthened. In addition, the shingles would likely have to be replaced. This is due to shingles typically having lifetimes of about 20 years and the shingles on the roof of the main lodge were replaced about 10 years ago. While these shingles would work for now, the installation of solar panels that would last over 20 years would cause a headache when the shingles do have to get replaced in the solar panels' lifetime. The only other cost related to the installation of solar panels would be the acquisition of permits, but usually Vermont solar vendors will handle the permitting process for the client.⁶⁰ There are also programs run through Efficiency Vermont, like their Business Energy Loan, that Prospect could potentially use to lower the initial cost of installation⁶¹.

⁵⁷ Everything you need to know about a 5kW solar system for your home, Solar Estimate.

<https://www.solar-estimate.org/solar-panels-101/5kw-solar-system>

⁵⁸ Solar Panel Cost in Vermont, EnergySage. <https://www.energysage.com/solar-panels/solar-panel-cost/vt/>

⁵⁹ Ibid

⁶⁰ A Vermonter's Guide to Residential Solar, Vermont Public Service Department, 2016.

https://publicservice.vermont.gov/sites/dps/files/documents/Renewable_Energy/Vt%20Guide%20to%20Residential%20Solar%202016.pdf

⁶¹ Efficiency Vermont, Financing for Business.

<https://www.encyvermont.com/services/financing/businesses-and-institutions>

While the initial cost of installation may be high, the solar panels would end up saving Prospect a large amount of money over a 20 year period. This is important when considering how to make Prospect sustainable economically over the long term. The installation of solar panels would also lower the carbon footprint of Prospect, which could be used as a point of advertising when trying to get more people to Prospect. While electricity isn't the largest source of carbon emissions at Prospect, reducing it to zero through solar is one of the most cost effective ways to begin to make a dent in the mountains carbon footprint. The money saved in the long term from the minimal impact solar plan could be put to increasing the ski experience at Prospect or other sustainability initiatives, making this plan an ideal place to start.

Maximize Sustainability

This plan refers to the installation of enough solar to offset both the current and future energy usage at Prospect. In this case, future energy usage refers to running future snowmaking using electricity. From the Prospect Snowmaking Concept Plan, it is estimated that snowmaking would require an additional 23,000 kw/hr of electricity. If you add this to the roughly 6500 kw/hr that Prospect currently uses, the solar system would need to be able to produce roughly 30,000 kw/hr a year. To do this, Prospect should have enough solar to total a 22 kw system, which is the largest a system can be and still get a category 1 solar permit (going to category 2 is much more difficult). There are two possible ways to meet this demand.

The first is to install the 22 kw system as entirely ground mounted as there is not enough roof space. The benefits to this plan is that no roof inspections would have to be done and it would be easier to maintain just one system. In addition, ground mounted systems have sunk costs unlike roof mounted that do not translate as the size of the system increases, so it would save money to build one larger system. The ground mounted system would fit well into the area just north of the main parking lot that is currently forested. The cost of a 22 kw system would be about \$65k-\$70k. However, in order to run snowmaking at Prospect, 3 phase power will have to be brought to the mountain, and it is currently several miles away. In the Prospect Snowmaking Concept Plan, it was estimated that it would cost Prospect \$160k to bring 3 phase power to Prospect. This brings the total for the project to about \$225k. This does not take into

account that the larger solar systems pay off quicker and that in the long run Prospect will likely make most of this money back. There is also a chance that Green Mountain Power would provide incentives for 3 phase power as bringing 3 phase power to the top of the hill might benefit them. The only issue is that the Prospect Snowmaking Concept Plan discusses how Prospect will not be able to make snow during any curtailable rate periods called for by Green Mountain Power. The Concept Plan also notes that electricity would be much cleaner and reduce labor due to fueling the snowmaking system.

The second option would be to do a mix of roof and ground mounted. The first part of the plan would be to install the 5 kw roof mounted system(discussed in the Minimal Impact Plan) and offset the current energy usage. The next step, in the next 5 years, would be to install a 17 kw ground mounted system. This would allow for Green Mountain Power to bring 3 phase power to the area on their own, or give Prospect time to fundraise to raise the necessary money for the project. During this time, Prospect could still make snow with diesel. Adding the 17 kw system would then cost roughly \$50k. The benefits to this plan is that it both allows Prospect to immediately offset their current electricity use and begin snowmaking, even if the snowmaking isn't renewable. Then, when Prospect has raised enough money or the cost of installation has gone down, Prospect can switch snowmaking over to electricity.

Over the long term, Prospect should aim to be running off of completely renewable sources, including snowmaking. By making snow with diesel, Prospect is adding to the problem of climate change, which is why Prospect is installing snowmaking in the first place.

Oil

Prospect currently uses oil, including diesel, to fuel multiple systems at Prospect. Oil is used to heat the main lodge, rental shop, and garage. It also fuels the hot water heaters and the groomers. The systems currently at Prospect are old and inefficient compared to modern standards. Prospect uses about 1600 gallons of oil a year, of which we are assuming about 1100-1200 gallons goes to heating, either air or water. The goal in this part of the plan is to provide the necessary information for how to decrease the amount of oil used for heating at Prospect. It is worth noting that actual oil usage for heat could be lower than we are assuming as more of the yearly total could go to grooming.

One way to reduce the amount of oil consumed at Prospect would be to shift to a biomass heating system. The main types of biomass fuel are cord wood, wood chips, and pellets. Cord wood is the cheapest of the three, but it requires the most labor and maintenance, and would not easily be run given the limited staff at Prospect. Wood chips and pellets are similar in that both systems are easy to run and require little maintenance, with the main difference being that pellets cost more to buy in the long run. The other difference is that wood chips are less compact, but the only issue that brings up is that slightly more storage space will be required at Prospect to hold the fuel.

The biomass system that should be installed would replace the current oil-boilers and water heaters with a central biomass boiler that supplies heat to each building through insulated piping. We are recommending that Prospect run this system off of a wood chip boiler as it will be cheaper in the long run than pellets. The estimate for the cost of installation for the wood chip system is about \$50k-\$60k (pellet system would be ~\$45k), and to offset the yearly oil use (1100-1200 gallons) it would cost about \$1200 for the acquisition of wood chips. It currently costs \$120 a ton for wood chips, whereas pellets are \$180 a ton. This is before any incentives are applied. One incentive that Prospect could use is through Efficiency Vermont, which has an incentive program for wood chip boilers offering \$1.25/sq ft heated. So, if Prospect was heating 5,000 sq/ft then the mountain would get \$6,250. Prospect would also be saving money as the price of wood chips is much less than oil, helping save money in the long run.

Prospect would need to build a silo to store the wood chips, but there is enough space in the base area that this should not be an issue and would be relatively inexpensive. The only maintenance required during the winter would be emptying the ashtray occasionally, which requires little labor. As most systems are now automated, feeding and moving the wood chips would not be an issue.

An option that Prospect could look into, besides installing the entire biomass system by itself, would be to enter into a contract with a biomass company called Renewable Heating Solutions(RHS)⁶². RHS offers containerized biomass systems that they install, maintain, and fuel once you enter a contract with them. The amount that Prospect would pay would be based on the details of the contract, but it would be based

⁶² Contacted Jonathan Parrott of RHS (parrott.forestry@gmail.com) for information

off of paying less for heating than they currently do. Once Prospect enters a contract, RHS will take care of any installation, maintenance, or fueling that needs to happen while the biomass system is under contract. The benefits to Prospect would be large, as nobody at Prospect would have to be concerned with running or maintaining the system and it would still be saving the mountain money. The amount of money that Prospect would save would be in part dependent on the cost of installing the underground insulated piping. Either RHS could install the piping, making the contract more expensive, or Prospect could install the piping as an initial sunk cost. The best way to determine how much money Prospect would save, and if RHS could be a viable solution at Prospect, would be to have someone from the company conduct a site visit and assessment in the near future. It could be possible that RHS is the cheapest and easiest solution with regards to having a large impact on oil consumption at Prospect, which is why we highly recommend that at least a site visit is conducted as soon as possible.

The last option for Prospect is to replace the current oil-boilers and oil burning water heaters with newer more efficient models. This would reduce oil use, but would still be relying on fossil fuels, which is not sustainable in the long run. If Prospect did not want to do a complete system change, this could be an option, but we do not recommend it.

The benefits associated with switching to biomass outweigh the initial costs. Prospect would both join a growing population of businesses and homes using biomass in Vermont and the surrounding community while also switching to a greener and more sustainable type of energy. Prospect would likely save money in the long run due to lower fuel costs, in addition to installing a system that is easy to operate and has lots of incentives from the state. Switching to biomass, similar to solar, could be used as a point of advertising helping increase donations and the amount of people coming to the ski area. At the very least, we suggest getting an initial estimate of the total cost of the system or contract with RHS which would allow for all financial aspects be taken into consideration.

Wood

Currently, Prospect uses a wood stove as the primary heating source in the main lodge. This stove is old, inefficient, and not as clean when compared to stoves that are being made today. We would recommend that Prospect replace the current woodstove with an EPA certified wood stove. EPA certified wood stoves use less wood and produce less smoke(as of May 15 2020 limit will be 2 grams of smoke per hour)⁶³. Replacing the stove would lower the carbon footprint of Prospect by decreasing smoke emissions and using less wood. It would also decrease the amount of labor needed to heat the lodge as not as much wood will have to be cut and stored. This would likely cost 1-2 thousand dollars, making it a smaller and much easier change to be made at Prospect. As it is a relatively small cost in proportion to the impact it could potentially have on decreasing Prospect's carbon footprint, we suggest that replacing the wood stove be made one of the top priorities.

Propane

The stoves in the kitchen are currently run off of propane. While the stoves do currently work, they are old and they also are inefficient. Upgrading to newer, more efficient stoves would lower propane consumption and therefore decrease the long term greenhouse gas emissions of Prospect. As Prospect would use less propane, this would also save the ski area money in the long term, in addition to being more sustainable. This is a smaller change when compared to the addition of solar and biomass systems. Propane is also the smallest contributor to Prospect's carbon footprint, so it does not have to be a top priority.

Other Changes

There are other ways to reduce energy consumption at Prospect. A major improvement would be the addition of improved insulation in the main lodge and rental shop. As the current insulation is minimal, improving insulation in the walls would greatly reduce the amount of energy needed to keep these buildings warm. This would both save Prospect money as less energy is required to keep the buildings warm, it would also lower the carbon footprint of the ski area. As the main lodge is heated primarily by a

⁶³ Choosing the Right Wood-burning stove, United States Environmental Protection Agency, <https://www.epa.gov/burnwise/choosing-right-wood-burning-stove>

wood stove, this would then also decrease labor as less wood will have to be prepared for use.

Another change that could be made would be installing LED lights in all the buildings at Prospect. LED lights are proven to use at least 75% less energy than incandescent lighting in addition to lasting up to 25 times longer⁶⁴. This is a small and easy change that Prospect could make that could have a large impact, relative to the cost, on electricity consumption at the mountain.

⁶⁴ LED Lighting, US Department of Energy, <https://www.energy.gov/energysaver/save-electricity-and-fuel/lighting-choices-save-you-money/led-lighting>

Marketing Initiatives

After attending a PMA board meeting, we realized the necessity of a marketing plan for the expansion of winter and summer operations at the ski area. We understand there is currently little-to-no use of the Prospect Instagram and infrequent posting on Facebook. We anticipate growing those channels will be essential in expanding the reach of potential future customers. While a consistent social media presence is “low-hanging-fruit,” there is a lot of potential for creative and cost-efficient marketing. In order to create a phased-implementation action plan, we did a survey of the market and potential customer base. In addition to comprehensive research surrounding marketing theory and techniques, survey results, and a review of all previous Prospect publications (such as the website), we interviewed Jon Cohen (Prospect’s lawyer and one of the merchandise managers), Carol Newell (one of the merchandise managers), Helen Sharkey (social media and website manager), and Elsie Campbell (head chef and new Instagram manager) to better inform our analysis and goals.

Business Identity & Publication Language

Based on various interviews and getting to know the scene and community, the business identity of Prospect seems to be very community-oriented. However, on the Prospect Mountain website, there is not a lot of mention about, nor emphasis on, the community atmosphere. There are several things advertised strongly through four major catch-phrases:

1. “Highest base lodge in the East: 2,250 feet of fun”
2. “Ski where the snow is: we get more natural snow than most other ski areas”
3. “Vermont comfort: warm up by the fire in our cozy lodge”
4. “Trails for everyone: thirty kilometers for beginners to experts”

Through these catch phrases, it is clear Prospect is trying to signal an inclusive atmosphere, one that can host both novice and expert Nordic skiers. Additionally, there is a large emphasis on good snow conditions through the consistent conditions camera, website updates, and statements on the website explaining the high likelihood of quality snow on the mountain.

While Prospect Mountain Ski Area operates on a primarily volunteer basis and is a registered 501(c)3 non-profit organization, this is not currently well publicized on the website. The language used on the website is very direct, functional, and brief. There is a description of the trails, base lodge (including the kitchen), and location.

Suggestions

Based on the community atmosphere, volunteer management, and large number of amenities provided in the lodge, we suggest including the following updates to publication language, primarily on the website:

- More explicit mention of 501(c)3 status
- Mention that donations are tax deductible
- Make language more exciting, warm, and conversational rather than systematic and curt
- Highlight a few community members and mention the work Steve puts into the operations
- More stories of the people of prospect (more on this below in social media section)
- Include a page hosting the work previous students have done on the ski area, like the papers written by Ingrid Thyr and Sonya Jampel
- Include a more detailed history of the ski area on the website as this is important to the Prospect character
- Incorporate a “donate” button on emails
- Already implemented:⁶⁵
 - Descriptions of how much money it takes to run the operations/more transparency with the thought that if skiers knew how much it costs to operate, they might be willing to donate more
 - Insert a “donate” button on the bottom of the website page, easy to access no matter which page

⁶⁵ Helen Sharkey has already implemented several points of feedback.

Current Marketing Techniques & Suggestions

Currently, Prospect Mountain Association has a relatively-active Facebook, an inactive Instagram, website publications, an email distribution list, and branded merchandise available for purchase.⁶⁶ Additionally, Prospect hosts a Moonlight Ski and several other public events throughout the year. While the majority of people attending the events are season pass holders, the occasional general public member attends. The current marketing efforts seem to be well received by clientele and manageable by volunteers and PMA board members. However, in order to effectively expand the customer base and encourage more community engagement, we suggest an expansion of marketing efforts. It is possible to accomplish this without significant additional labor or financial resources, but would be aided by (eventually) hiring a part-time worker to manage the marketing or making the marketing initiatives part of another worker's responsibility.

Community Events

The Bill Koch Youth League and Mount Anthony High School team currently list Prospect as their home race course. This means that whenever one of those teams is hosting a race, it is at Prospect. On average there are 2-3 Bill Koch races and 4 High School races per season. These races attract 50-100 racers in addition to their coaches and supporters. The Williams Ski Team also lists Prospect as their home trails. Last year they hosted a couple races that brought in a few racers. At the end of the season Prospect hosts an awards dinner for the Bill Koch Youth League and the Mount Anthony High School team in the lodge attended by the skiers and their families.

Prospect also tries to host at least one Citizen's ski race per season. These events attract about a hundred racers and many spectators. Prospect has also hosted the Dion Snowshoes US National Snowshoe Championship, with the most recent time being 2017. This is a huge national event that the PMA board is working on bringing back this year.

In addition to hosting competitive races, current community events include monthly Moonlight skis with an accompanying dinner, talks featuring professional skiers, and occasional live music. The monthly Moonlight skis are an enormous success, often (if not always) filling to the eighty-person capacity of the event. The Moonlight ski

⁶⁶ The Instagram's activity has grown to 750 since the first draft of this report was written. Yay!

events have been previously accompanied with live music, a lecture, or a dance party and occurred January through March in the 2019 season.

Client David Dethier explained to us the different ways individuals are involved in the Prospect community, ranging from season-pass holders, to people who buy trail passes and rent equipment, to volunteers, to one-time visitors.⁶⁷ Dethier mentioned how other nonprofits have an annual membership fee. While we did not consider this approach, it is an interesting way to consider increasing community involvement in the future.

Suggestions

Hosting more events such as the ones previously mentioned and expanding events is advisable in order to best continue to foster community and welcome new members. The more events happening at Prospect in addition to Nordic skiing and exploring the natural area, the more people associate the location with community and become more attached to it. Additionally, boosting the number of hosted events can increase the revenue stream for Prospect and serve as more opportunities for community members to donate. Additionally, all events are good opportunities to sell merchandise (see more below). Many of the following event ideas are either low-cost or no cost to execute. While the following list includes many options, we encourage PMA to host at least one event per month (in addition to the moonlight skis) while in season and at least two events during the off-season. Potential events, both inspired by Prospect's current operations, local happenings, and general community engagement include (but are not limited to):

- A concert series or musical performances by local groups, groups from Bennington College, or groups from Williams College
 - This would be a good opportunity to bring students from the local colleges to the venue to support their friends, perhaps with a shuttle provided by the college. If finances and labor availability permit, this could also be a good opportunity to open the kitchen. If students are introduced to the Ski

⁶⁷ Email correspondence with David Dethier

Area through this medium, it is possible they will want to come back and ski during the day

- This could also serve as a dance party!
- It is important to note that organizing events like this takes a lot of organizational and logistical efforts. Bringing this many people “up the hill” would also create a large carbon cost. Perhaps a way to decrease this is through encouraging carpooling as much as possible and tasking one of the local college students to organize the event, hosted at the ski area.
- Game nights
 - Whether it be bingo or board games, encouraging community members to bring their favorite games and play together. Perhaps the kitchen can be open.
- Valentine card making
 - According to client David Dethier, the “Kochers make and hide (along the trails) Valentine cards -- always successful.”⁶⁸ Prospect could host an event to decorate cards and make the process a community-building (and perhaps food-filled!) opportunity.
- Cooking lessons with the chef
- Cookie decorating
- Community talent show
- Art show
 - Another opportunity for local and college artists to showcase their work in a unique environment and bring new people to the venue
- Summer trail running race
- Food bank can drive
- Big brother, big sister program
 - An elementary schooler is paired with a high-schooler or middle schooler for the season and become friends! Maybe each big brother-big sister pairing can get one free hot chocolate throughout the season if they sit and drink it together

⁶⁸ Email correspondence with David Dethier

- Use community events as an opportunity to bridge the gap between Woodford residents and the people who regularly attend Prospect Ski Area

Merchandise

Some Prospect branded apparel is currently sold in the rental shop. The following chart is a summary of a cost-benefit analysis and price breakdown for the merchandise. A much more detailed spreadsheet is [LINKED HERE](#) and also attached in the Appendix, section VII. This spreadsheet is also set up so when PMA members are looking to purchase merchandise in the future, they can plug in the numbers in the “cells” highlighted in light red and the rest of the calculations will update automatically. This tool is particularly helpful when considering different prices for selling new products. By plugging different prices into this spreadsheet, one can see the difference in profit margins within seconds.

Item	Quantity Ordered	Total Cost (goods + shipping + set-up)	Selling Price	Profit per Item	Number Need to Sell to Break Even	Potential Profit (if sold ALL goods)
Large vinyl stickers	500	\$455.30	\$3.00	\$2.09	151.7	\$1,044.70
Green T-shirts	58	\$518.00	\$20.00	\$11.07	25.9	\$642.00
Long sleeve T-shirts	16	\$193.00	\$20.00	\$7.94	9.65	\$127.00
Rocks Glasses	24	\$100.00	\$10.00	\$5.83	10	\$140.00
Mugs	24	\$100.00	\$10.00	\$5.83	10	\$140.00
Skida: Alpine Hat	25	\$585.00	\$36.00	\$12.60	16.25	\$315.00
Skida: Nordic Hat	15	\$370.00	\$32.00	\$7.33	11.6	\$110.00

Suggestions

Additional merchandise for Prospect Mountain would be beneficial for many reasons. First, it is a great potential source of revenue for the ski area. There is a high

demand for Prospect branded merchandise among members; 86% of our survey respondents said they would be interested in buying merchandise. Adding more options would give people more choices when purchasing gear. A lot of survey respondents included a caveat in their responses about graphics and prices, so having multiple designs and types of gear will be helpful. Selling branded products is a low effort way to bring in extra money every season. Second, it would foster a sense of community on and off the mountain. Third, it would likely encourage more people to attend Prospect as they would often be reminded of it. Fourth, it raises awareness about the ski area outside of local circles. Prospect is a rather tight knit community, and being able to represent that community will be great for the members. Also, by printing these items in Bennington and Woodford, Prospect is further engaging with the community and supporting other local businesses.

Lastly, more merchandise would gain the ski area more name recognition in the area. There are several “Prospect Mountains” nearby, and not a lot of advertising has been done for this one. This is why “Woodford, VT” is included on all of the designs.⁶⁹ As more people start wearing this gear, it will advertise the ski area and make it more well known. This is particularly true for outerwear (like the quarter-zip) and items that are displayed in public (like stickers, hats, water bottles, and bags).

Given all of these pros, Prospect should slowly ramp up the amount of branded merchandise they have, with an eye to customer demand. Gear should be displayed in both the lodge and the rental shop, even if it is only available for purchase at the rental shop. Two options for display would be purchasing small shelves for the merchandise or hanging some of it on the walls. This would encourage people who enter either building while at Prospect to purchase one of those items. It would also be good to publicize the availability of the gear on Prospect’s social media (i.e. Instagram and Facebook), as well as sending an email to the membership about the different options. If sometime in the future Prospect finds that their merchandise is in high demand, the PMA could consider selling a couple items at a store like Berkshire Outfitters. They could also consider selling their gear online since people from all over the northeast know and love Prospect.

⁶⁹ Interview with Jon Cohen

We suggest all sourcing come from Bennington Sports and Graphics to support local businesses as much as possible. In the future, if Prospect would like to expand their line of merchandise, there are many sustainable clothes manufacturing options available. These options can be found even by googling “recycled polyester” (for a more technical fabric). A more detailed version of these charts can be found at [THIS LINK](#) and in the appendix. It is important to note that when personalizing merchandise, the more units of a single piece of merchandise, the cheaper each individual unit will be. Buying in bulk has big advantages! In the mock-up we’ve created, there are set-up fees accounted for each design. If more of each item were to be purchased, the profit margin for each item would quickly increase.

Item	Quantity Ordered	Total Cost (goods + shipping + set-up)	Selling Price	Profit per Item	Number Need to Sell to Break Even	Potential Profit (if sold ALL goods)
Quarter-Zip/Neck-Zip Sweatshirt	24	\$625.00	\$40.00	\$13.96	15.63	\$335.00
Athletic T-Shirt	24	\$217.00	\$20.00	\$10.96	10.85	\$263.00
Kids T-Shirt	12	\$109.00	\$15.00	\$5.92	7.27	\$71.00
Hooded Pullover Sweatshirt	24	\$697.00	\$40.00	\$10.96	17.43	\$263.00
Simple Canvas Tote Bag	24	\$145.00	\$15.00	\$8.96	9.67	\$215.00

Year 1:

1. Quarter-zip
2. Athletic t-shirt
3. Small stickers

Year 2 (all of the above that’s popular and...):

1. Kids t-shirt
2. Second design of small sticker

Year 3 (all of the above that’s popular and...):

1. Canvas tote bags
2. Aluminum water bottles

Other ideas to consider in the future

1. Branded pens
2. Selling Prospect stuff in stores (like Berkshire Outfitters)
3. T-shirts for particular annual events, or for the season (so people will want to buy them every year)

In the process of developing these designs, three main images (and one image for kids) were made that can be used on many types of gear. These designs, as well as mock ups of the gear, are featured in Appendix VII.

Social Media & Email Distribution List

The main ways PMA distributes information to season pass holders and general Prospect attendees include word of mouth, the email distribution list, a Facebook page, and website updates. In fact, according to the survey we distributed, respondents noted the main ways they hear about events include email updates (61.29%), word of mouth (51.6%), Facebook (46.77%), and Instagram (12.9%). To increase the levels of communication within the community, it would be impactful for the PMA to re-launch posting on their Instagram, gain “followers”/“likers” on their Facebook and Instagram pages, create print marketing materials such as brochures, and increase the number of subscribers to their email list. It is also important to note that each of these communication channels is most effective at targeting different age demographics. Teens and young adults are most likely to respond best to Instagram, young adults and middle-aged adults are likely to respond best to Facebook (and email). And, according to our survey, 50+ year olds respond very well to email and print.

Email Distribution List

The email distribution list currently includes 194 individual email addresses. Of those who are signed up for the email list, there is a large reading rate as the survey distributed got a 70% response rate. As a result, the email distribution list should be used as a means to send out updates of current events, a place to ask for donations, give urgent updates, and highlight different members. Emails are currently sent out in a sporadic

manner. When the PMA board wants to send an email, they ask Helen Sharkey to set it up. This leads to backups of information and periodic email spams of the list. Last fall no emails were sent until October at which point four were sent out in the same week. Three people unsubscribed from the list following this.⁷⁰

Suggestions

The main venue for improvement in the use of the email list would be creating and standardizing a schedule for email updates to be sent. A monthly or bi-weekly email update could be welcome and include the information that is currently being sent in multiple different emails. A regular schedule will retain the current high readership rate and prevent people from unsubscribing due to the sporadic communication. Another improvement would be increasing the number of people on the email list and ensuring as many people who attend Prospect sign up as possible. This would then create a powerful tool for reaching everyone that skis at Prospect which could increase donations, purchases of merchandise, and attendance. Additionally, making a “donate” button easily accessible in all emails sent out may increase the amount of donations received by the PMA.

Facebook

The Prospect Mountain Ski Area Facebook page currently has 292 “likes.” There are posts almost every day while the ski area is open including updates on conditions, races, volunteer opportunities (such as “twigging”), community events, pictures of skiers or the trails, and more. There are many days where a large number of photos are posted. The use of “Events” is very successful. The page is maintained frequently and responds quickly in comments to those posting questions or comments. Overall, the Facebook is very well maintained and continuing those efforts will promote marketing success. Currently, the page is maintained by Helen Sharkey, who also runs the email list and website. In the future, the same person who manages the Instagram should also manage the Facebook. This person could be a part-time or full-time employee or volunteer designated by the PMA. Considering the top three age brackets of skiers at Prospect are

⁷⁰ Email from Helen Sharkey

above 60 (47.4%), 50-59 (22.08%), and 40-49 (12.34%),⁷¹ posting more on Facebook might begin to attract a younger crowd at Prospect as the most common Facebook users are aged 18-44.⁷²

Suggestions

- Encourage as many community members or visitors to “like” the page as possible in order to increase viewership
- Increase posts featuring community members
 - In a combined effort between Facebook and Instagram, it would be very exciting to launch a “Humans of Prospect” campaign. As of now, while the Facebook pictures are beautiful and informative, they rarely feature Prospect members or local skiers. Launching a campaign where people and community members are featured frequently would effectively bring people together
 - This can be based off of the “Humans of New York” or “Humans of Williams” campaigns^{73, 74}
 - Featuring community members’ faces & stories will be an effective way at building community and encouraging people to frequent Prospect. For example, if someone learns a new fact about someone who is otherwise an acquaintance, they are much more likely to strike up a conversation
 - Additionally, the more people can imagine themselves in pictures, the more likely they will be to come and ski
 - This must be done with permission of the person being featured
- Post every day, even if there are no updates
 - This can be maintained through “scheduling” posts (see footnote link for instructions)⁷⁵

⁷¹ According to the survey we distributed.

⁷² Sprout Social. “15 Facebook Stats Every Marketer Should Know for 2019,” April 19, 2019. <https://sproutsocial.com/insights/facebook-stats-for-marketers/>.

⁷³ Humans of New York. “Humans of New York.” Accessed December 16, 2019.

<https://www.humansofnewyork.com/>.

⁷⁴ <https://www.facebook.com/humansofwilliams/>

- This can also be maintained through connecting the publishing of Instagram posts with Facebook (see footnote link for instructions)⁷⁶
- Continue to post updates on conditions & events
- Continue to create a “Facebook Event” for every event hosted
- Create a mechanism for members and visitors to contribute their own pictures for a chance to be “featured”
 - For example, offer for people to send in their pictures to info@prospectmountain.com
 - Or, “repost” photos by pressing the “share” button on Facebook
- Currently, there are two different Facebook Pages titled “Prospect Mountain Ski Area.” In an effort to be as clear as possible, we suggest adapting the title of the Page to: Prospect Mountain *Nordic* Ski Area
- At the beginning of every month, post a calendar or outline of upcoming events
- Posting pictures of the food options and menu available may increase interest in the kitchen
- The Facebook page is a perfect place to ask people to donate to the PMA!
 - We recommend, especially during the holiday season, to post about the costs of Prospect’s current operations and create an easy opportunity for members and visitors to donate (via link to website)

Instagram

The Prospect Mountain Ski Area Instagram page (with the handle @prospect_mtn_Nordic) currently has 364 followers. Previous posts include features of the beautiful local nature, trails, “throw-back” pictures from the history of Prospect, people/skiers, off season maintenance, and lodge happenings. However, the last picture was posted one and a half years ago. Re-activating Instagram page would be an effective way to increase marketing and communication. Becoming more active on Instagram would also increase community engagement and participation for the youngest Prospect

⁷⁵ “How Do I Schedule a Post and Manage Scheduled Posts for My Facebook Page? | Facebook Help Center.” Accessed November 30, 2019. <https://www.facebook.com/help/389849807718635>.

⁷⁶ “How Do I Share Posts from My Instagram Account to a Facebook Page That I Manage? | Instagram Help Center.” Accessed November 30, 2019. <https://help.instagram.com/356902681064399>.

visitors! According to a 2018 study by the PEW Research Center, 72% of teens say they use Instagram, in contrast to 51% of teens who report using Facebook, and 3% of teens who do not use social media.⁷⁷ Only two individuals who filled out the survey reported being under eighteen, yet there are many younger skiers and community members attending events and races. Catering communications to this audience is important. Additionally, targeting marketing towards teens and kids will drive more families to attend more often and bring in more revenue, whether that be through ticket sales, food, or branded merchandise.

Suggestions

- There are several suggestions for the Instagram that are the same as the Facebook. Please reference the descriptions above for:
 - Increasing posts featuring community members and a “Humans of Prospect” campaign
 - Requesting donations via social media
 - Crowdsourcing photos to post by asking community members to submit their personal photos to post on Instagram and, more specifically with regards to Instagram, this can also happen through a third-party “repost” application - see footnote link for instructions⁷⁸
- As there is a significant disparity between the number of survey respondents who use Instagram (45.1%) and those who reported following the Prospect Instagram (27%), it is wise to encourage as many community members and visitors to follow the account as possible
- Send out a link to follow the Instagram (and Facebook) page(s) via the email distribution list
- Hashtags and Tagging (see footnote for more information)⁷⁹

⁷⁷ Sprout Social. “15 Facebook Stats Every Marketer Should Know for 2019,” April 19, 2019. <https://sproutsocial.com/insights/facebook-stats-for-marketers/>.

⁷⁸ Buffer Marketing Library. “How to Repost on Instagram: Two Easy Ways To Reshare Content,” October 27, 2016. <https://buffer.com/library/how-to-repost-on-instagram>.

⁷⁹ Newbird. “5 Reasons Why Instagram Hashtags Are Important,” November 5, 2019. <https://newbirddesign.com/5-reasons-instagram-hashtags-important/>.

- Encourage visitors to post on their personal accounts “tagging”
@prospect_mtn_nordic and #prospectmountain, #prospectnordic, #skiprospect, #woodfordvt
- On every photo, make sure to tag the location and write the following hashtags:
 - #prospectmountain, #prospectnordic, #skiprospect, #woodfordvt, #prospectskiarea, #prospectvt, #vermontnordic, #vermontsnow, #nordicskiing, #lodgelife, #prospectxc, #xskiing, #snowvermont, #lodgelife
- Update the “bio” on the instagram
 - Current: “Woodford, Vermont”
 - Update: SKI WHERE THE SNOW IS
 - Highest base elevation ski area in the Northeast complete with cookies, beautiful trails, and snow! Woodford VT.
 - (see sample Instagram below for example)
- Take advantage of “stories” and “highlights”
 - In addition to posting about the following in advance, also post live pictures and videos on the story highlighting current conditions, happenings in the lodge, special events
 - Update the highlights to include categories for “people of prospect,” “race day,” “food,” “trails,” “off season,” and “snow” (see sample Instagram below for example)
- Build an aesthetically pleasing feed
 - Mix up posting pictures of food, trails, snow, skiers, portraits, trail maintenance, events, etc.
 - Try to keep a subtle color theme or pattern - see footnote for more information and inspiration⁸⁰
- Post frequency:
 - Aim to post onto the Instagram page at least 3x a week

⁸⁰ Alexandra. “9 Types of Instagram Grid Layouts (Planner + Tips).” Preview App, March 12, 2018. <https://thepreviewapp.com/7-types-instagram-grid-layouts-planner-tips/>.

- Aim to post onto the Instagram story at least 4x a week
- To make this easier, pre-plan out posts using an app, like Planoly (linked in footnotes below) that will post automatically⁸¹
- Giveaways
 - The more active “followers” are with an Instagram account, the better! In order to get as many people as possible to “like,” “comment,” or “repost” an Instagram photo, we recommend running a giveaway competition on the Instagram at least once a season.
 - To accomplish this, request followers to do any combination of the following (usually requiring at least 2 of the following options; i.e. “to enter, follow @prospect_mtn_nordic, like this post, and tag 2 friends you’d love to go on a ski with”)
 - Tag 2 friends in this post
 - Repost this post to your story
 - Follow this account
 - Follow ____ partner account
 - Post on your personal Instagram and tag @prospect_mtn_nordic
 - A winner will be picked randomly. After checking to see if they followed the rules of the contest, they will win a prize
 - We recommend the prize to be a sticker, a low-cost piece of merchandise, or a free grilled cheese (or equivalent food item)
 - See footnote for more information and instructions on how to run a giveaway on instagram⁸²
- For more general information to social media management best practices, see^{83, 84}.

⁸¹ Planoly. “A Visual Planner & Scheduler for Instagram.” Accessed November 30, 2019.

<https://www.planoly.com>.

⁸² ThriveHive. “How to Do an Instagram Giveaway,” August 29, 2017. <https://thrivehive.com/how-to-do-an-instagram-giveaway/>.

⁸³ Hootsuite Social Media Management. “14 Social Media Best Practices You Should Follow in 2019,” June 26, 2019. <https://blog.hootsuite.com/social-media-best-practices/>.

⁸⁴ Communications. “Social Media Best Practices.” Accessed November 29, 2019.

<https://communications.tufts.edu/marketing-and-branding/social-media-overview/social-media-best-practices/>.

14:29



< prospect_mtn_nordic ...



66
Posts

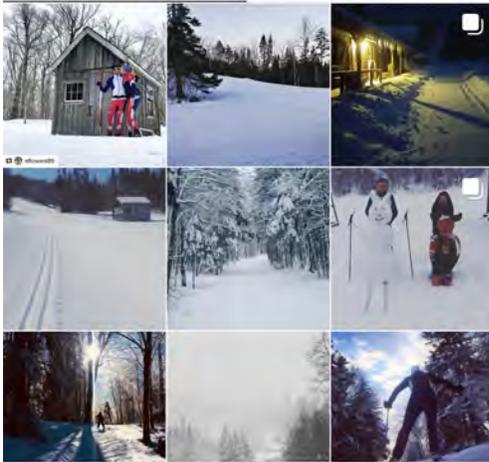
364
Followers

107
Following

Prospect Mountain Nordic
Woodford, Vermont
prospectmountain.com
Followed by luc_alexand, elsiecampbell
and 10 others

Following ▾

Message ▾





Current Instagram Profile

Suggested (& Implemented) Instagram Profile

NOTE: We have implemented these changes to the Instagram and collaborate directly with Helen Sharkey and Elsie Campbell who manage the social media

Collaborations with Local Businesses

From what we can tell, Prospect does not have many official collaborations with businesses in Woodford. We suggest finding ways to integrate the ski area within the Woodford community as, according to an interview with Ryan Thurber, only around ten of Woodford’s 430 residents ski at Prospect and only 25-30 Woodford residents are interested in using the Prospect land for hunting, fishing, snowmobiling, and four-

wheeling.⁸⁵ The best way to increase Woodford resident involvement do this is through collaborations with local businesses. According to the Town of Woodford business directory, Woodford SnoBusters, Inc. and the Woodford Mountain General Store could be interesting groups to partner with.⁸⁶

Print Materials

To our knowledge, there are minimal or no current print materials produced to advertise for Prospect Mountain Ski Area. According to David Dethier, there have been a few print “glossy publications” that have been produced seasonally and posted around southern Vermont in motels and the local chambers of Commerce in motels around southern Vermont.⁸⁷ Expanding the locations and poster designs including local spots (Bennington, VT & Woodford, VT areas) and throughout the southern Berkshires, northern Connecticut, and Albany areas would be effective in increasing the customer base of Prospect.

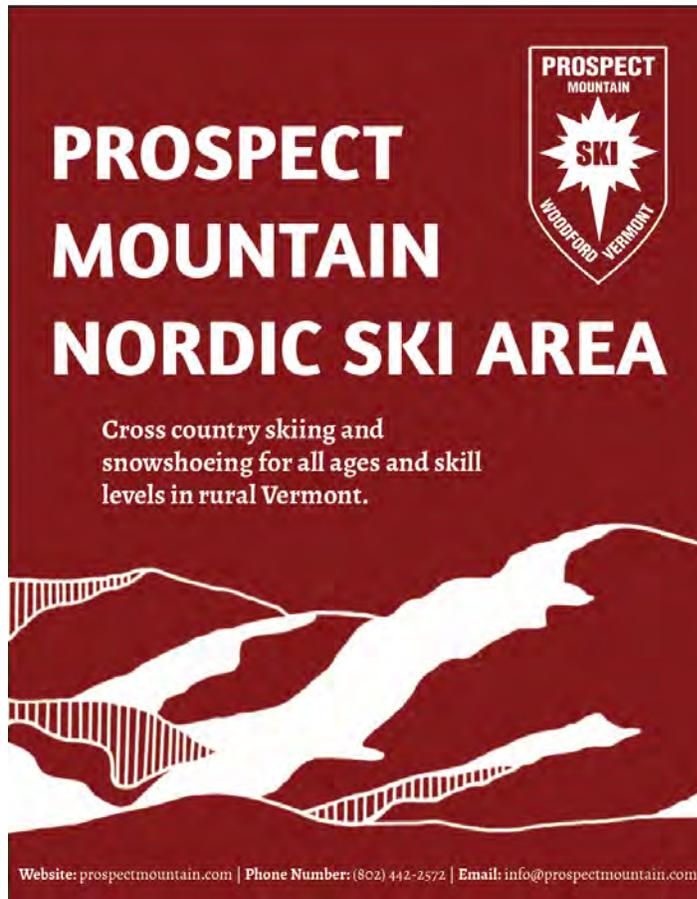
Suggestions

- On all print materials, it is important to mention the website information, hours and dates of operation, social media information, address, phone number to call, and an enticing picture showcasing skiers
- Posters

⁸⁵ Interview with Ryan Thurber

⁸⁶ “Business Directory | Town of Woodford.” Accessed December 16, 2019.
<http://woodfordvt.org/business-directory/>.

⁸⁷ Email correspondence with David Dethier



Draft of Poster

- Events Calendar
 - The events calendar would be most important in the Woodford and Bennington areas in order to increase attendance at events. Similarly to the brochure, this can be posted in local cafes, restaurants, shops, libraries, schools, and more.
- Brochure
 - An easy way to publicize a ski area is by printing brochures and stocking them in areas like Mass MOCA, the Clark, the Blue Benn, etc. We have designed a brochure for Prospect Mountain, with content taken from the website, in order to boost new visitors to the mountain. A digital copy, easily accessible for print, will be provided with the final report.

**Ski
where
the
snow is**

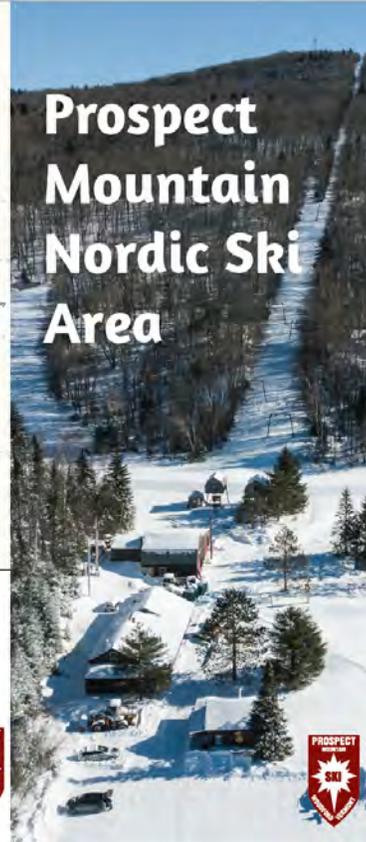


204 Prospect Access Rd,
Woodford, VT 05201



Contact us:
Phone Number: (802) 442-2575
Email: info@prospectmountain.com
Mailing Address: PO Box 4444
Bennington, VT 05201

Look us up:
Website: Prospectmountain.com
Instagram: [prospect_mtn_nordic](https://www.instagram.com/prospect_mtn_nordic)
Facebook: [Prospect Mountain Ski Area](https://www.facebook.com/ProspectMountainSkiArea)



Trail System

The Prospect Mountain Nordic Ski Area is owned by the Prospect Mountain Association, a 501(c)(3) not for profit organization. They maintain more than 30 kilometers of trails. When the snow falls, the trails are expertly groomed for both skating and classical cross-country skiing.



Most trails have tracks set on either side with a wide skating lane in the center. There are also special snowshoeing and single-track trails. We have trails from beginner to expert. The Mountain Trail is popular with experts looking to climb more than 400 feet to the top of the mountain. After enjoying the view into the valley below, get ready for several kilometers of downhill fun!



Base Lodge



The Base Lodge at Prospect Mountain offers a comfortable and inviting place to relax and recharge. The spacious lodge has a country atmosphere with a large stone fireplace, woodstove, and big windows to enjoy the view of Vermont's scenery. The lodge restaurant serves everything from hearty meals to light snacks. The menu includes foods to satisfy our gourmet, vegetarian, and health conscious customers.



The Base Lodge and Ski Shop are generally open every day in season from 9-5 (or until night fall).

FAQs

When is the ski season?
Usually late November to early April.

Are dogs allowed on the ski trails?
We have a few trails on which dogs are allowed. Please ask us about it when you come skiing with your dog.

How old is Prospect Mountain?
Prospect Mountain Ski Area was born in the late 1930's when the first rope tow pulled skiers up the mountain. The first cross-country ski trails were built in 1980. Eventually the lack of natural snow in the northeastern US caused the downhill ski operations to cease, while nordic skiing at Prospect became more popular. Now the entire operation is devoted to cross-country skiing in the winter.

What happens at Prospect in the summer?
Prospect is available for special events such as weddings, parties, and reunions.

Promotions

Current Efforts

Prospect does not currently offer many promotions for members. They may have offered a free sticker with a season pass previously, but the PMA board is unsure if this was just an idea or if it actually happened.⁸⁸

Suggestions

- Gear sale for members - season pass holders get 20% off first item or a sticker for free
- Bring a new friend to ski and both get a free hot chocolate / someone who has never been to Prospect before.

Summary

Easier changes that can be made in the short-term:

1. Increase posting on social media and encourage community members to “like” and “follow” the pages
2. Send out more emails through the distribution list and encourage more community members to sign up
3. Increase merchandise available over time
4. Distribute print materials throughout the Bennington, Woodford, and southern Berkshire areas

More involved changes that should be considered in the long term:

5. Increase the number of community events happening
6. Collaborate with local groups, schools, and colleges to increase the number of attendees

Target Market & Customer Analysis

Based on the survey results, of which there were 154 respondents, the 69.48% of the customer demographic is above 50 years old while 55.19% of respondents identified as male. While the median household income in Vermont is \$57,513, 66.23% of survey respondents reported earning above the state average and 47.4% of respondents reported

⁸⁸ Interview with Jon Cohen

earning above \$100,000 each year.⁸⁹ This is also in contrast to the median income of Woodford residents - the town in which Prospect is located - reporting \$47,917 as an annual income.⁹⁰ It is important to note these are the demographics of those filling out the survey and already on the email distribution list for Prospect Mountain. In order to pursue a more comprehensive study in the future, it would be important to conduct a survey including those who do not already have an affiliation with the ski area. For a further breakdown of the current customer demographics, please reference the “Interviews and Surveys” section below on page 82.

Prospect’s target customers are Nordic skiers. The Nordic skier demographic tends to be very fit and environmentally conscious. According to Elsie Campbell, there are a lot of vegetarians and “people are really tuned into where their food is coming from.”⁹¹

Considering Prospect is the among the southernmost Nordic ski areas in New England, it has the potential to attract a large customer base in southern New England, particularly from the Berkshires, New York, and Connecticut. To our knowledge, there are no current marketing efforts to bring new customers, particularly from more southern regions, to Prospect. If this region does, in fact, host the target customers, targeting advertising extended to this region is advisable. Additionally, North Adams has become a tourist hot-spot.⁹² Targeting people visiting MASS MoCA is a potential way to increase day-pass visitors.

Local Competitors

Below is a table of other local Nordic ski areas. Considering 58.4% of people responding to our survey wrote they ski at other cross country ski areas, analyzing the different options in the area and understanding why some may ski at those areas rather than Prospect is important. In the future, it would be helpful to conduct an investigation comparing each ski area in more detail.

⁸⁹ “Vermont State Household Income | Department of Numbers.” Accessed December 16, 2019. <https://www.deptofnumbers.com/income/vermont/>.

⁹⁰ “Woodford Demographics - Get Current Census Data for Woodford, VT.” Accessed December 16, 2019. <https://www.vermont-demographics.com/woodford-demographics>.

⁹¹ Interview with Elsie Campbell

⁹² Chatterjee, Ayan. “New England’s Answer to The Hamptons.” CNN Travel, June 24, 2019. <https://www.cnn.com/travel/article/north-adams-massachusetts-tourists/index.html>.

- Analyze competitors - where else are people going to ski? Why?
 - Most popular answers are Craftsbury, Notchview, and Lapland Lake

Ski Area Name	Location	Adult Day Pass Cost	Adult Season Pass Cost
Viking Nordic Center	Londonderry, VT	\$22	\$233.20
Prospect Mountain	Woodford, VT	\$22	\$220
Lapland Lake	Northville, NY	\$25	\$215
Jackson XC and Ski Touring Foundation	Jackson, NH	\$21	\$185
Timber Creek	West Dover, VT	\$25	\$175
Rikert Nordic Center	Middlebury, VT	\$25	\$165
Stratton Nordic Center	Stratton, VT	\$25	\$125
Craftsbury Outdoor Center	Craftsbury, VT	\$10	\$75

Marketing Goals & Implementation Timeline

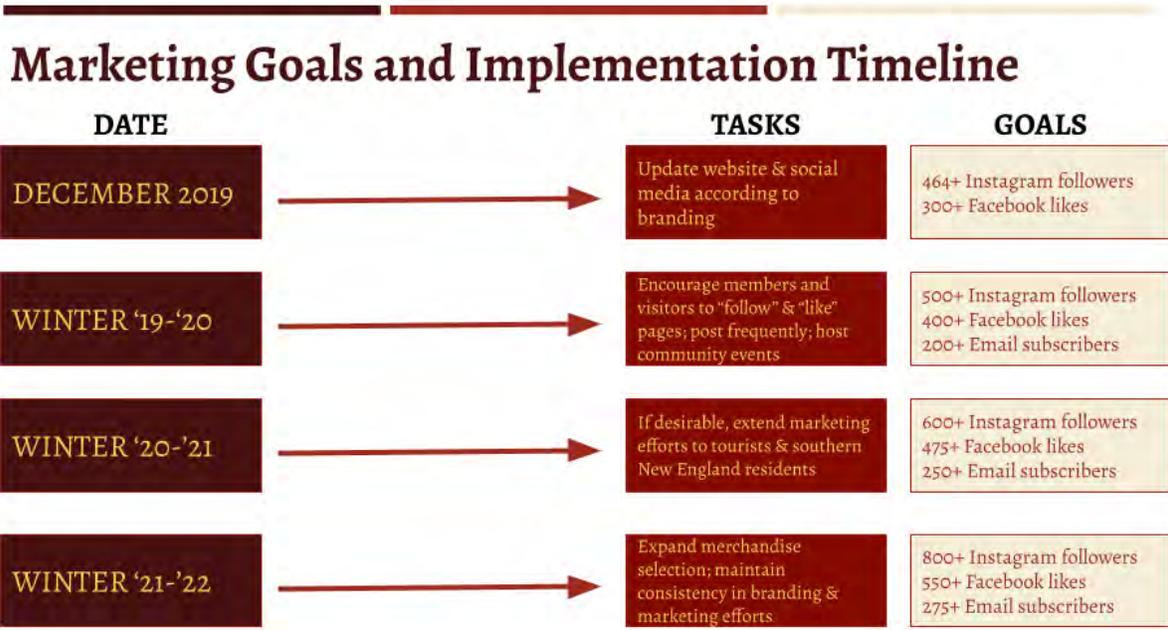
In addition to a traditional cost-benefit analysis, to best assess the success of marketing efforts, it is helpful to recognize KPIs (key performance indicators). KPIs are a way to quantify and objectify the performance of a company over time and are measured by the effectiveness of certain efforts to drive action.⁹³ In the case of Prospect, there are several ways to evaluate KPIs. It is important to remember KPIs and evaluating the effectiveness of expansion efforts or maintaining efforts is dependent upon data, which is necessary to measure. In the case of Prospect, very little information has been recorded in the past or, revenue from one category has been recorded under the category of another.

⁹³ Klipfolio.com. "What Is a KPI? Definition, Best-Practices, and Examples." Accessed November 30, 2019. <https://www.klipfolio.com/resources/articles/what-is-a-key-performance-indicator>.

In order to pursue a thorough marketing plan, we recommend measuring these statistics specifically in the future. Potential KPIs include:

- Number of Instagram followers
- Number of Facebook likes
- Number of ticket sales
- Number of season pass sales
- Daily traffic in the lodge
- Website traffic
 - (Note: if Prospectmountain.com is not yet set up with google analytics, we recommend registering the website following the link in the footnotes. It is quick and easy and provides a lot of interesting information!)⁹⁴

Suggested Implementation Timeline



Below is a timeline of measurable goals associated with marketing. Regardless of if these goals are achieved, we recommend evaluating the categories above in contrast to each other.

⁹⁴ <https://analytics.google.com/>

Date	Tasks & Goals
December 2019	Task: Update website and Instagram according to branding Goal: Gain more than 100 new Instagram followers by the end of December (464+ followers) Goal: 300+ Facebook likes
April 2020	Goal: 500+ followers on Instagram Goal: 400+ Facebook likes
Season '20-'21	Goal: 550+ followers on Instagram

Example of Manual Comparison Tool:

Platform	Number as of November '19	Current Number
Facebook	292 Likes	
Instagram	364 Followers	
Email Distribution List	194 Subscribers	
Number of Season Pass Sales (per season)		
Number of Day Pass Sales (per season)		
Number of Rentals		

Branding

According to *Branding Magazine*, branding promotes the way a company wishes to be perceived and distinguishes itself from other companies by creating a “name, symbol or design that is easily identifiable as belonging to the company.”⁹⁵ Branding is an important tool for companies to gain recognition, increase business value, generate new customers, promote trust among customers, build community, and establish themselves in their industry.⁹⁶ Branding is all about consistency. Consistency builds

⁹⁵ Smithson, Elizabeth. “What Is Branding And Why Is It Important For Your Business?” Brandingmag (blog). Accessed November 29, 2019. <https://www.brandingmag.com/2015/10/14/what-is-branding-and-why-is-it-important-for-your-business/>.

⁹⁶ *ibid*

recognition and trust among current customers and future customers. Prospect already has a lively, committed community; branding the Ski Area puts an image/logo, colors, and particular fonts to the name and feelings associated with Prospect and can work to help foster comrodorie. Seeing a distinguished Prospect logo will be a way to make community members smile. Additionally, the more distinguished Prospect's brand is, the more respected it will be within the industry and the more recognizable it will be against its competitors.

Currently, Prospect's branding consists of two different logos (the "SKI" with a star around it) and the text "Prospect" in a gothic font. The logos are in two different shades of red and the colors are not compatible. Both logos are used on the website. When talking with Helen Sharkey, she noted that there has never been consistency with fonts, colors, and logos, but there has never been a reason to unify branding in the past. Sharkey also explained the source of the logo is from a hand-painted sign, hung in the parking lot in previous years. It is important for us to consider maintaining the "Mom-and-Pop" charm of Prospect. In some situations, excess branding can take away the character of a place. We are working hard through these branding proposals to not just maintain the current Prospect aura, but bolster it.

We have created a "style guide" in Appendix III. for reference. Our suggestions for future branding revolve entirely around increasing consistency. We recommend establishing a singular logo that brings together the word "Prospect" and skiing and ensuring the logo is on every publication, article of clothing, and webpage. In addition to consistency with the logo, we have proposed a swatch of colors. Nothing should be colored outside of the color range defined by the brand unless there is a rationale or intention. Similarly, we have proposed three different font combinations. We advise to pick one of the combinations and stick with those fonts. Differentiating fonts between titles, headings, and body text will be helpful in order to



break up the page and make things both easier to read and look more aesthetically pleasing.

Examples of this branding in action include future merchandise, the brochure, stickers, webpages, posters, etc., all including the decided upon logo, featuring at least one signature color, and exclusively using the decided-upon fonts.

Marketing Budget

It is good practice for marketing budget to be in the range of 5-10% of gross revenue.⁹⁷ This range changes if a business wants to actively expand and the range also changes based on the industry. In the current case of Prospect, it would make sense to keep the marketing budget around 5% (or maybe even lower). Considering Prospect does not pay anything for marketing currently, we suggest targeting funding towards printing and distribution of brochures in addition to making stickers as accessible as possible to the public. In addition, it would be interesting to consider advertisements on the local NPR station (WAMC), posting an advertisement in the *Bennington Banner*, or social media advertisements. If Prospect would like to greatly expand their operations and drive a wider variety of first-time customers to visit in the future, we recommend considering paying for Instagram and Facebook advertising in addition to posters at prominent tourist spots such as MASS MoCA.

⁹⁷ FrogDog Marketing. "How Much Should Companies Budget for Marketing?" Accessed November 30, 2019. <https://www.frog-dog.com/how-much-should-companies-budget-for-marketing>.

Sustainable Food

Everyone—literally everyone—raves about Prospect cookies. They are a highlight for skiers and race-watchers, warming cookie-eater bellies and giving the lodge a homey atmosphere. Despite the community’s love for the cookies and grilled cheese, our clients noted the lack of knowledge about the kitchen’s monetary status; does it lose money? Break even? Make a profit? Additionally, our clients noted the food used in the kitchen is sourced from a major distributor, and thus the food is not local and may have a relatively large carbon footprint. Many of our goals will revolve around understanding the best ways to both reduce the carbon footprint of kitchen operations and increase its economic viability.

For the winter of 2019-2020, kitchen operations are run by Elsie Campbell. When we reached out to Campbell regarding our project, she enthusiastically responded and informed us: “Prospect is going through a lot of growth, as you know, so we are at a pretty exciting juncture; I have a lot of ideas but also a lot of systems to work through.”⁹⁸ Through working with Campbell and doing research, we realized the opportunities to improve the sustainability practices of the Prospect kitchen while she is here are vast, easily implementable, and realistic. However, it is important to note Campbell is a part-time employee⁹⁹ and will not necessarily be around in future years. In order to best address the growth of kitchen operations and maintenance of operations in the future, hiring a hard-working and organized cook will be important.

Ultimately, the first step to improving kitchen operations involves getting organized with systematic ordering and tracking of ingredients and sales. With a better understanding of what sells and what does not, as well as what is expensive and what is inexpensive to produce, it will be significantly easier to improve the effectiveness and efficiency of operations. Housing a successful kitchen could not only increase the revenue but produce a profit for PMA, which is especially important with big, expensive projects on the horizon. Improving kitchen operations would also be a great service to community members and encourage people to spend more time together in the lodge.

⁹⁸ Email correspondence with Elsie Campbell

⁹⁹ Thursday through Sunday

Sourcing more food from local farms is a great opportunity to collaborate closely with nearby residents, serve healthier food, and reduce the kitchen's carbon footprint.

Responsibly sourced and consumed food is not only more eco friendly, it also promotes community well-being. By purchasing and consuming responsibly, the stress on climate change, eutrophication, acid rain, the decrease of biodiversity, and drain of local resources can be minimized and sometimes mitigated.¹⁰⁰ Most tangibly, the production of food creates carbon dioxide, so when food is wasted and not disposed of properly, it produces methane (one of the most potent greenhouse gases).^{101, 102} Climate change is a real threat to the world and the sport of Nordic skiing, specifically. Making decisions about the sourcing and disposal of food can greatly decrease greenhouse gas emissions coming (indirectly) from Prospect.

Overview of Previous Operations

Kitchen Management

While over the years there have been many iterations of the kitchen's services, to our understanding it has not recently been formalized or organized. Before 2019, Steve Whitham would use money from the cash register to pay the food distributor (previously SYSCO, now Ginsberg's), upon delivery, for the next round of supplies.¹⁰³ Supplies were ordered based on a run-low or run-out basis where Steve would notice what was missing and then place an order to fill it.¹⁰⁴ In 2019, there will be a change in kitchen management with Campbell working in her second year and taking on more of a management role, including ordering the necessary supplies rather than solely cooking. This transition will hopefully come with a more systematic way of ordering supplies so as to reduce waste and provide more consistent food services.

¹⁰⁰ Luonnonvarakeskus. "Effects of Food Production and Consumption on the Environment and Climate." Accessed December 3, 2019. <https://www.luke.fi/en/natural-resources/food-and-nutrition/effects-of-food-production-and-consumption-the-environment-and-climate/>.

¹⁰¹ Briggs, Nassos Stylianou, Clara Guibourg and Helen. "Climate Change Food Calculator: What's Your Diet's Carbon Footprint?" *BBC News*, August 9, 2019, sec. Science & Environment. <https://www.bbc.com/news/science-environment-46459714>.

¹⁰² Frischmann, Chad. "Opinion | The Climate Impact of the Food in the Back of Your Fridge." *Washington Post*. Accessed December 3, 2019. <https://www.washingtonpost.com/news/theworldpost/wp/2018/07/31/food-waste/>.

¹⁰³ Interview with Elsie Campbell

¹⁰⁴ *ibid*

In addition to Campbell taking on a more managerial role for ingredient ordering, she is also taking on a bigger role in the hiring process for assistant workers in the kitchen. Previous to this year, there were several high-schoolers who worked in the kitchen but didn't always have something to do. Campbell noted when the kids get flustered with a big rush of customers, they are not very effective workers. Thus, she emphasized the importance of hiring the best workers, but also in coming up with a better training system so they are more prepared and know what to do during the extreme moments of high-volume orders and when there are no orders at all.¹⁰⁵ In an effort to accomplish this, she is implementing an orientation for all part-time kitchen workers. On most weekdays, the kitchen operations are slow enough that Campbell can manage preparations, taking orders, making orders, serving orders, and cleaning up on her own. Campbell noted on a race day, she'll get to work in the kitchen at 7am while on weekdays she gets to work around 9am.

Order of Operations

As of the 2018-2019 season, the order of operations behind the counter worked as follows: a customer would step up to the counter where they would place an order.¹⁰⁶ There was a cash register point of sales system and the person working the register would also hand write the grill order. Once the order was cooked and complete, to serve, the chef (or someone working behind the counter) would call out the order (not the recipient's name, nor a number) and put it on the side counter. Starting fall 2019, coffee and tea will be self-serve (after a small countertop renovation, this is now possible). On days the kitchen is running slowly, Campbell delivers food to customers' tables. She said this is not the norm but is a nice personal touch when the pace of production allows.

Campbell explained that calling out orders is not an ideal system. She noted that sometimes people forget what they ordered and take the wrong food. She also noted that the current system lacks a degree of professionalism. Campbell believes "if the kitchen is seen as more of a food place, then maybe people will get food more often."¹⁰⁷ Additionally, she noticed that "sometimes people don't even know where to order

¹⁰⁵ Interview with Elsie Campbell

¹⁰⁶ Description paraphrased from an interview with Elsie Campbell

¹⁰⁷ Elsie Campbell

food!”¹⁰⁸ As a result, we propose putting in signs around the lodge with arrows to where to order food.

In addition to increasing signage, Campbell tasked us with proposing a more efficient ordering and delivery system for customers to help ensure those ordering receive their correct food and potentially drive more sales. Together, we came up with a solution: a numerical, low-tech, easy to maintain, reusable system that fits the character of Prospect, yet aids efficiency and organization. In this proposed ordering system, the order is placed under an assigned number and both the customer and the chef receive the same number for the order. This is often systematized using order slips, pictured below. In the case of Prospect’s kitchen, we are aiming to reduce waste as much as possible. While placing orders using a paper pad and recycling the paper afterwards is an option, we recommend a reusable system. To work with this, we propose to have laminated place numbers for customers (see example below) and a laminated card, associated with the number, for employees (see example below). The card for employees would be laminated so that a dry-erase marker could be used to write down the order and then the same card could be wiped off and reused once the customer returns their place number. In order to pick up their order, customers must bring their place number to exchange for their food. Campbell is enthusiastic about this system in email correspondence she mentioned to us, “I would say 30 would be reasonable given my sense of turn over and density.”¹⁰⁹



¹⁰⁸ Ibid

¹⁰⁹ Email correspondence with Elsie Campbell

Production Capacity

According to Campbell, there is currently a very large fluctuation in the number of orders placed at a time. During the busiest days (race days and weekends) there is a large turnover and a fast ordering speed. She described the capacity and abundance of grill production to us, “I can fit 6-8 grill items at a time on the grill, but I will have up to 25 orders on the line at a time. The turn over is really fast but I have never calculated it, orders normally come out in 5 minutes or less. If you're wondering how many we have in a day, it is hundreds on a busy day.”¹¹⁰ Campbell noted weekends, race days, and long weekends are particularly busy and she may have hundreds of orders during those days.

On weekdays, the kitchen operations are slow and Campbell spends a large amount of time preparing. In fact, on some weekdays she doesn't even turn on the grill and sells day passes from the counter. This slow time is important as the kitchen is a small space; when preparing a dish or making batter for baked goods, almost all of the counter space is used, making it challenging to prepare menu items for a large number of customers at the same time.¹¹¹ Even for pancakes or brownies, Campbell needs to prepare in advance as there isn't enough space in the kitchen to prepare the batter and other goods at the same time. She will often make batter at the slowest times of the day and week. Due to this lack of counter and preparation space, many of the items prepared and served in the Prospect kitchen - contrary to popular belief - are actually frozen and heated.

If the vision for the Prospect kitchen is to expand operations, considering investing in a larger grill space and countertop area is advisable in order to accommodate more orders at a time.

The Menu

Currently, the menu is written on a chalkboard (pictured below). There is an additional chalkboard where the chef writes specials for the day. Campbell expressed

¹¹⁰ Interview with Elsie Campbell

¹¹¹ Ibid

interest in the menu being advertised and available on the website. Regarding the pricing for menu items, Campbell mentioned, “the prices from last year are the same prices that we have had for, like, ever.”¹¹² A few items listed on the menu include grilled cheese, hot dogs, hamburgers, veggie burgers, soup, PB&J, cookies, and brownies. Campbell told us she was interested in having paper menus distributed on tables around the lodge to remind people of the available food and encourage them to order. We worked with both Campbell and Helen Sharkey to draft a digital version of the menu, both to print and distribute to tables and post on the website (see Appendix VIII). Another way to increase community members’ awareness of kitchen operations is through using the Instagram as an advertising platform.



2018-2019 Season Menu

Sourcing

Through winter 2020, ingredients are primarily sourced through Ginsberg’s, a major foodservice distributor based in Hudson, New York. Ginsberg’s is a family owned business where customers can pick a large number of bulk food items to be delivered. Items include both pre-prepared food and raw ingredients. In addition to doorstep delivery, Ginsberg’s provides many services that makes ordering through them very easy,

¹¹² Ibid

such as truck tracking and a comprehensive online catalog.¹¹³ In classic wholesale fashion, the more items purchased, the cheaper each individual item is. Considering Prospect does not order large quantities of food, there is not a significant bulk discount.¹¹⁴ In addition to Ginsberg's, most of the kitchen's fresh produce (such as greens) comes from the local supermarket.

Sustainable Sourcing Alternatives

Sourcing local foods - especially vegetables - was something many community members and interviewees were interested in. In fact, 65% of survey respondents noted they would be willing to pay more for a wider variety of food options and locally sourced options. In order to operationalize this, Campbell wanted us to first consider gleaning vegetables from local farms. Gleaning is the process of rescuing ugly foods that would otherwise go to waste because their look is not up to supermarket standards. Typically, those vegetables either rot on the vine or are harvested and thrown away (or composted). She would need a team of committed people to go in and do the harvesting of the ugly vegetables. Because the peak season for vegetable harvesting is around six months prior to peak ski season (thus, Prospect kitchen operations), Campbell's vision would be to use these veggies in soup and freeze the soup so it can be consumed in the winter. However, it is important to note that ample freezer space is required for this. However, after beginning investigations, we learned from our Professor, Sarah Gardner, that many of these farms are already gleaned, and that the gleaned vegetables are sent to local food banks. Therefore, our group met with Mike Evans, the interim director at the Zilkha Center for Environmental Initiatives at Williams College, and Elsie Campbell, to get suggestions for where sustainably sourced food could come from. We recognize the difficulty with acquiring fresh, local vegetables in the winter, but hope that improved relationship with local farmers will make it easier to gain knowledge on preserving vegetables for the ski season. We have begun to compile a list below of farms and local businesses that could be helpful to Prospect (we recommend continuing to add to this list):

¹¹³ Ginsberg's Foods. "Ginsberg's Foods | Foodservice Distributors in New York." Accessed December 5, 2019. <https://ginsbergs.com/>.

¹¹⁴ Elsie Campbell

FARM/SOURCE NAME	LOCATION	PRODUCTS
Mighty Food Farm	Shaftsbury, VT	organic vegetables, herbs
Clear Brook Farm	Shaftsbury, VT	organic vegetables, fruits
True Love Farm	North Bennington, VT	sustainably grown vegetables
Marty's Local	Pittsfield, VT	produce, flours and grains, dairy, meats, cheeses, and specialty foods
Brown Boar Farm	Wells, VT	Bacon
Vermont Farm to Plate Network		More information on local food options
East Mountain Farm	Williamstown, MA	Year-round locally sourced, grass-fed beef, pig meat, & chicken
Cabot Cheese	Cabot, VT	Vermont-local cheese and dairy products
Purple Carrot Farm	Bennington, VT	Contact Bennington College to inquire (student-run)

With the aforementioned list, Prospect can seek to implement a variety of eco-friendly initiatives in the kitchen. The raising of meat for human consumption is an environmentally taxing process and we recommend that Prospect try to reduce its meat consumption whenever possible and offer vegetarian foods. Sourcing vegetables and meat from local organic farms will not only ensure that the vegetables are farmed using environmentally sustainable practices, but will cut down on carbon emissions used to transport vegetables, and will reduce the amount of bulky packaging. Switching to local cheese and dairy products is recommended. We also think it would be nice for Prospect to have local bread on special occasions.

Waste Management

An easy way that Prospect can reduce their impact on the environment is through waste awareness. Elsie Campbell reported that Prospect currently recycles plastic and metal containers. We have been in contact with Trevor Mance (trevor.mance@casella.com) from Casella, a waste management company that works in Woodford, and want to start a conversation about what the cost and logistics of getting compost and zero sort recycling for Prospect. Another option for composting that Prospect could consider (if they do not want to use Casella) is collecting food scraps for a local pig farmer; Elsie suggested contacting Studio Hill farm in Shaftsbury, VT or Brown Boar Farm in Wells, VT about pigs and their farm's potential need for food scraps. While there are challenges associated with compost (such as avoiding mice infestations) there are strategies to avoid pests, especially as the food waste will freeze during the winter. Further collaboration with the Casella representative will be helpful to minimize pests.

Compost

We talked on the phone with Trevor Mance from Casella about the best way to implement composting and recycling at Prospect. Mance informed us of the Vermont State law banning organic waste (including food scraps) from the landfill beginning July 1, 2020.^{115 116}

¹¹⁵ Vermont Official State Website, Agency of Natural Resources: Department of Environmental Conservation, Organic Materials: Compost, Accessed December 11, 2019, <https://dec.vermont.gov/waste-management/solid/materials-mgmt/organic-materials>

¹¹⁶ Vermont Official State Website, Universal Recycling Law Timeline, Provided by Trevor Mance via email, https://dec.vermont.gov/sites/dec/files/wmp/SolidWaste/Documents/Universal-Recycling/Timeline-factsheet_CURRENT.pdf

This means that Prospect needs to legally move forward with compost implementation and we urge them to do so as soon as possible. Compost is priced through Casella using a tote system, each 65 gallon tote costs \$15 weekly for pickup. If Prospect were to have two totes and get compost picked up once every two weeks it would be about \$60 dollars per month, \$720 per year. This is an estimate and using single use utensils and dishes that are compostable will probably amount to much larger compost generation.

It is important to note that Prospect currently uses single-use plates, cups, bowls, and eating utensils. There is a significant difference between compostable and biodegradable single-use kitchen products. Products that are labeled as biodegradable will leave microplastics in the



waste stream, whereas compostable products will completely break down in a composting facility. Currently the kitchen uses Solo brand 10 oz paper hot cups and 8.5 inch poly co paper plates sourced from Ginsberg. Ginsberg offers Vegware brand compostable plates, cups, bowls, and utensils and we recommend Prospect switch to compostable dishware as soon as composting is implemented and Casella has verified that their facility can compost the brand of compostable dishware chosen by the kitchen. Mance noted that compostable dishware must be BPI (Biodegradable Products Institute) certified in order to compost in their facility. In an effort to decrease the amount of single-use eatery and cups to begin with, we recommend the Prospect kitchen to offer a small discount when customers bring their own cup, utensils, bowls, or plates. For example, a 16 ounce compostable cup costs \$0.14 - perhaps the discount could be for \$0.10 or \$0.15.¹¹⁷

We are aware that Prospect already recycles in some capacity, and Casella offers single stream recycling for all recyclables that can be implemented by contacting Mance

¹¹⁷ “Compostable Cups - WebstaurantStore.” Accessed December 15, 2019. <https://www.webstaurantstore.com/search/compostable-cups.html>.

from Casella as well. Mance is optimistic that Prospect users will react very well to education about the waste stream and take ownership over sorting their waste at the mountain. Therefore, Prospect can be confident about implementing compost, trash, and recycling bins in all of their buildings.

Community Feedback & Survey Results

Interestingly, according to Campbell, “not a lot of regulars buy food except for on weekends except the kids, after they have practice, often want hot chocolate, cookies, battenkill brittle.”¹¹⁸ Trying to evaluate the popularity of the current kitchen operations and places for potential improvement, we incorporated several questions into our survey. While 25% of respondents mentioned they’d like to see the food improved at Prospect, on a separate question, 26% of people responded saying the food was one of their favorite aspects of the ski area.

Additionally, 46.8% of people noted they purchase food while at Prospect, 27.8% “checked” that they bring food from home to consume at the ski area, and 12.7% of people do not eat at Prospect at all. That such high a number of people bring food from home to consume in the ski area shows the potential success for increasing the variety of options.

There were two open-ended questions regarding the food: What are your favorite foods that have been served at prospect in the past? & what could be improved about the food served at Prospect/what food would you like to see served in the future? Considering each question had over 120 responses, we have extracted a few interesting results and strongly suggest reviewing the rest of the content thoroughly. There is a lot of very helpful feedback that we do not have space to include in this report!

Financial Feasibility

Considering one of the major concerns for Prospect’s kitchen operations is cost efficiency, being able to track the cost of each item, how frequently it sells, and its profit margin is important. As mentioned in the introduction, the previous practice was a casual cycle, mostly managed by Steve Whitham (on top of all the other things Steve was

¹¹⁸ Interview with Elsie Campbell

running!): the food would make money, then Steve would take money out of the cash register to pay the distributor when the delivery arrived.¹¹⁹ Steve would order food in a casual and spontaneous (yet methodical) system: if it looked like something was missing or low in quantity, he would call the distributor to order more. No information on previous purchases was saved digitally and all previous orders exist in hard copy invoices.¹²⁰ As Campbell noted, “Steve writes orders on scrap paper, always making it up as he goes.”¹²¹ Campbell recommended talking with the PMA treasurer, Steve Fogel, to find out more information. In a brief conversation with Mr. Fogel, he explained some revenue streams from other categories were logged as food/kitchen operations last year.¹²² Thus, examining the previously documented numbers would pose a significant challenge. Last year, the kitchen experimented with a new point-of-sale system, but, according to David Dethier, “the software we were using last year produced nearly constant complaints--it was balky, would freeze or hang at the wrong moment so folks would say "screw it" and use work-arounds.”¹²³ This year, Sharkey and Campbell explained that they are using a new point-of-sale system, which should be easier to track the number of sales for individual products, influence ordering patterns, and improve the efficiency of ordering. We recommend doing a comprehensive analysis of this data at least once a month and collectively at the end of the season.

In order to get a better idea of the profits and losses of the kitchen, we have put together a fill-in-the-blank spreadsheet where any individual given the proper information can enter the cost of individually sourced items and the spreadsheet will automatically update to articulate the cost to produce each item, the number of each item required to break even, and the total potential profit. This must be plugged in digitally as there are coded formulas embedded in the spreadsheet that will automatically update. The only data necessary for all formulas to update is highlighted in light red and includes the total cost to order a case of a certain good and the number of servings per case. There are some foods that are already completely prepared (such as gatorade or cookie batter) and this

¹¹⁹ Interview with Elsie Campbell

¹²⁰ Ibid

¹²¹ Ibid

¹²² Casual conversation with Steve Fogel on November 18th

¹²³ Email correspondence with David Dethier

information will be easy to fill out. However, there are certain menu items (such as sandwiches) that require several ingredients to make. We have created the spreadsheet so that the person inputting the numbers can put in the information for the ingredients and the menu item will update automatically. As the pre-prepared items, only the cells of the spreadsheet highlighted with light red require data input. However, for the case of multi-ingredient menu items, the spreadsheet does not automatically update with breakeven and total potential profit points. An outline of the full spreadsheet is attached in the Appendix and here is a [LINK \(CLICK HERE\)](#) to an editable and a downloadable copy.

We recommend Campbell, or whoever is doing the ordering of food, plugs the numbers into the spreadsheet. We are happy to walk Campbell (or anyone else) through gathering, inputting, and interpreting the necessary data. Once the information from this spreadsheet is organized and explained, it would be possible to compare the prices of different sourcing options and the price impact of expanding the available menu options. Having this information will also give flexibility to adjust to more sustainable and local sourcing.

Expanding Operations

Breakfast

One inquiry voiced by both the PMA board and Campbell was expanding kitchen operations to include serving breakfast on race days and weekends. Campbell noted when she was growing up, breakfast was served, so it would not be unprecedented to expand the functionality of the kitchen. She also noted that many customers come up to her asking her to serve breakfast. At the PMA board meeting, there was mention of weekend breakfasts catering to local snowmobilers (including Woodford residents) who otherwise do not interact much with the Prospect community. In the survey we distributed, we asked the question: Would you eat breakfast in the lodge on the weekends if it were available? Of the responses, 0.79% would very frequently, 7.94% would frequently, 28.57% would sometimes, 38.1% would rarely, and 22.22% would never be interested in breakfast being served. However, it is important to note this survey was distributed exclusively to people already registered on the PMA email distribution list, does not include Woodford residents' feedback, and highlights an older age demographic. In order

to properly gauge the community's interest in breakfast, it would be important to inquire within the Woodford and Bennington communities, not just skiers. It is also possible that there are already breakfast options for snowmobilers at the Woodford Snobusters Snowmobile Club, and we recommend inquiring with the Club before launching operations.

Currently, there are casual (and not advertised) breakfast offerings: coaches often order eggs on race days. It is important to note the people purchasing breakfast on race days will likely not be racers themselves but spectators and coaches. In practice, breakfast could potentially include pancakes, breakfast sandwiches, eggs in different forms, toast, and homefries (potatoes & onions).

If breakfast is served, we recommend embarking on an advertising campaign both within the current Prospect platforms (Instagram, Facebook, email, & website) and within local channels such as posters in the Bennington library and perhaps a story in the *Bennington Banner*.

Special Events

Campbell had several ideas for special events oriented around food. One of her ideas we think is most feasible is "Flatbread Fridays." Campbell reported the kitchen having very large ovens. Preparing flatbreads or pizzas would not take as much counter space, is very customizable, relatively low-cost, and a true people-pleaser. Community members could decorate or put toppings on their own flatbreads or watch a movie in the lodge to accompany the food. This event could cater to both younger generations and adults, bring together community, and expand the kitchen operations.

Recommendations for Future

As the kitchen is currently managed by a part-time chef, there is not a lot of consistency. If operations continue to expand, we recommend hiring a full-time chef that can also manage the social media platforms and sell merchandise. Selling the merchandise should be under the same point-of-sale system that the food is run through, so this full-time employee should be able to easily manage merchandise. Running the social media accounts should be under the responsibility of the full-time employee; either

this employee would manage the account directly, or be responsible to delegate and oversee the running of the account.

In the short term, we would recommend creating a suggestion box, both for products and feedback on services, so community members can provide more (and anonymous) input for kitchen operations. This suggestion box can exist both online on the website, on social media platforms, and also in person near the counter on which the food comes out.

We also recommend ensuring follow-through of the cost-benefit analysis of menu items we established a structure for in order to confirm the kitchen, at the very least, breaks even.

We asked Campbell what her dream for Prospect is in the next ten years. Her dream is to incorporate more local foods and work directly with farmers. She believes this is a small enough operation that this is a feasible dream. One of her dreams is to work with local farmers on gleaning, although, as previously addressed, this takes too much manual labor and is not realistic in the current stage of Prospect's operations. Another dream of Campbell's, while unrelated to food, is to ensure the preservation of the lodge by turning it into a registered historic preservation site through the Preservation Trust of Vermont, similar to that of Mad River Glen. Campbell also inquired about a liquor license as a long term goal. Considering, after proposing this in our survey, 57% of respondents said they would *not* be interested in purchasing alcohol while at Prospect, this is not advisable. Ultimately, Campbell's ten-year dream - along with ours - is to find a way to incorporate fresh and local vegetables into the daily operations of Prospect's kitchen.

If research on this project continues, we would make a point to meet with staff at Dining Services at Williams College as we recognize their recent efforts to source locally, reduce waste, and cater to a large audience. We would also follow through with the menu cost-benefit analysis, and figure out which specific items are the most popular. If we had more time, we would also have liked to research and calculate the carbon footprint and long-term cost associated with the footprint of the kitchen and consider which menu items (or parts of operations) contribute the most to the carbon footprint and reduce those aspects. Additionally, we suggest a future project creating a more

comprehensive list of locally sourced food (and farm) options along with a “competitor” analysis of local restaurants to try and understand if the Prospect kitchen could fill a hole in the existing market. Lastly, another project that could happen is a brainstorm of new products and menu items.

Implementation Timeline

ASAP

- Replace biodegradable flatware with compostable flatware
- Flatbread Fridays
- Pursue cost-benefit analysis
- Create system for customers to give feedback
- Print paper menus
- Increase signage
- Post menu and kitchen information on website and on social media platforms
- Establish relationship with Casella and begin composting
- Switch cheese to local source (i.e. Cabots)
- Implement number-organized ordering system

2020-2021 Season

- Establish relationships with local farms and source locally as much as possible
- Analyze available data from previous year to understand which products are most successful/desirable
- Consider expanding kitchen operations to include serving breakfast
- Make sure to implement fully-fledged composting system

5 Years

- Hire full-time chef
- Consider hosting kitchen events during summer months
- If the kitchen operations continue to be successful and expand, consider marketing the restaurant more in addition to solely the skiing

10 Years

- Remodel kitchen, install dishwasher, expand countertops

Law & Policy

Conservation Easement

Since the purchase of Prospect Mountain by the PMA in 2018, the land has been designated as a conservation easement, defined as “a legal agreement a property owner makes with a governmental entity or a nonprofit organization to restrict activities allowed on the land in order to protect specified conservation values.”¹²⁴

*Grant of Development Rights, Conservation Restrictions, and Public Access Easement*¹²⁵

The parcel of land containing Prospect Mountain and all of its surrounding facilities was protected in 2019 under a conservation easement. Easements of this type are legally binding contracts which permanently limit the types of land use allowed and specify the types of land use required of a property with significant conservation value. In this case, the Prospect Mountain Association has granted the land to the Vermont Land Trust and the Vermont Housing and Conservation Board; in essence, this means PMA has protected the land and potentially receives significant tax benefits, but can still use the land for select purposes with the approval of the Grantees.

The easement covers several important areas: the purposes of the grant and management plan, the restricted and permitted uses of the property, and all other provisions that apply to any easement. The first section outlines the reasons Prospect Mountain qualifies for an easement grant, and the key goals which it is required to pursue now that it has this designation; these include, most essentially, provisions for non-motorized trail-based recreation, community economic development, preservation of the ecosystem and historical significance, and requirements of its location against other key ecological properties. Furthermore, this section requires periodic management plan development which at minimum address the recreational needs, public access rights, links to adjacent public land, sustainable forest management, minimal impact facilities, sustainable usage of resources, protection of ecosystems, coordination with VAST, assessing historic values, and consideration of appropriate admission fees.

¹²⁴ USDA Forest Service, “Forest Legacy Program Implementation Guidelines,” 2003, https://www.fs.fed.us/spf/coop/library/fpl_guidelines.pdf.

¹²⁵ Vermont Housing and Conservation Board and Vermont Land Trust, “Grant for Development Rights, Conservation Restrictions, and Public Access Easement,” 2019.

All additional clauses elaborate on how to pursue each of these goals while observing the requirements of a conservation easement. Important restrictions on use include no residential or industrial purposes, developments through or into the property, advertisements, excess trash, surface disturbances, distributing rights, motorized vehicles, manipulation of water bodies, or uses not consistent with the purposes of the grant. Permitted uses are divided between two zones (see Map 2, page 17); in the Recreational Development Zone (27 acres), some commercial activities and building creation or maintenance may be allowed with the approval of the Grantees, assuming this activity forwards the functional and financial support of recreational and educational goals, does not interfere with public access, and does not include any additional year-round residential use. Further rights are reserved for the maintenance and creation of trails and skiing infrastructure (including snow making), all types of non-motorized recreation, wildlife management, maple sugaring and certain other forest product extraction, periodic public events, reasonable fees for admission, and certain minor structures over the entire property.

Final provisions specify that denying accessibility to the general public for any non-commercial, non-motorized recreational, and/or educational use is strictly prohibited; halting of these activities is only permitted to protect natural habitats or public safety. All regulations may be enforced by local and state authorities and inspections by the Grantees. Specific bylaws must be considered for enforcement of the conservation easement, transfer of rights over the property, successor deeds and titles of Grantees and Grantors, credit due to VHCB and VLT, and the possibilities of amending this document for any reason.

Public Access: The importance of public access for this type of easement is stated repeated. While it costs money to ski at Prospect, it is illegal to charge for parking, so walking on the land is accessible from the parking lot and from the trails which connect to neighboring parcels (particularly that belonging to the NFS). Further work must “provide a plan for fees for admission to and use of the recreational infrastructure located on the Protected Property necessary to support Grantor’s management” (B.2.(k)).

Accessibility: Further exploration of accessibility measures are certainly permitted and will be discussed with PMA board members. Included in the easement are

two relevant clauses. The first is that mentioned above, restricted the money to be gathered to only the amount necessary to support Prospect Mountain’s bare necessities. The second is section II. 7., which provides an exception to the ‘no motorized vehicles’ clause for “use by persons with mobility disabilities.”

Americans with Disabilities Act

The ADA’s relationship with outdoor facilities like Prospect Mountain is somewhat complicated, but very important to consider. Beyond the accessibility requirements specifically given in the Easement, it is recommended that throughout any development at Prospect, compliance with the ADA is carefully assessed and met. Some compliance standards may be suspended if they will “cause substantial harm to cultural, historic, religious, or significant natural features or characteristics” or “where compliance would substantially alter the nature of the setting or purpose of the facility,”¹²⁶ important to consider on conservation easement land and at a Nordic ski area alongside the priority of accessibility for all.

*Vermont Statutes Annotated Chapter 10: Conservation and Development*¹²⁷

The VSA contains careful description of many of Vermont laws; the most relevant to us are two sections of the chapter on Conservation and Development which are explicitly referenced in the conservation easement.

- I. *Chapter 34: Conservation and Preservation Rights and Interests:* This chapter makes legal contracts like the conservation easement mentioned above; our grant seems in accordance with state law, since the conservation rights and interests are clearly stated in the easement (822) and the involved parties are VLT and VHCB, two departments of the State of Vermont (821 3A) and PMA, an organization qualifying under Section 501(c)(3) of the Internal Revenue Code (821 3(B)).¹²⁸

¹²⁶ Ellen Aubrey Fred, *Outdoor Accessibility Requirements of the Americans with Disabilities Act: Must holders of Conservation Easements Provide ADA Access?*, *Hastings Law Journal* 54, 2002, pg 260-264, https://repository.uchastings.edu/cgi/viewcontent.cgi?article=3504&context=hastings_law_journal.

¹²⁷“The Vermont Statutes Online, Title 10: Conservation and Development,” Vermont General Assembly, State of Vermont, 2019, <https://legislature.vermont.gov/statutes/title/10>.

¹²⁸ “The Vermont Statutes Online, Title 10, Chapter 34: Conservation and Preservation Rights and Interests,” Vermont General Assembly, State of Vermont, 2019, <https://legislature.vermont.gov/statutes/fullchapter/10/034>.

II. *Chapter 155: Acquisition of Interests in Land by Public Agencies*: Here stated is the express goal of encouraging the conservation and preservation of VT’s forest land for aesthetic, recreational, and historic purposes (6301). The necessity of including VHCB is clarified, since they are one of only five state agencies qualified to report upon the property prior to its acquisition (6301a(1), 6302(d)). Further set out are the specific rights which may be granted or acquired in the conservation easement; the strict regulations of further land or rights transfers; and the tax exemptions PMA should receive.¹²⁹

Forestry

*Acceptable Management Practices (AMPs) for Maintaining Water Quality on Logging Jobs in Vermont*¹³⁰

AMPs provides all the rules regarding water quality, erosion control, and runoff from any logging Vermont logging operations. This includes logging conducted for forest management purposes or for the creation of trails, buildings, and utilities. While these laws should be reviewed more thoroughly preceding actual clearing and building, in summary there are specific standards for the creation and impact of logging roads, stream crossings, buffer zones, hazardous materials, and log landings.

*The Forest Legacy Program of 1990*¹³¹

This program exists “to promote the long-term integrity of forestlands,” and is mentioned in section I.1. of the PMA Grant. Under these standards, “environmentally important private forestlands” may be identified by the Forest Service and voluntarily protected thereafter. The specific restrictions involving conservation easements are found in Part I, Section XVI (pg 20-21) of the Forest Legacy Program Implementation Guidelines. If it sees fit, the PMA may be able to apply for a grant from FLP for

¹²⁹ “The Vermont Statutes Online, Title 10, Chapter 155: Acquisition of Interests in Land By Public Agencies,” Vermont General Assembly, State of Vermont, 2019, <https://legislature.vermont.gov/statutes/fullchapter/10/155>.

¹³⁰ Vermont Statutes Annotated, “Acceptable Management Practices for Maintaining Water Quality on Logging Jobs in Vermont,” 2018, https://fpr.vermont.gov/sites/fpr/files/Forest_and_Forestry/Forest_Management/Library/AMP%20final%20version%207-17-18.pdf.

¹³¹ USDA Forest Service, “Forest Legacy Program Implementation Guidelines,” 2003, https://www.fs.fed.us/spf/coop/library/fpl_guidelines.pdf.

“Establishment and documentation of baseline conditions and development of a Forest Stewardship Plan for a conservation easement,” if such a plan does not currently exist (Pt 2, I, B(3)).

*Sugarbush Management Standards and Tapping Guidelines for Forestland Use and Appraisal*¹³²

Tapping for maple syrup (i.e. the creation of a sugarbush) is permitted in the conservation easement (Section III(5)) under these guidelines. If the PMA ever goes forward with this option,¹³³ they must create plans for all of the following: recruitment/retention of multiple age classes, restocking of trees, limits of stocking, retention of tree biodiversity (>25% non-sugaring), minimal impact of sapline management, timber quality standards, consideration of natural communities, mapping, and annual tapping removal.

Wetlands

Vermont Wetland Rules

The Prospect Mountain easement contains a significant wetland area and buffer zone on the western side by the parking lot and buildings. As such, the Vermont Wetland Rules should be consulted for alterations made within and around these areas.

Act 250

Act 250 is Vermont’s land use and development control law. It covers a significant amount of ground including transportation, aesthetics, wildlife protection, erosion, and, significantly, water conservation and quality. It is administered by the Natural Resource Board, which has the power to issue any land use permits.¹³⁴

Prospect already has a land use permit for trail development and for snowmaking, dating back to 1982. While this permit should remain in effect essentially for perpetuity,

¹³²“Sugarbush Management Standards and Tapping Guidelines for Forestland in Use Value Appraisal,” Vermont Department of Forests, Parks and Recreation, 2015, https://www.vlt.org/wp-content/uploads/2017/04/PDF-Sugar_bushStandards.pdf

¹³³ This is fairly unlikely; similar to hunting, maple sugar season overlaps significantly with ski season. The density of sugar maples on the property is not assessed but suggested to not be particularly high.

¹³⁴Agency of Natural Resources, “Act 250,” State of Vermont, 2019, <https://anr.vermont.gov/planning/act250-section248-info/act-250>.

other permits under the jurisdiction of this act will be required for planned wetland alterations including the building of a curtain drain and the burying of pipes underneath a wetland buffer zone.¹³⁵ Those activities will likely be allowed if the proper conservation concerns are addressed; more doubtful, but also under the purview of this act, would be the ability to locate a solar field within the boundaries of the wetland or its buffer.¹³⁶

¹³⁵ Given the amount of time it took to permit even the pond, these further alterations are likely to be a long and complicated process.

¹³⁶ Alexis Degabriele, "Keeping Solar Projects Wetland Friendly," Vermont Department of Environmental Conservation, 2015, <https://dec.vermont.gov/sites/dec/files/wsm/wetlands/docs/Solar%20Wetland%20Brochure%202015.pdf>.

Interviews and Surveys

Interviews

Interviews were sought with as many stakeholders and experts as the timespan of the project allowed. Nineteen parties were interviewed overall, ranging from Prospect's employees and board members to its neighbors, other ski areas, and experts in food and sustainability. A full list of interviewees and interview timeline is included in Appendix IV. As an overview, we spoke with David Newell, Ed Shea, Jon Cohen, Ryan Thurber, Steve Fogel, and Steve Whitham about Prospect's operations, with Bhima Nitta, Brad DeBoer, and Dennis Kinsella about energy usage, with Carol Newell, Pam Coffield, and Helen Sharkey about marketing, with Elsie Campbell about food, and with Jason Lemieux, Marc Mandel, Mike Evans, and Scott Lewis about involvement with Williams College.

Survey

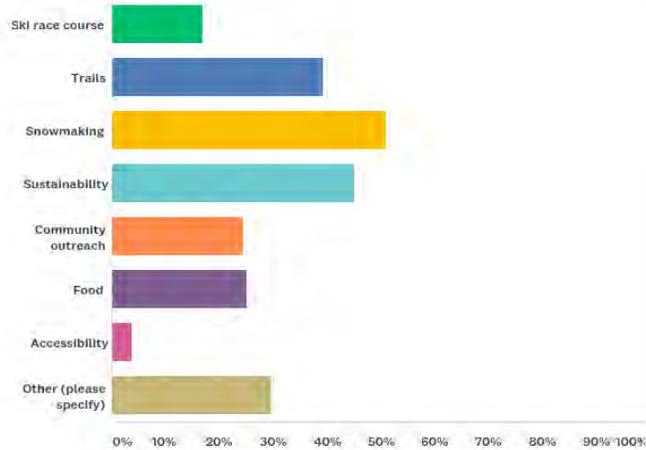
On November 11, 2019 we sent a nine minute survey with 25 questions to the Prospect email list through Survey Monkey. Within the next couple days we also sent the survey to high school ski teams in the area and to the Williams College ski teams.¹³⁷ In the six days that the survey was active we received 154 responses. The Prospect Membership email list includes 194 people, but we don't know how many people were on the other two lists. However, judging by the number of responses by people under the age of 30, 140 of these responses came from the Prospect Membership email list, which gives us an approximate response rate of 70%.

The survey was broken down into seven different pages. The first page was an introduction explaining who we are, what the goal of our project is, and what the survey will be used for. The text used is included in the appendix. The second page contained our demographic questions. The majority of our respondents were above the age of 50 and either made more than \$100,000 a year or preferred not to specify their income. The exact breakdowns of this information, including our question about gender, is included in the appendix. The third page was about usership. This gathered important information for

¹³⁷ From the age demographics of the survey, we found the response rate from the list serve to be much higher than that of the ski teams.

Prospect about how many times a season people generally go, what types of ski passes they buy, the activities users engage in the most, and their favorite things about Prospect, among other topics.

Q11 Please check areas you would like to see improved about Prospect.



The subsequent pages shifted to information that directly related to our project. The goal of this survey was not only to provide PMA with information on their users but also to make sure the changes we propose as part of our project are consistent with what the community wants. The fourth page asked about respondent's opinions on the direction Prospect should go in the future. The first question asked respondents to check areas they would like to see improved about Prospect. Out of seven options, the two most popular were snowmaking and sustainability.

This was great to hear since a large portion of our project focuses on sustainability and it is definitely in line with what the community wants to see. The second question in this section asked respondents to choose one of the four options that was closest to their opinion about Prospect's current pricing. The options were 1. Prospect currently charges too much, and I would be more likely to go if they charged less, 2. Prospect currently charges a reasonable amount, and I would not go if they charged more, 3. Prospect currently charges a reasonable amount, but I would be willing to pay more to support the operations, 4. Prospect currently charges too little, and I would continue to go if they charged more. 66% of respondents chose the third option, which is very good to know considering some of the expensive changes Prospect is looking into making.

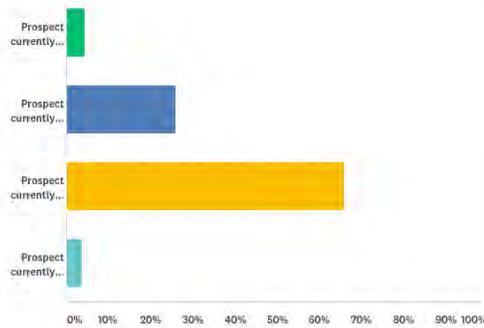
The next page contained questions about food at Prospect. 46% of respondents said they usually buy food at Prospect, which validates our focus on this sector. We also learned that 65% of

respondents would be willing to pay more for more options and locally sourced food. The sixth page was on marketing, which contained both a social media component (45% of the respondents use Instagram, so improving Prospect’s account is a good goal for us) and a merchandise component.

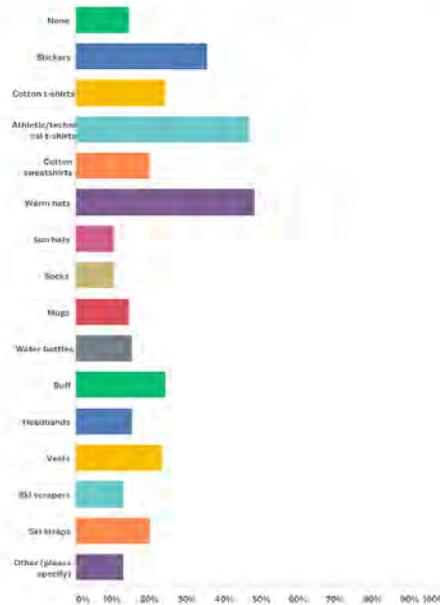
Most of the respondents do not currently own Prospect gear but would be interested in purchasing some. The two most popular options were warm hats (which Prospect already sells) and athletic t-shirts.

Finally, the last page was an open ended question with the opportunity to make any more suggestions.

Q12 Please check which is closest to your opinion on Prospect’s current pricing.



Q24 Would you be interested in purchasing apparel branded with Prospect Ski Area? (Please check all apparel that interests you. We welcome new ideas!)



Alternative Solutions

Synthesizing the data received from community input and found through research on the various aspects of Prospect Mountain is a big task. To make some of the potential options clearer, we sort them below into various alternative solutions broken up by what selected priorities. Each has its own costs and benefits for both the atmosphere and the finances of Prospect Mountain, and we leave our ideal recommendations for how to combine these priorities for the next section.

No Action

The simplest possible course of action is no action at all. Continuing with the status quo means continuing to rely on fossil fuels for all energy, maintaining exactly the current trail network, leaving the kitchen and marketing practices as they are, and halting the preparation for snowmaking unless a donor comes forward. While this is undoubtedly the cheapest possibility, by our estimate it is also an impossible one; it will stop Prospect from growing its customer base, and without improvements to the race course, Prospect Mountain will lose much of the business it currently receives from Williams College and possibly other Nordic ski programs, as well as the opportunity to increase the revenue gained from that sector. No change in the energy usage and kitchen functioning also means no reaction to climate change, ignoring any sustainability priorities articulated by Prospect Mountain's usership. While Prospect Mountain Association's current management practices could last for a few years, a lack of change under PMA's ownership will mean that revenue sources stagnate or decrease, and Prospect will likely be out of business.

Minimal Impact

A somewhat more involved course of action is one that would allow Prospect to keep functioning as a business while changing as little as possible to do so. This alternative requires exactly as much change as would keep the most profitable business at Prospect, and nothing more. Snow making would be a high priority in this plan, as it seems essential to Prospect's continued functioning in increasingly unstable snow conditions and changing race regulations; however, funding is not currently clearly available, so it may not be an active step until further down the road. In the meantime,

Prospect should focus on cheap changes that can be made to improve the race course, like only better grooming and simply strengthening its relationship to the groups that use its land. Sustainability initiatives would be limited to smaller options, like using only compostable dishware and passively reducing the energy usage of the lodge. Marketing initiatives should be limited to free platforms; volunteer time can be spent updating social media accounts and hanging posters. Forestry and out-of-season usage would remain unchanged.

Maximize Sustainability

A larger initiative which Prospect could embrace without altering many of the business-as-usual function is minimizing the environmental impacts of running a Nordic ski facility. The central aspect of sustainability is energy usage; this alternative would prioritize green energy initiatives including a complete switch to solar power, replacing the buildings' heating systems, and increasing the efficiency of operations. Adding insulation to buildings, keeping the daily cooking times to set windows, and potentially not heating all buildings at all times would decrease energy usage. This plan would likely not increase grooming, unless some way of sufficiently powering the groomer with green energy is found. Snowmaking under this plan would be difficult but possible as it would require a more extensive solar array and increase in electrical infrastructure at the mountain. It also would not significantly add to community programming or creation of more apparel and other disposable goods. However, initiatives like more local food, increased composting, banning of fluorinated waxes, and smarter forestry practices would be highly recommended. Minimizing environmental impact means funding enough level operations to keep Prospect running and financing green initiatives, but not increasing usage more than that. This option has the financial benefits of programs and initiatives that incentivize greener energy and sustainable business practices, as well as holding significant appeal for environmentally conscious donors if effective collaboration between green energy and marketing takes place. In addition, greener energy sources would save Prospect energy in the long run as the mountain would use less power and utilize cheaper sources like solar.

Maximize Usage

On the other hand, maximizing usage prioritizes using all of Prospect's resources to their full extent and expanding the offered activities to appeal to a larger community. Maximizing usage would require the homologation of racing trails, snowmaking, and increased grooming to ensure continued and growing Nordic team involvement; it could further require an expansion of winter activities by advertising the snowshoe trails and winter hiking, as well as pursuing an ice skating pond. Encouraging involvement of the snowmobilers using the spur trail by adding breakfast to the menu would grow the community even more. Out-of-season usage should be increased with both outdoor recreation (as specified in the easement, this includes but is not limited to mountain biking, bird watching, hiking, walking, and wildlife observation¹³⁸) and more events, both community and private. In addition, to maximize the use, Prospect would begin targeting more tourists to purchase day passes. Marketing in general is a high priority of this plan to reach the largest audience of interested people possible, and make clear the diversity of activities Prospect has to offer. A marketing scheme to promote maximum usage includes creating a small budget to increase advertising on social media, producing and distributing print materials, and capitalizing on partnerships within the community (such as local gear shops and tourist attractions). This set of priorities would ideally bring the most people to Prospect, and help the mountain financially by increasing profits from ticket, merchandise, and food sales.

Maximize Ski Experience

Depending on where the community interests lie, another option for increasing usage is implementing improvements sought by Nordic skiers and supporting those operations which enable those goals. Priority number one would then be snowmaking and trail homologation, possibly followed by the creation of a wax hut later on. Other initiatives for increased business (marketing, apparel, and food) should be sought after to help fund the costly requirements of an official race course. While accessory plans, including out-of-season business, increased menus, and increased usership of other types of winter recreation, could fit into these goals, they would take a backseat to Nordic skiers and Nordic ski teams. Sustainability should still receive some emphasis under this

¹³⁸ Conservation Easement I. A. 1.

goal, as homologation requires a large amount of energy usage and emissions; environmentally conscious skiers would likely be happier about such changes if some renewable energy and conscientious forestry was involved. Maximizing the ski experience would hopefully increase ticket sales and the revenue Prospect receives from various ski events and teams. It further is thought to be the most likely project to receive financial assistance from parties like Williams College alums.

Recommendations

Based on our evaluation of the possible priorities and paths Prospect could take, along with the extensive feedback we received from its community, we created a series of recommended steps for Prospect's future. Each section—skiing, energy, marketing, food, and other—follows a sequence of recommendations over the years, best achieved in tandem but generally able to be pursued whenever the PMA feels it has the resources and ability to do so. Our recommendations note what has already been accomplished and how we believe each step could feasibly be completed.

One-Year Plan

January 2020 through April 2021

During the first year, we recommend pursuing steps which the PMA hoped to have completed in 2019, as well as laying the groundwork for future initiatives and completing some of the easy but important priorities highlighted by stakeholders. Currently, Prospect Mountain has a lot of energy and momentum, as visible in the overshot fundraising goal for its initial purchase in 2018. We believe the goals outlined here will most likely be successful if they are implemented while the momentum and energy of Prospect is strong and active.

A. Skiing

During year one, we believe that one of Prospect's highest priorities should be getting snowmaking up and running. Since the snowmaking pond is in place, but the permitting process and cost of laying pipes through wetlands is so extensive, the plan to create piles of snow to be spread by groomer is the most feasible short term solution. Though this plan is cheaper than the more expansive snowmaking options, it will still require some additional funding. A push for donations through the website and at the ski lodge itself, as well as reminding Williams College of the benefits that snowmaking could have for its ski team can be beneficial for fundraising.

On a smaller scale, two further initiatives are a reduction in fluoro wax use and an increase in Williams College January skiers. For the former, fluorinated wax is harmful to humans and to the environment and increasingly banned, or phased out by large ski

organizations, including the NCAA. Furthermore, significant support was voiced for banning fluoro wax at membership night. An abrupt ban may be challenging for skiers, so we propose in the first year that Prospect instead warns that fluoro wax will be banned soon and begins to look at alternatives. For the latter, Williams College has a month-long semester in January called Winter Study, when students tend to have more free time and thus are most likely to make the trip up to Prospect. As transport and exposure to Prospect has tended to be limited, it has been arranged that a Williams Outing Club van will travel to Prospect on Sunday mornings throughout January under the direction of crew coach Marc Mandel, with the hope that once students visit for the first time, they will be more inclined to visit again. While this would only provide an incremental revenue increase for Prospect, it will ideally create more business from Williams in the long run, and costs Prospect nothing in the meantime.

B. Energy

In an ideal world, Prospect would implement the minimal impact solar plan in summer 2020. We understand that there is a capital cost to adding solar infrastructure, but we believe that the amount of money it saves in the long term alongside the powerful message of moral accountability it portrays would more than make up for the upfront price. Even so, donations and/or very profitable seasonal operations would be needed to finance this shift, and the PMA could certainly wait another year to add rooftop solar if needed. However, we caution against continually pushing off energy saving initiatives; the longer they are not pursued, the more money Prospect could be using elsewhere is wasted on inefficient systems and the larger a carbon footprint and piece of the climate crisis the mountain's operations produce. At the very least, we recommend having the roof inspected to see if there would need to be expensive changes made so that all costs will be known for future planning.

Regardless of the implementation of solar, two smaller initiatives are definitely recommended for year one. The easiest is the use of LED light bulbs for the lodge; these lights are more efficient and longer lasting, and such a change is a cheap way to reduce energy usage and cost. If LED light bulbs are purchased, they can simply be added piecemeal as the old bulbs burn out. The second initiative is replacing the lodge's wood burning stove; while it is an important aspect of the lodge's ambience and character, it is

a very old and inefficient stove. We recommend that Prospect finds a new, more efficient wood stove sooner rather than later as it will reduce the amount of wood required to heat the lodge and reduce the particulate matter that Prospect creates through smoke. This would both free up some of the mountain manager's time and easily reduce Prospect's pollution output by a large amount.

C. Marketing

Many of the marketing initiatives are small, simple steps that will cost little and benefit Prospect greatly. Pending discussion among PMA board members, hopefully the unified branding initiatives described can be put in place right away. We have already coordinated to reboot and reformat the Instagram, which has gained a significant amount of support since. An important, if small, component of the first year marketing plan is consistently posting the weather, snow, and grooming conditions on Prospect's website. Both membership night and survey responses indicated that customers who live far away struggle with the amount of travel if the conditions are not reliable, so keeping the conditions information up-to-date will be important for developing relationships with clientele who live far away. Finally, a more complex step would be to begin to increasing the amount of branded merchandise Prospect sells, as carefully detailed in the marketing section of the report.

D. Food

The big jump in the food sector for year one will be the implementation of a composting system and compostable dishes. Vermont plans to ban organic waste from its waste stream in June 2020, so it is paramount that Prospect works to find a reliable composting system in the next six months. Beyond the legal compliance required, composting was a popular idea at membership night and will significantly cut down the amount of waste Prospect creates and sends to a landfill, further increasing its image as a green business. For smaller changes with the food, Prospect has the asset of employing Elsie Campbell for the 2019-2020 winter. She has expressed significant interest in streamlining the order process, examining and expanding the menu, and connecting with local food supplies. While extensive and sudden changes might worry the community,

having Elsie at Prospect to work on such things is a huge asset, and making progress in all of those areas while she is here is not an opportunity to miss.

E. Other

Another important step PMA can take during year one is taking a careful look at how Prospect prices its tickets and passes. No sudden shifts are recommended—Prospect has a very loyal community, and a conservation easement is not intended to create extensive profit—but if Prospect is to continue to thrive and seek some of the initiatives pursued here, some small price changes might be in order. It has been mentioned several times that Prospect does not get much profit from the teams which consistently ski there; for most teams, this should remain the same, but for college or other teams with the resources to help Prospect fund things like snowmaking, this could be reexamined. Furthermore, our survey indicated that many (though not all) of Prospect’s consistent users would pay more to support its operations. A small increase of the season pass price, or else an opting up or down pricing system, could serve this purpose, without hurting those users who can generally only afford a day pass. Another initiative might be making use by residents of Woodford or perhaps the county free or discounted, to encourage more local use. Demographic data of where users were from was not gathered in our survey, so we cannot carefully determine the costs and benefits of this, but our hunch is that lowering the cost for locals will increase Prospect’s usership significantly enough to outweigh the money it loses.

Two-Year Plan *Through April 2022*

Much of what is possible in year two depends on how successful year one is. We assume here that most of the year one initiatives have been successfully completed; if a given section is not completed as thoroughly as hoped, the plan for that specific section can be moved back a year. However, we emphasize how much excitement surrounds Prospect at the moment; if the energy remains (and if the initiatives of year one are completed) the goals of year two will be well within reach.

A. Skiing

Once some form of snowmaking is in place, the most important development for skiing is full trail homologation. This will allow Prospect to continue hosting NCAA races, and to begin hosting other high-level races if desired. This will be important for maintaining the relationship with Williams College, and should have huge benefits for other teams who want to train on a homologated course. Since trail homologation is a big change, we limit the year two skiing goals to this, as it will be important while pursuing trail homologation to maintain a good balance between racer and non-racer use of Prospect's facilities. Beyond this, we only suggest that Prospect continues to improve and spread its trail maps (and particularly, publicize the route by which non-racers can avoid the race course on racing days) and officially ban fluorinated wax.

B. Energy

Given the efforts required to implement the minimal impact solar plan, year two's energy suggestions are also somewhat less extensive. Learning about proper maintenance and how much labor is required for solar panels will be important. We further suggest on the heating side of things that Prospect begins looking into a biomass boiler, at the very least with an initial site visit to determine the costs; the costs of this may be fairly high, but if the solar initiatives go well that will signal a desire for more green energy which should be explored. At the very least, an initial site visit should be conducted to determine how costly it would be for Prospect. Other strategies would mostly focus on saving energy. The lodge has minimal insulation, so examining how that could be increased to both improve efficiency and limit heat loss should be prioritized. Barring the switch to a biomass boiler, focus could be put instead on replacing the kitchen stoves with ones that more efficiently use propane.

C. Marketing

Ideally, the first year of marketing efforts will end with a unified brand and a consistently updated Instagram, Facebook, and website. Once these crucial first steps are completed, Prospect can begin looking to expand its reach farther through collaborations with other parts of the industry (ski supply stores and so on) and through putting more focus on the market to the south and west. In the south, Prospect can make good use of its status as the southernmost Nordic ski area in Vermont; this might hold appeal for people

from southern Massachusetts or Connecticut who want to visit Vermont without too much travel. In the west, Prospect simply needs higher name recognition; it is already close to a lot of that market and spreading brochures and advertisements could increase name recognition and grow the market by leaps and bounds.

D. Food

Pending the results of menu shifts in year one, year two should focus on continuing to hone the menu and expand it as desired. This could best be done by increasing the local food connections and options, as support for this was voiced in the survey and would be more environmentally-friendly. Prospect should also look into serving breakfast once or twice a week for the snowmobilers who come through on the VAST trail, as this apparently used to be a popular option and seems to be one of the clearest ways to maintain and increase a relationship with Woodford.

E. Other

Two other interesting options for this time section fall under the non-skiing recreation sector. In the winter, Prospect formerly had a skating pond. With the snowmaking pond in place, given a cold enough winter, reopening this as a free skating pond could further engage local residents and increase traffic to the mountain. In the off-season, Prospect could up the traffic it gets by making a ‘summer map’ of which winter trails are good for hiking and perhaps which lead to other, bigger hiking trails. Summer 2021 might also be a good time to look into volunteer trail crews; these could be a big asset for trail homologation, and, if a good relationship is established, could help significantly with trail maintenance and expansion in later years.

Five-Year Plan

Through April 2025

In the next five years the primary goal for Prospect is to find and maintain stability as a business, while continuously improving its environmental initiatives, and maintaining its strong community values. As such, most recommendations over time are smaller and can be undertaken in multiple steps. If some of the initiatives from the One-Year and Two-Year plans are found to be too aggressive for that time-scale, there is space for them to spill over into the Five-Year plans.

A. Skiing

Once trail homologation is completed, the amount of change surrounding skiing need not be as aggressive. Continuing to maintain a healthy balance between racers and non-racers will be important, particularly since Prospect will then be at a point to put in bids for more races and get involved with more school teams if desired. Beyond this, Prospect should focus its efforts on maintaining high quality trails and grooming, perhaps with some trail expansions as demand dictates.

B. Energy

It is at this point we hope Prospect can start to think about the maximum sustainability solar plan. With snowmaking in place, Prospect's energy usage will be much higher, and putting in the recommended solar field will both be cost effective and morally agreeable. This will require a high upfront cost, but is worthwhile in the long run. Beyond this, Prospect would be well served to continue looking into electric (instead of diesel) groomers, which are more efficient, greener, and continuing to get better every year.

C. Marketing

Prospect should continue to look at possible expansions to its branded merchandise and honing its ability to reach customers from farther away. Advertising specific events will play a big role in this

D. Food

Not much changes here after the two-year plan. Honing the menu to meet the demands of the client base should be a consistent goal, as well as possibly renovating the kitchen to have the capacity to store and wash dishes (to replace the compostable ones).

E. Other

The biggest recommendation over five years is the hiring of a second full time employee. With another employee, Prospect could more consistently have a cook for the winter and a marketing manager year round; this is key to developing relationships in marketing for various collaborations. Perhaps most essentially, another full-time employee in the summer could serve as an event planner for both community and private events, the latter of which is in high demand and the former of which could be a huge source of profit for Prospect going forward.

Additional Plans

Beyond these plans laid out, the dream scenario for Prospect Mountain in the long-term would take each of these categories to its maximum potential. Skiers from all over New England and New York would come for the extensive trails, the beautifully conserved forestland, and the classic Vermont feel, alongside the loyal local community with which Prospect maintains strong ties. The mountain could bid on larger races and receive business from more teams, with its fully homologated race course and, eventually, ideal snowmaking plan. All the electricity would come from the rooftop solar and solar field, while heating and cooking equipment ran as efficiently as possible on renewable resources. The marketing efforts would broadcast this extensive, sustainable community, bolstered by increasingly locally-sourced food and a wide breadth of year-round events. None of this is to be achieved immediately, but we hope that as Prospect continues to thrive, it is able to keep pushing towards such goals.

To summarize our ideal timeline:

	Skiing	Energy	Marketing	Food	Other
One Year	-Snowmaking -Reduce fluoro wax -J-term skiers	-Rooftop solar -LED lights -New wood stove	-Instagram -Merchandise -Brochure -Conditions	-Compost -Local suppliers -Menu expansion	-Examine pricing
Two Year	-Homologation -Ban fluoro wax -Trail maps	-Biomass -Kitchen stove -Insulation	-Increase collaborations -South and West	-Menu expansion -Breakfast	-Ice skating -Trail crews
Five Year	-Expand trails -More teams	-Maximum solar plan	-Advertise events -Paid advertisements	-Hone menu -Renovate kitchen -Full-time cook	-Event planning -New full time employee
Long Term	-Big race bids	-100% Renewable	-Inclusive community	-Local sourcing	-Summer events

Conclusion

Prospect Mountain Ski Area already plays host to an incredibly dedicated, loyal, and passionate community, and there can be nothing but praise for the commitment of its owners, employees, board members, neighbors, and community members to its continued success. This report is by no means meant to change what is already thriving, but merely to offer suggestions for how the enthusiasm and hope for Prospect's future might be directed for the greatest possible benefit of its growing community.

By maintaining a focus on Nordic skiing and building the infrastructure to support its various types and levels, Prospect will stay true to its roots and committed to its community. By seeking sustainable options through energy, through food, and through forestry, Prospect will fight for the climate needs of today and protect its future as a ski mountain. By employing strong marketing tactics and striving for a community focus, Prospect will seek and support those who most benefit from its resources. Through innovation, through creativity, through determination, the greening of Prospect Mountain will keep supporting such goals, such people, and such experiences for years to come.

References

- “5kW Solar Power System | How Much They Cost, Produce and Roofspace Requirements.” Accessed December 16, 2019. <https://www.solar-estimate.org/solar-panels-101/5kw-solar-system>.
- “2019 Cost of Solar Panels in Vermont | EnergySage.” Accessed December 16, 2019. <https://www.energysage.com/solar-panels/solar-panel-cost/vt/>.
- Google Docs. “Berlin Mountain Recreation Area.” Accessed December 16, 2019. https://docs.google.com/document/d/1BuVajV23v_8BI5w-tacNAvtq6Drwt2QViAmPaZjTrKg/edit?usp=sharing&usp=embed_facebook.
- Briggs, Nassos Stylianou, Clara Guibourg and Helen. “Climate Change Food Calculator: What’s Your Diet’s Carbon Footprint?” *BBC News*, August 9, 2019, sec. Science & Environment. <https://www.bbc.com/news/science-environment-46459714>.
- “Business Directory | Town of Woodford.” Accessed December 16, 2019. <http://woodfordvt.org/business-directory/>.
- “Cabins.” Accessed December 16, 2019. <https://outdoors.dartmouth.edu/services/cabins/index.html>.
- Craftsbury Outdoor Center. “Central Heating System.” Accessed December 16, 2019. <https://www.craftsbury.com/central-heating-system>.
- Chace, Diana, and Clay Mitchell. “A Vermonter’s Guide to Residential Solar.” Vermont Public Service Department, September 2016. https://publicservice.vermont.gov/sites/dps/files/documents/Renewable_Energy/Vt%20Guide%20to%20Residential%20Solar%202016.pdf.
- “Commercial Loan: Solar & Green Financing | Efficiency Vermont.” Accessed December 16, 2019. <https://www.encyvermont.com/services/financing/businesses-and-institutions>.
- “Compostable Cups - WebstaurantStore.” Accessed December 15, 2019. <https://www.webstaurantstore.com/search/compostable-cups.html>.
- Cornwall, Warren. “Creating Winter for Cross-Country Skiers.” *The New York Times*, December 6, 2012, sec. Travel. <https://www.nytimes.com/2012/12/09/travel/creating-winter-for-cross-country-skiers.html>.

Department of Forests, Parks, & Recreation of Vermont. “Acceptable Management Practices for Maintaining Water Quality on Logging Jobs in Vermont,” August 11, 2018.

https://fpr.vermont.gov/sites/fpr/files/Forest_and_Forestry/Forest_Management/Library/AMP%20final%20version%207-17-18.pdf.

Dublin School. “Dublin School Nordic Center.” Accessed December 16, 2019.

<https://www.dublinschool.org/dublin-school-nordic-center>.

Luonnonvarakeskus. “Effects of Food Production and Consumption on the Environment and Climate.” Accessed December 3, 2019.

<https://www.luke.fi/en/natural-resources/food-and-nutrition/effects-of-food-production-and-consumption-the-environment-and-climate/>.

Craftsbury Outdoor Center. “Electric Charging.” Accessed December 16, 2019.

<https://www.craftsbury.com/electric-charging>.

“Environment - U.S. Energy Information Administration (EIA) - U.S. Energy Information Administration (EIA).” Accessed December 16, 2019.

https://www.eia.gov/environment/emissions/co2_vol_mass.php.

Fred, Ellen Aubrey. “Outdoor Accessibility Requirements of the Americans with Disabilities Act: Must Holders of Conservation Easements Provide ADA Access?” *Hastings Law Journal* 54, no. 1 (2002).

https://repository.uchastings.edu/cgi/viewcontent.cgi?article=3504&context=hastings_law_journal.

Frischmann, Chad. “Opinion | The Climate Impact of the Food in the Back of Your Fridge.” *Washington Post*. Accessed December 3, 2019.

<https://www.washingtonpost.com/news/theworldpost/wp/2018/07/31/food-waste/>.

Ginsberg’s Foods. “Ginsberg’s Foods | Foodservice Distributors in New York.” Accessed December 5, 2019. <https://ginsbergs.com/>.

“Home.” Accessed December 16, 2019. <https://www.vermontfresh.net/>.

Humans of New York. “Humans of New York.” Accessed December 16, 2019.

<https://www.humansofnewyork.com/>.

“Hunting and Trapping Seasons | Vermont Fish & Wildlife Department.” Accessed December 16, 2019. <https://vtfishandwildlife.com/hunt/hunting-and-trapping-seasons>.

“Hunting and Trapping Seasons | Vermont Fish & Wildlife Department.” Accessed December 16, 2019. <https://vtfishandwildlife.com/hunt/hunting-and-trapping-seasons>.

Monadnock Ledger-Transcript. “Improvements on Track at Dublin School Nordic Center,” September 4, 2019. <https://www.ledgertranscript.com/Dublin-School-Nordic-Center-expanding-snowmaking-trails-27906368>.

Energy.gov. “LED Lighting.” Accessed December 16, 2019. <https://www.energy.gov/energysaver/save-electricity-and-fuel/lighting-choices-save-you-money/led-lighting>.

Craftsbury Outdoor Center. “Local Suppliers.” Accessed December 16, 2019. <https://www.craftsbury.com/local-suppliers>.

“MA Climate Change Clearinghouse.” Accessed December 16, 2019. <https://www.resilientma.org/data/maps>.

Middlebury. “Middlebury College’s Historic Bread Loaf Campus to Be Conserved in Perpetuity,” November 11, 2014. <http://www.middlebury.edu/newsroom/node/488112>.

“Organic Materials | Department of Environmental Conservation.” Accessed December 16, 2019. <https://dec.vermont.gov/waste-management/solid/materials-mgmt/organic-materials>.

“Organic Materials | Department of Environmental Conservation.” Accessed December 16, 2019. <https://dec.vermont.gov/waste-management/solid/materials-mgmt/organic-materials>.

“Prospect Mountain Grant of Development Rights, Conservation REstrictions, and Public Access Easement,” n.d.

“Prospect Mountain Ski Area Management Plan.” Prospect Mountain Association, 2019.

Quinn, Michael, and Greg Chernoff. “Mountain Biking: A Review of the Ecological Effects.” Miistakis Institute, February 2010. <https://www.lib.washington.edu/msd/norestriction/b67566091.pdf>.

Quinn, Prepared Michael, and Greg Chernoff. “Mountain Biking: A Review of the Ecological Effects,” n.d., 45.

Middlebury. “Rikert Nordic Center Now Has Snowmaking,” February 7, 2013. <http://www.middlebury.edu/newsroom/archive/2013-news/node/447104>.

Middlebury. “Rikert Nordic Center Now Has Snowmaking,” February 7, 2013. <http://www.middlebury.edu/newsroom/archive/2013-news/node/447104>.

Craftsbury Outdoor Center. “Solar Panels.” Accessed December 16, 2019.
<https://www.craftsbury.com/solar-panels>.

“Solid Waste and Recycling Program | Department of Environmental Conservation.”
Accessed December 16, 2019. https://dec.vermont.gov/waste-management/solid?utm_medium=301&utm_source=vtrecycles.com.

“Solid Waste and Recycling Program | Department of Environmental Conservation.”
Accessed December 16, 2019. https://dec.vermont.gov/waste-management/solid?utm_medium=301&utm_source=vtrecycles.com.

US EPA, OAR. “Choosing the Right Wood-Burning Stove.” Overviews and
Factsheets. US EPA, May 13, 2013. <https://www.epa.gov/burnwise/choosing-right-wood-burning-stove>.

———. “Greenhouse Gas Equivalencies Calculator.” Data and Tools. US EPA,
August 28, 2015. <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>.

USDA Forest Service State & Private Forestry. “Forest Legacy Program
Implementation Guidelines,” June 30, 2003.
https://www.fs.fed.us/spf/coop/library/fpl_guidelines.pdf.

Vermont Department of Forests, Parks, and Recreation. “Sugarbush Management
Standards and Tapping Guidelines for Forestland in Use Value Appraisal,”
October 8, 2014. <https://www.vlt.org/wp-content/uploads/2017/04/PDF-SugarbushStandards.pdf>.

“Vermont Laws.” Accessed December 16, 2019.
<https://legislature.vermont.gov/statutes/fullchapter/10/155>.

“Vermont Laws.” Accessed December 16, 2019.
<https://legislature.vermont.gov/statutes/fullchapter/10/034>.

“Vermont Snowmobile Trail Map & Conditions | VAST.” Accessed December 16,
2019. <https://vtvast.org/trails.html>.

“Vermont State Household Income | Department of Numbers.” Accessed December
16, 2019. <https://www.deptofnumbers.com/income/vermont/>.

“Vermont Wetland Rules | Department of Environmental Conservation.” Accessed
December 16, 2019. <https://dec.vermont.gov/content/vermont-wetland-rules>.

“Vermont Wetland Rules | Department of Environmental Conservation.” Accessed
December 16, 2019. <https://dec.vermont.gov/content/vermont-wetland-rules>.

Craftsbury Outdoor Center. “Waste.” Accessed December 16, 2019.
<https://www.craftsbury.com/waste>.

Our World in Data. “What Are the Environmental Impacts of Food and Agriculture?” Accessed December 3, 2019.

<https://ourworldindata.org/environmental-impacts-of-food>.

Klipfolio.com. “What Is a KPI? Definition, Best-Practices, and Examples.” Accessed December 7, 2019. <https://www.klipfolio.com/resources/articles/what-is-a-key-performance-indicator>.

“Woodford Demographics - Get Current Census Data for Woodford, VT.” Accessed December 16, 2019. <https://www.vermont-demographics.com/woodford-demographics>.

Appendix

I. PMA Board Members

- David Newell – President
- Lew Fisher – Vice President
- Dr. Liz Warner – Secretary
- Steve Fogel – Treasurer
- David Dethier – Director
- Brad DeBoer
- Jason Lemieux
- Lisa Melendy
- Todd Hoffman
- Jon Cohen – Legal Counsel
- Steve Whitham – Mountain Manager

II. PMA Board Meeting

Group members attending a PMA Board meeting on October 18th, 2019 in Williams College's Paresky Student Center. Proceedings are summarized below.

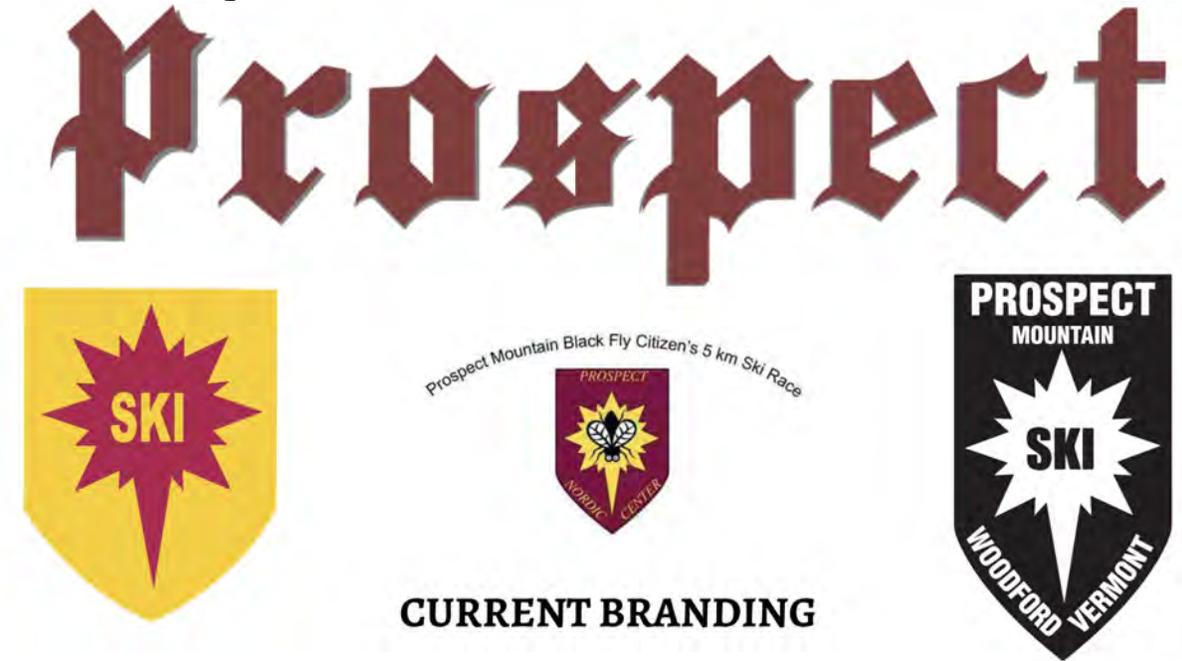
- I. Kitchen/Food: The kitchen will be inspected by the health inspector in early November and the kitchen must be spotless. The kitchen was built in 1988 and will need upgrades in the future. Breakfast - specifically including pancakes and local syrup - could be served at Prospect early in the morning for snowmobilers, even on days where there is no snow. There was talk of putting trail signs on snowmobile trails to advertise for a hot breakfast.
- II. Employees: The mountain is looking for two additional employees, one to work part time in the ski shop and one to work part time in the lodge. However, people do not want to work because their hours and pay are dependent on Prospect having snow and being open. There was a motion approved to give potential employees guaranteed pay for one day per week if necessary.
- III. Snowmaking: Prospect does not own snowmaking equipment, but Jason, the Williams Nordic coach, is working with someone to acquire and test equipment. There are multiple other ski areas that could be selling equipment as well and one of the board members was going to make some calls. There was brief talk about

past snowcross races, and hypothetically having one come to Prospect and making snow that would stay at Prospect.

- IV. Homologation of Race Trail: In order to get race trail homologated, there is a need to remove lift and manage water drainage at the base of the race arena. There was talk about renting an excavator to remove the lift to put in a curtain drain and it was noted that man made snow would withstand water and melting better than natural in the race arena: snowmaking needed!
- V. WOC or Wax Hut: Williams athletics budget determines whether a WOC or ski waxing hut can be put on the property. It's up to Williams to allocate these funds.
- VI. Ski Racing: The Ephs classic is on January 11th and is looking good! Prospect wants to get in touch with Division II race teams like Cornell, Army, and Clarkson because they used to host races at Prospect but have not been in touch for some time and are a good source of revenue for the mountain.
- VII. Marketing: The board wants to make brochures etc. and we want to make this part of our community outreach scheme. The vision for marketing mentioned in this meeting exclusively mentioned brochure distribution and board members were cost-aware.
- VIII. Season Pass Sales: So far this season, the PMA has effectively sold \$50,000 worth of season passes. The board budgets for an income from \$79,000 worth of season passes and considers this to be a great start to sales. In the past, season passes were purchased through a mailed paper form and checks. Now, it is possible to purchase a season pass via the Prospect website using a credit card, instigating easier purchasing, thus more purchases. One problem, however, is that on the paper form it was easy to make a donation at the same time as purchasing a season pass while on the online purchase form does not give an opportunity to donate. The board discussed the importance of recruiting donations this year (especially considering the installation of the \$160,000 septic system) and capitalizing on the process of purchasing of season passes.

III. Style Guide

I. Current Branding



II. Current Colors

Current Colors

Using RGB

Ski Yellow: #F7D00E

Ski Red: #B51E51

Prospect Name Red: #88393E



Current Fonts

Impact MT Regular

Website: Open Sans

Fette Gotisch Regular



Prospect

III. Recommended Colors

Recommended Colors

Using RGB

Yellow: #F4EED9

Bright Red: #850B01

Dark Red/Maroon: #471313

Blue Snow: #E0FBFC

Cream Snow: #F4EED9

White: #F4EED9

*We recommend using the yellow only
for emphasis*



IV. Recommended Fonts

Recommended Fonts

Prospect

TITLE / title (Amaranth, bold)

HEADING 1 / heading 1 (Alegreya, bold)

BODY / body (Alegreya, normal)

IV. Interviews

Interviews were conducted with the following parties:

- Bhima Nitta, Power Guru solar energy worker

- Matt, October 30
- Brad DeBoer, Former Energy Consultant for Vermont Energy Investment Corporation, PMA Board Member
 - Matt, October 23 and 30
- Carol Newell, volunteer running gift shops and marketing apparel
 - Hannah, November 6
- David Newell, Chair of the PMA Board
 - Matt and Madeline, October 25
- Ed Shea, owner of Greenwood Acres Campground (the neighboring lot)
 - Email, Hannah and Anna, November 21
- Elsie Campbell, Prospect Mountain Head Chef
 - Hannah and Anna, October 28 and November 7
- Jason Lemieux, Williams Nordic Ski Coach
 - Anna, October 30
- Jon Cohen, PMA Board, lawyer
 - Hannah and Madeline, November 14
- Marc Mandel, Williams Men's Crew Coach
 - Alison, November 1
- Mike Evans, Zilkha Center
 - Anna and Hannah, November 21
- Pam Coffield, volunteer running gift shops and marketing apparel
 - Hannah, (via email)
- Helen Sharkey, social media and website manager
 - Hannah, November 14
- Ryan Thurber, Chair of the Woodford Select Board and neighbor of Prospect property
 - Hannah and Anna, November 21
- Scott Lewis, Director of the Outing Club at Williams College
 - Anna and Alison, October 31
- Steve Fogel, Prospect Mountain Association Board Member and Treasurer
 - Hannah, November 18 (informal, five-minute conversation)
- Steve Whitham, Prospect Mountain Manager
 - Full team, October 31
- Dennis Kinsella, Regional Sales/Operation Manager, Pisten Bully
 - Anna and Hannah, December 2
- Trevor Mance, Casella Waste Systems
 - Anna, December 5
- Jon Parrott, Renewable Heating Solutions
 - Matt, December 6

V. Sticky Note Responses

On November 6, 2019, group members attended a meeting of the Prospect stakeholders in the lodge. We gave a brief explanation of our work and asked people to leave their suggestions for our project under three loose prompts (Food, Marketing, and Sustainability). Their responses are included in full below.

Food

- Compost + compostable cups + plates
- I'd love to see compostable utensils, cups, plates in the lodge
- Avoid styrofoam + plastic dishware -?compostable dishes or way to wash them
- Sandwich board/display
- Kitchen: compost leftovers
- Lots of cookies
- Point charge a thing
- Healthier food in the cafe
- Breakfast
- More fruit
- Would really like to see local food for sale
- Free hot chocolate
- Chocolate milk

Marketing

- More community races (for kids and adults!)
- Citizen races: a couple events each year would be fun (ski marathons)
- More web presence, social media
- Partner with Berkshire Outfitters to stock the ski shop and sell Prospect swag at Berkshire Outfitters
- More swag, t-shirts, hoodies, fleece, posters. Bring a few items into the lodge to sell there
- Be sure everyone who has a pass is on the mail list
- Bring more locals into Williamstown and Bennington to the carnival races in February
- Summer beer tasting events
- Money making ideas for prospect in off season

Sustainability

- Another wood stove in the lodge
- Hope that we can work to offset power used for snowmaking by creating renewable power
- Central biomass boiler to replace oil furnaces
- Solar power
- Solar on roof, wind
- Replace all indoor lighting with LEDs
- Ban fluoro wax

Other

- Summer activities (mountain biking, hiking, canopy tour, wedding)
- Trail use off season, hiking, biking
- More trails
- More trails
- Racing trails that allow for racing while leaving other trails open for tourists
- Trail expansion is always great
- Moonlight skiing more often
- A lighted loop for night skiing
- improved/increased signage on trails
- More side trails
- More trail signs
- Some more animal crossing signs
- Build mountain bike trails
- Daily conditions near lodge
- Citizen race series
- Weeknight training race series
- Maple sugaring (not certain of maple tree density)
- Snow all the time (snow making!)
- Snow making
- Consistent snow and quality grooming
- Cubby holes to store bag and shoes
- Cushioned chairs
- More heat in the lodge
- Bigger stove
- locker/changing rooms
- It would be great to have an outdoor firepit!
- Jumps over the lodge
- Fun trick circuit
- Chairlift
- Skimo races
- More bumps on the bunny hill
- Jumps on trails
- Steep downhills
- More grooming
- Christmas decorations in the lodge
- Music in the lodge

VI. Survey

The full text of the survey was sent out to Prospect Members on November 13.

Intro:

This survey is for a group of Williams College students in an environmental planning course tasked with creating a detailed plan for Prospect Mountain's development and operations, based on environmental principles and sound economics.

We are focusing on creating a solar energy plan, putting local food in the kitchen, and reaching out to the community through improved marketing efforts. Such goals will protect cultural and environmental values, promote sustainable business and energy goals, and strengthen the community connectivity of Prospect Mountain.

As Prospect is a community, your input is highly valued in this project. You are invited to attend our public presentation of final recommendations for Prospect on Thursday, December 5th. We will send an email out once the location and time have been decided. Thank you in advance for your help and support with this project. We really appreciate your effort to help us create a plan for Prospect. All responses are completely anonymous.

Demographics

1. Age:
 - a. Under 18
 - b. 19-29
 - c. 30-39
 - d. 40-49
 - e. 50-59
 - f. Above 60
2. Gender:
 - a. Male
 - b. Female
 - c. Other:
 - d. Prefer not to specify
3. What was your total household income last year?
 - a. Less than \$19,999
 - b. \$20,000 to \$39,999
 - c. \$40,000 to \$59,999
 - d. \$60,000 to \$79,999
 - e. \$80,000 to \$99,999
 - f. \$100,000 to \$149,999
 - g. \$150,000 or more
 - h. Prefer not to specify

Usership

4. How many times a season do you usually go to Prospect?
 - a. 0
 - b. 1-5
 - c. 6-10
 - d. 10-15
 - e. 15+

5. What type of ski pass do you usually purchase?
 - a. Day Pass - Adult
 - b. Day Pass - Junior/Senior
 - c. Day Pass - Team
 - d. Day Pass - in exchange for season pass at specific local ski areas
 - e. Season Pass - Single
 - f. Season Pass - Couple
 - g. Season Pass - Junior/Senior
 - h. Season Pass - Senior Couple
 - i. Season Pass - Family
 - j. Season Pass - Team
 - k. Other:
6. What activities do you participate in while you are there? Check all that apply.
 - a. Nordic (classic) ski
 - b. Nordic (skate) ski
 - c. Telemark/Backcountry
 - d. Snowshoe
 - e. Sled
 - f. Hike
 - g. Other:
7. What first brought you to Prospect?
 - a. Came with family or friends
 - b. Saw an advertisement
 - c. Visited with school
 - d. Ski team
 - e. Bill Koch League
 - f. Other:
8. What are your favorite things about Prospect? Check all that apply.
 - a. Outdoor activities
 - b. Nature
 - c. Social/Community
 - d. The food
 - e. The lodge
 - f. Other:
9. Do you ski at any other cross country ski areas?
 - a. Yes, I ski at:
 - b. No
10. Do you ski places that are free and/or are not groomed for cross country skiing?
 - a. Yes, I ski at:
 - b. No, I only ski at cross country facilities

- c. Other:

Future Plans

11. Please check areas you would like to see improved about Prospect.
 - a. Ski race course
 - b. Trails
 - c. Snowmaking
 - d. Sustainability
 - e. Community outreach
 - f. Food
 - g. Accessibility
 - h. Other:
12. Please check which is closest to your opinion on Prospect's current pricing.
 - a. Prospect currently charges too much, and I would be more likely to go if they charged less.
 - b. Prospect currently charges a reasonable amount, and I would not go if they charged more.
 - c. Prospect currently charges a reasonable amount, but I would be willing to pay more to support the operations.
 - d. Prospect currently charges too little, and I would continue to go if they charged more.
13. Please check any long term plans you would support at Prospect.
 - a. Removal of the t-bar and other downhill specific infrastructure
 - b. Renovation of the t-bar and return to downhill skiing
 - c. Creation of an ice-skating pond
 - d. A more extensive menu and meal schedule
 - e. Non-winter programming like hiking and camping
 - f. More community events
 - g. More private events
 - h. Further sustainability initiatives
 - i. A wax hut
 - j. Other:

Food

1. Please check which is closest to your average experience at Prospect.
 - a. I do not eat at Prospect
 - b. I bring food from home to eat at Prospect
 - c. I buy food at Prospect
2. What are your favorite foods that have been served at Prospect in the past?
 - a. (short answer?)

3. Would you eat breakfast in the lodge on the weekends if it were available?
 - a. Very frequently
 - b. Frequently
 - c. Sometimes
 - d. Rarely
 - e. Never
 - f. Other:
4. Please check which is closest to your opinion on the pricing of Prospect's food.
 - a. I would be willing to pay more for more options and locally sourced food.
 - b. I would not be willing to pay more for more options and locally sourced food.
 - c. Other:
5. Would you be interested in purchasing alcohol from Prospect?
 - a. Yes
 - b. No
 - c. Other:
6. What could be improved about the food served at Prospect/what food would you like to see served in the future?
 - a. (short answer)

Marketing

1. Do you use Instagram?
 - a. Yes
 - b. No
 - c. Other:
2. If you use Instagram, do you follow the Prospect Mountain account? (@prospect_mtn_Nordic)
 - a. *optional question
 - b. Yes
 - c. No
 - d. Other:
3. Where do you hear about events? (Check all that are relevant)
 - a. Paper brochure
 - b. Posters around town/in restaurants
 - c. Email update
 - d. Friends/word of mouth
 - e. Instagram
 - f. Facebook
 - g. Other:

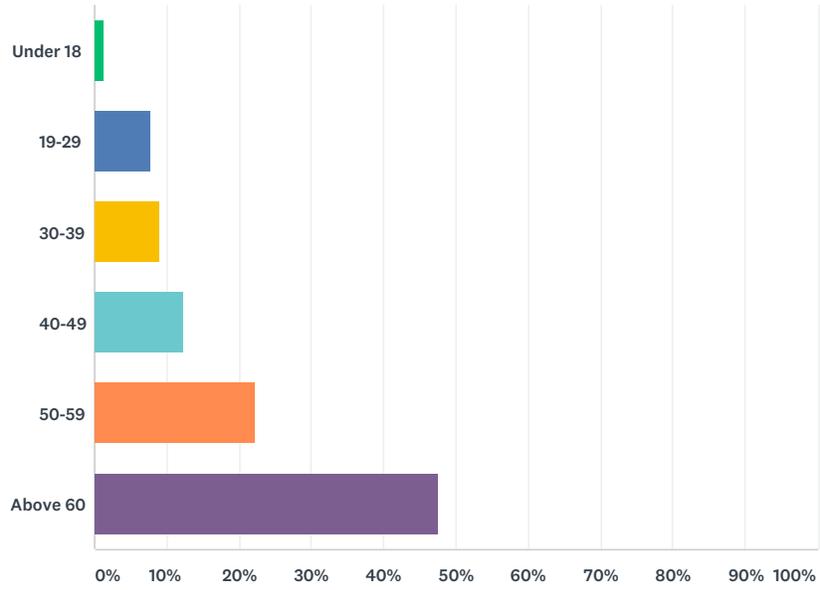
4. Do you own apparel (shirts, hats, mugs, stickers, etc) branded with Prospect Ski Area?
 - a. Yes
 - b. No
 - c. Other:
5. Would you be interested in purchasing apparel branded with Prospect Ski Area?
(Please check all apparel that interests you. We welcome new ideas!)
 - a. None
 - b. Stickers
 - c. Cotton t-shirts
 - d. Athletic/technical t-shirts
 - e. Cotton sweatshirts
 - f. Warm hats
 - g. Sun hats
 - h. Socks
 - i. Mugs
 - j. Water bottles
 - k. Buff
 - l. Headbands
 - m. Vests
 - n. Ski scrapers
 - o. Ski straps
 - p. Other:

Final Thoughts

1. Do you have any other ideas, suggestions, visions for Prospect Mountain you would like to share with us? If you would like to talk with us about your suggestions, please include your name and contact information and we will get in touch.
(long response)

Q1 Age:

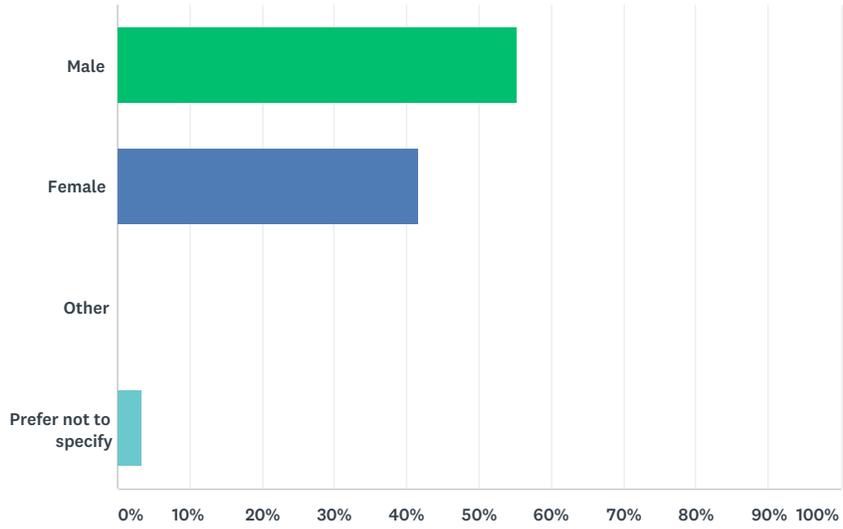
Answered: 154 Skipped: 0



ANSWER CHOICES	RESPONSES	
Under 18	1.30%	2
19-29	7.79%	12
30-39	9.09%	14
40-49	12.34%	19
50-59	22.08%	34
Above 60	47.40%	73
TOTAL		154

Q2 Gender:

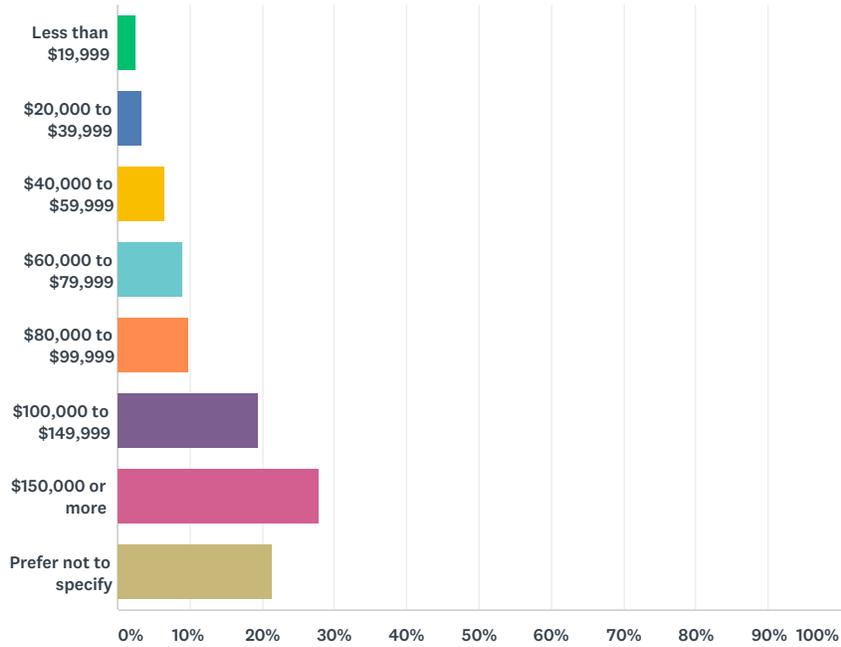
Answered: 154 Skipped: 0



ANSWER CHOICES	RESPONSES	
Male	55.19%	85
Female	41.56%	64
Other	0.00%	0
Prefer not to specify	3.25%	5
TOTAL		154

Q3 What was your total household income last year?

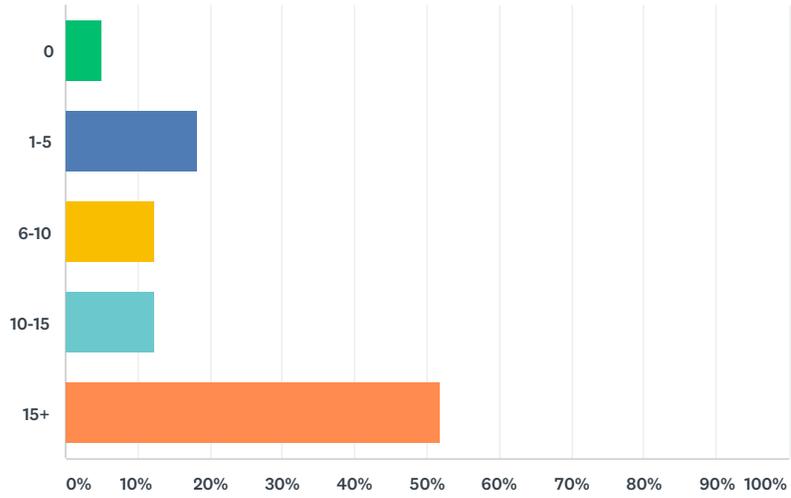
Answered: 154 Skipped: 0



ANSWER CHOICES	RESPONSES
Less than \$19,999	2.60% 4
\$20,000 to \$39,999	3.25% 5
\$40,000 to \$59,999	6.49% 10
\$60,000 to \$79,999	9.09% 14
\$80,000 to \$99,999	9.74% 15
\$100,000 to \$149,999	19.48% 30
\$150,000 or more	27.92% 43
Prefer not to specify	21.43% 33
TOTAL	154

Q4 How many times a season do you usually go to Prospect?

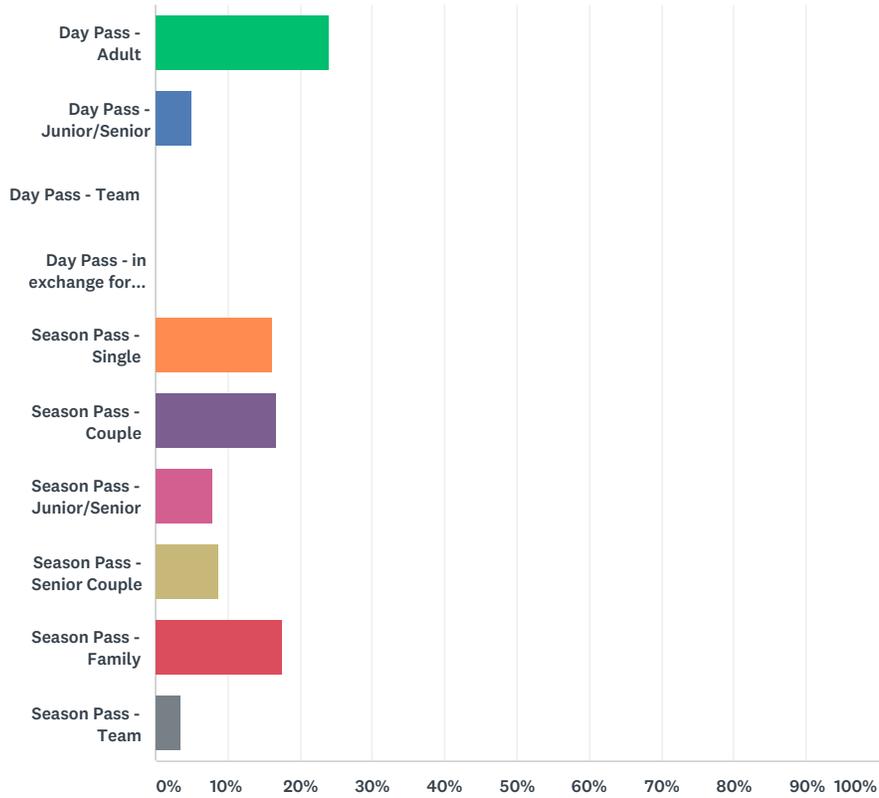
Answered: 137 Skipped: 17



ANSWER CHOICES	RESPONSES	
0	5.11%	7
1-5	18.25%	25
6-10	12.41%	17
10-15	12.41%	17
15+	51.82%	71
TOTAL		137

Q5 What type of ski pass do you usually purchase?

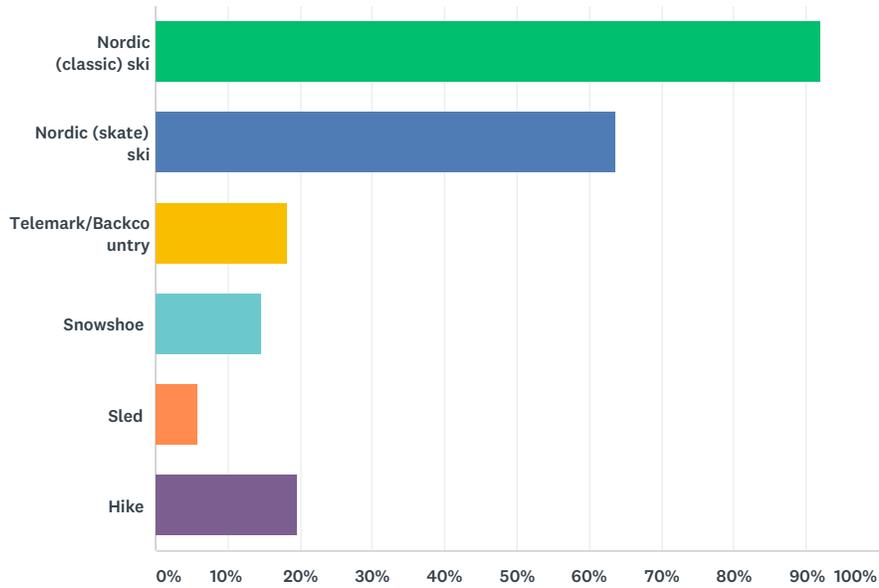
Answered: 137 Skipped: 17



ANSWER CHOICES	RESPONSES	
Day Pass - Adult	24.09%	33
Day Pass - Junior/Senior	5.11%	7
Day Pass - Team	0.00%	0
Day Pass - in exchange for season pass at specific local ski areas	0.00%	0
Season Pass - Single	16.06%	22
Season Pass - Couple	16.79%	23
Season Pass - Junior/Senior	8.03%	11
Season Pass - Senior Couple	8.76%	12
Season Pass - Family	17.52%	24
Season Pass - Team	3.65%	5
TOTAL		137

Q6 What activities do you participate in while you are there? Check all that apply.

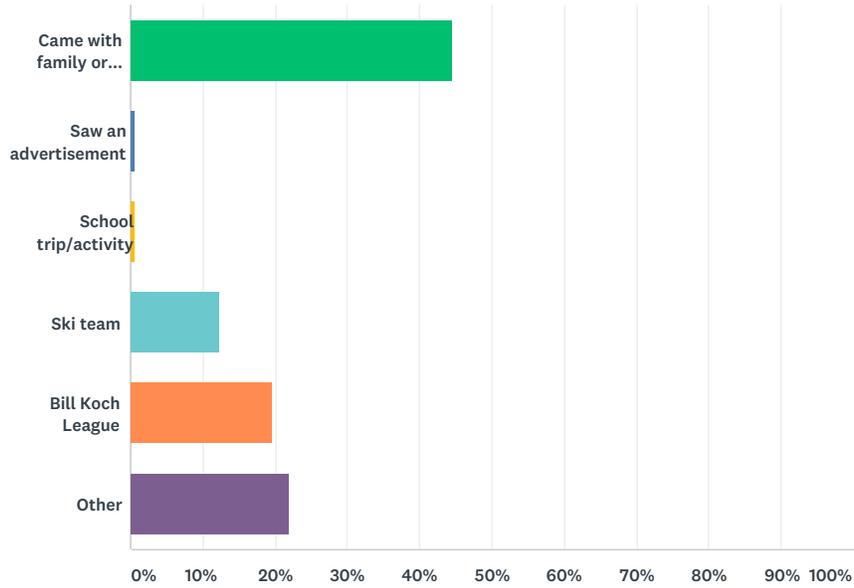
Answered: 137 Skipped: 17



ANSWER CHOICES	RESPONSES	
Nordic (classic) ski	91.97%	126
Nordic (skate) ski	63.50%	87
Telemark/Backcountry	18.25%	25
Snowshoe	14.60%	20
Sled	5.84%	8
Hike	19.71%	27
Total Respondents: 137		

Q7 What first brought you to Prospect?

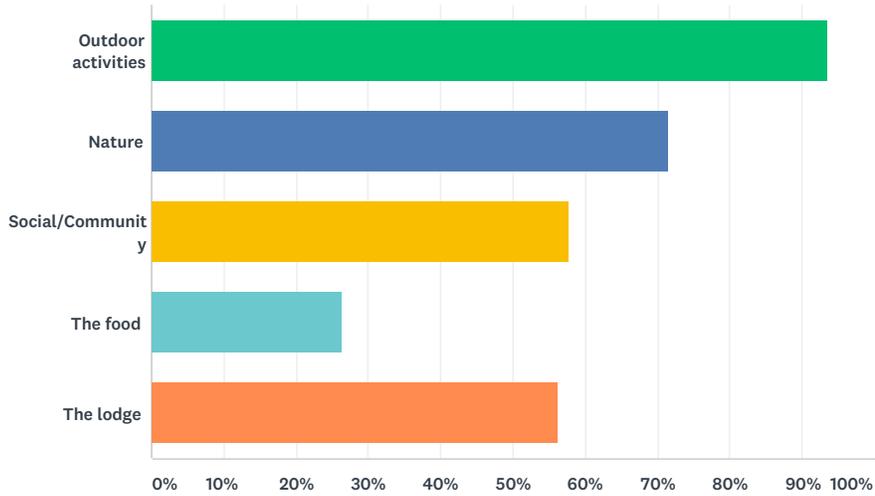
Answered: 137 Skipped: 17



ANSWER CHOICES	RESPONSES	
Came with family or friends	44.53%	61
Saw an advertisement	0.73%	1
School trip/activity	0.73%	1
Ski team	12.41%	17
Bill Koch League	19.71%	27
Other	21.90%	30
TOTAL		137

Q8 What are your favorite things about Prospect? Check all that apply.

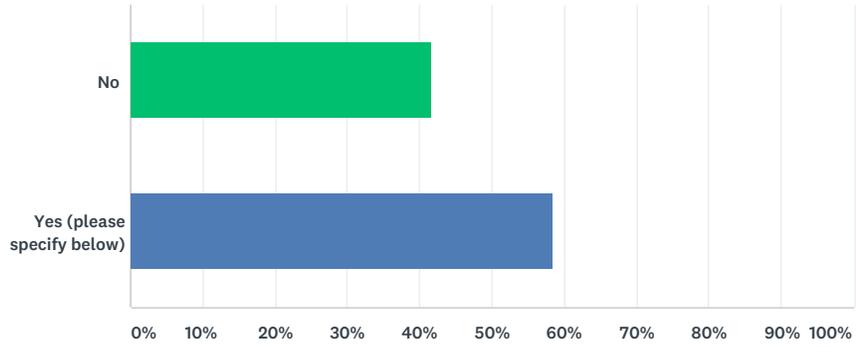
Answered: 137 Skipped: 17



ANSWER CHOICES	RESPONSES	
Outdoor activities	93.43%	128
Nature	71.53%	98
Social/Community	57.66%	79
The food	26.28%	36
The lodge	56.20%	77
Total Respondents: 137		

Q9 Do you ski at any other cross country ski areas?

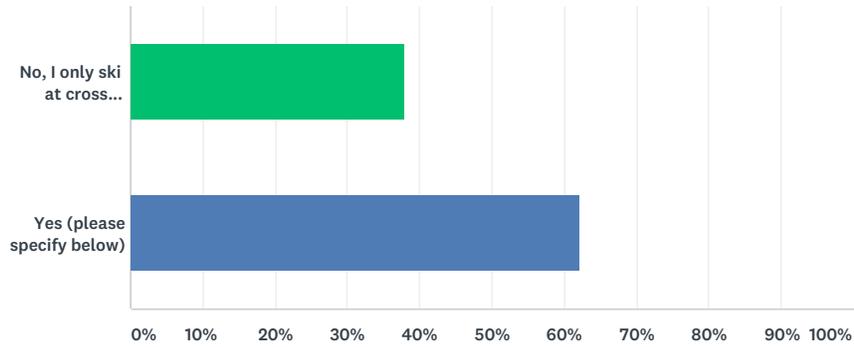
Answered: 137 Skipped: 17



ANSWER CHOICES	RESPONSES	
No	41.61%	57
Yes (please specify below)	58.39%	80
TOTAL		137

Q10 Do you ski places that are free and/or are not groomed for cross country skiing?

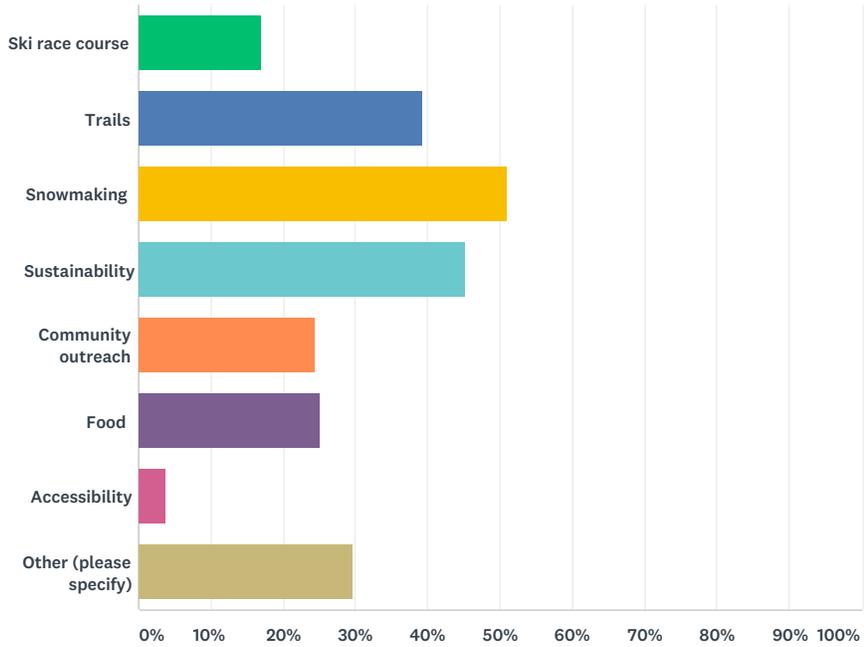
Answered: 137 Skipped: 17



ANSWER CHOICES	RESPONSES
No, I only ski at cross country facilities	37.96% 52
Yes (please specify below)	62.04% 85
TOTAL	137

Q11 Please check areas you would like to see improved about Prospect.

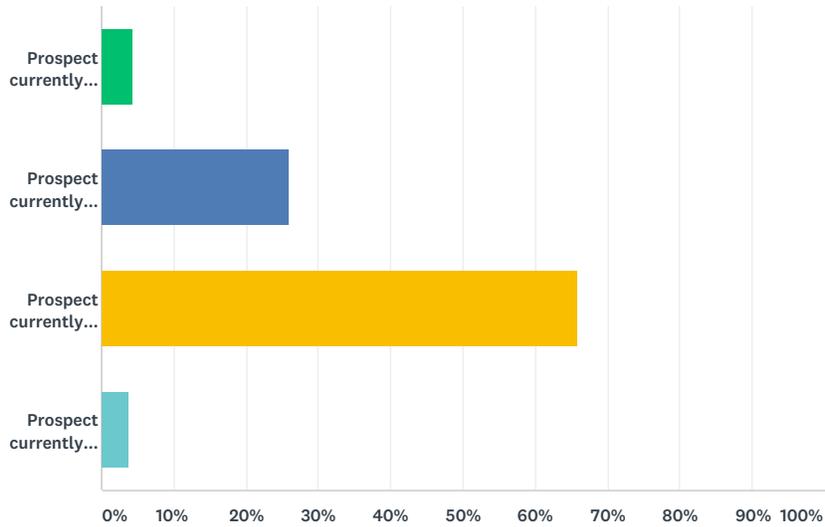
Answered: 135 Skipped: 19



ANSWER CHOICES	RESPONSES	
Ski race course	17.04%	23
Trails	39.26%	53
Snowmaking	51.11%	69
Sustainability	45.19%	61
Community outreach	24.44%	33
Food	25.19%	34
Accessibility	3.70%	5
Other (please specify)	29.63%	40
Total Respondents: 135		

Q12 Please check which is closest to your opinion on Prospect's current pricing.

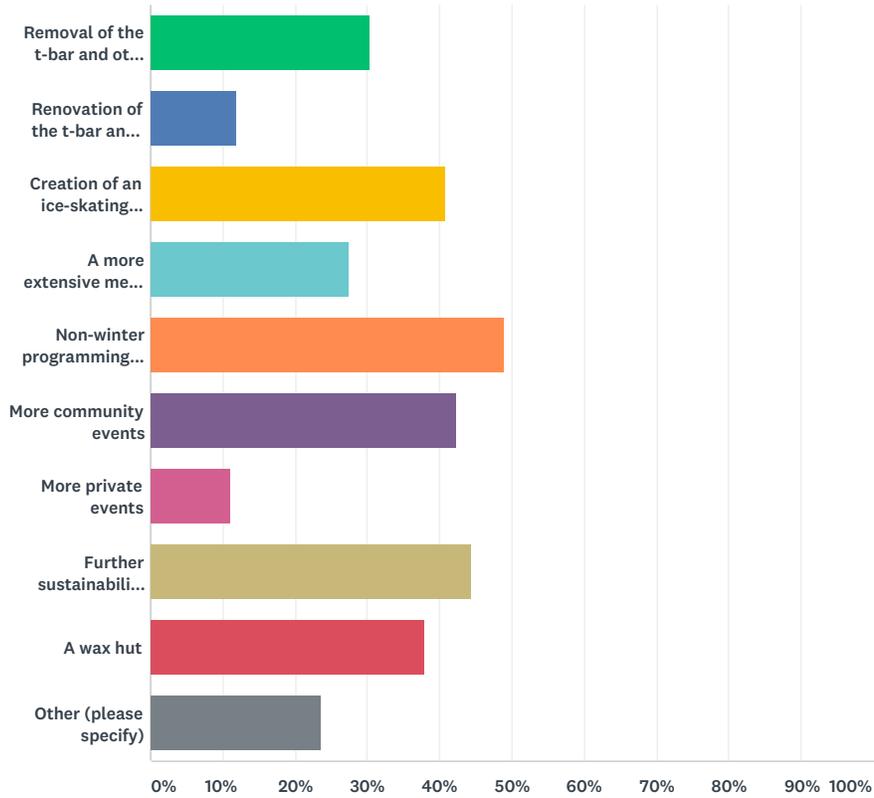
Answered: 135 Skipped: 19



ANSWER CHOICES	RESPONSES	
Prospect currently charges too much, and I would be more likely to go if they charged less.	4.44%	6
Prospect currently charges a reasonable amount, and I would not go if they charged more.	25.93%	35
Prospect currently charges a reasonable amount, but I would be willing to pay more to support the operations.	65.93%	89
Prospect currently charges too little, and I would continue to go if they charged more.	3.70%	5
TOTAL		135

Q13 Please check any long term plans you would support at Prospect.

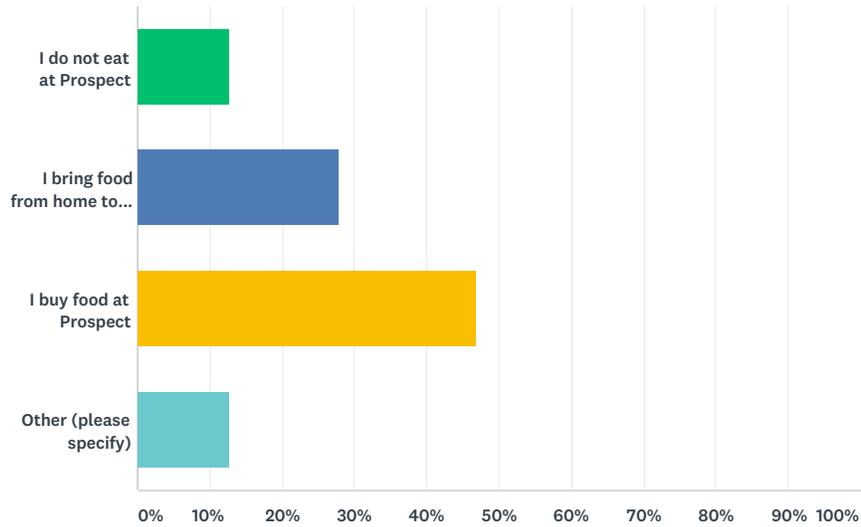
Answered: 135 Skipped: 19



ANSWER CHOICES	RESPONSES
Removal of the t-bar and other downhill specific infrastructure	30.37% 41
Renovation of the t-bar and return to downhill skiing	11.85% 16
Creation of an ice-skating pond	40.74% 55
A more extensive menu and meal schedule	27.41% 37
Non-winter programming like hiking and camping	48.89% 66
More community events	42.22% 57
More private events	11.11% 15
Further sustainability initiatives	44.44% 60
A wax hut	37.78% 51
Other (please specify)	23.70% 32
Total Respondents: 135	

Q14 Please check which is closest to your average experience at Prospect.

Answered: 126 Skipped: 28



ANSWER CHOICES	RESPONSES	
I do not eat at Prospect	12.70%	16
I bring food from home to eat at Prospect	27.78%	35
I buy food at Prospect	46.83%	59
Other (please specify)	12.70%	16
TOTAL		126

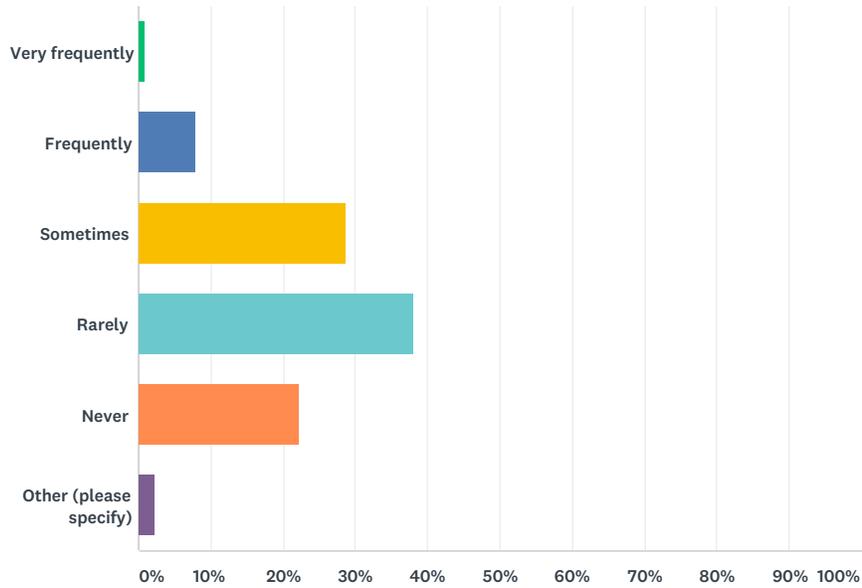
Q15 What are your favorite foods that have been served at Prospect in the past?

Answered: 126 Skipped: 28

(no graphic)

Q16 Would you eat breakfast in the lodge on the weekends if it were available?

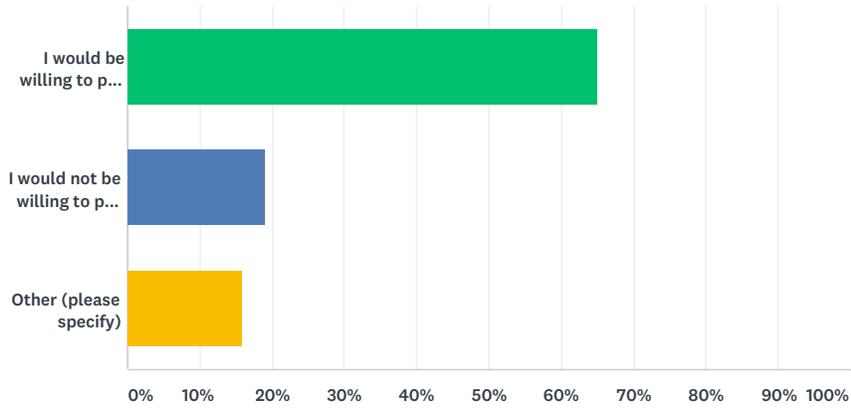
Answered: 126 Skipped: 28



ANSWER CHOICES	RESPONSES	
Very frequently	0.79%	1
Frequently	7.94%	10
Sometimes	28.57%	36
Rarely	38.10%	48
Never	22.22%	28
Other (please specify)	2.38%	3
TOTAL		126

Q17 Please check which is closest to your opinion on the pricing of Prospect's food.

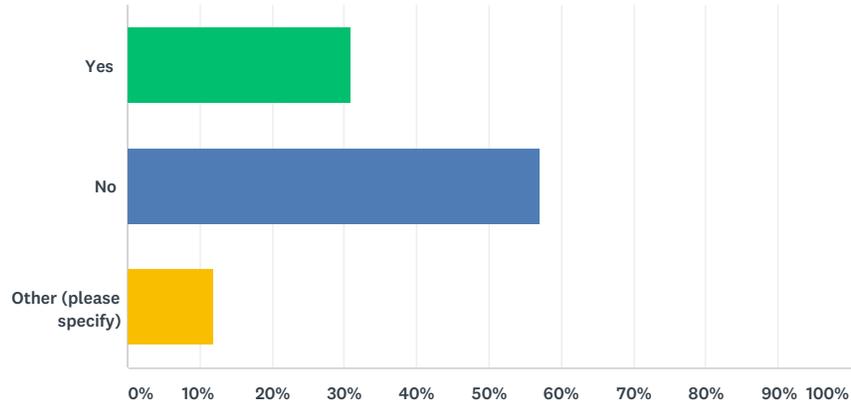
Answered: 126 Skipped: 28



ANSWER CHOICES	RESPONSES	
I would be willing to pay more for more options and locally sourced food.	65.08%	82
I would not be willing to pay more for more options and locally sourced food.	19.05%	24
Other (please specify)	15.87%	20
TOTAL		126

Q18 Would you be interested in purchasing alcohol while at Prospect?

Answered: 126 Skipped: 28



ANSWER CHOICES	RESPONSES	
Yes	30.95%	39
No	57.14%	72
Other (please specify)	11.90%	15
TOTAL		126

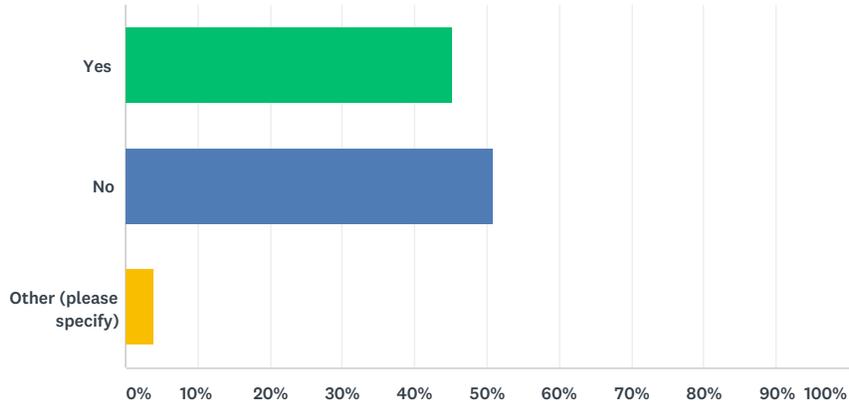
Q19 What could be improved about the food served at Prospect/what food would you like to see served in the future?

Answered: 126 Skipped: 28

No graphic)

Q20 Do you use Instagram?

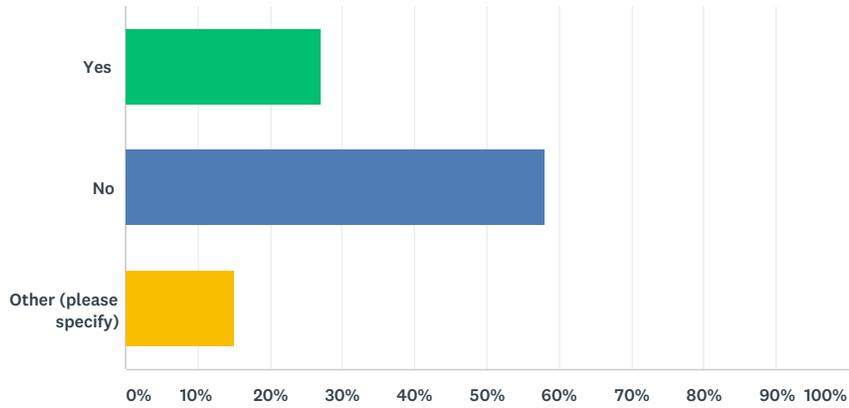
Answered: 124 Skipped: 30



ANSWER CHOICES	RESPONSES	
Yes	45.16%	56
No	50.81%	63
Other (please specify)	4.03%	5
TOTAL		124

Q21 If you use Instagram, do you follow the Prospect Mountain account? (@prospect_mtn_nordic)

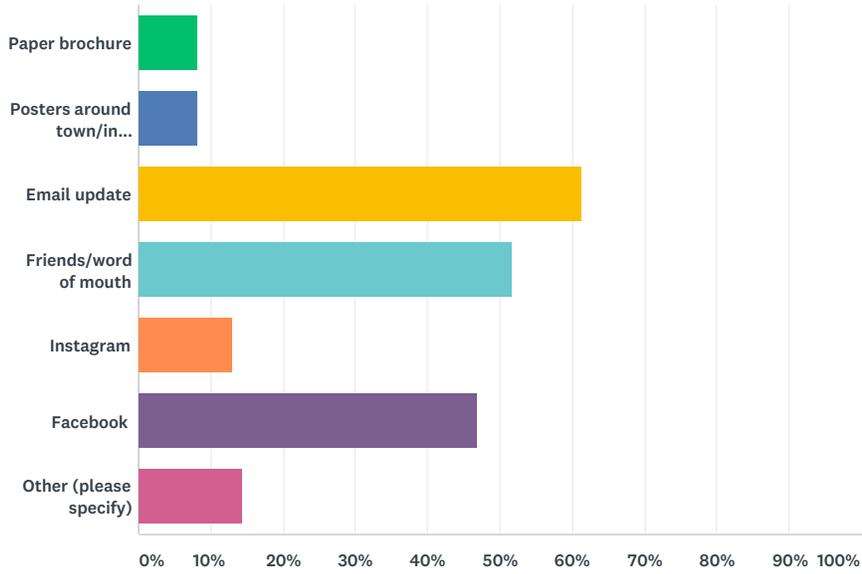
Answered: 100 Skipped: 54



ANSWER CHOICES	RESPONSES
Yes	27.00% 27
No	58.00% 58
Other (please specify)	15.00% 15
TOTAL	100

Q22 Where do you hear about events? (Check all that are relevant)

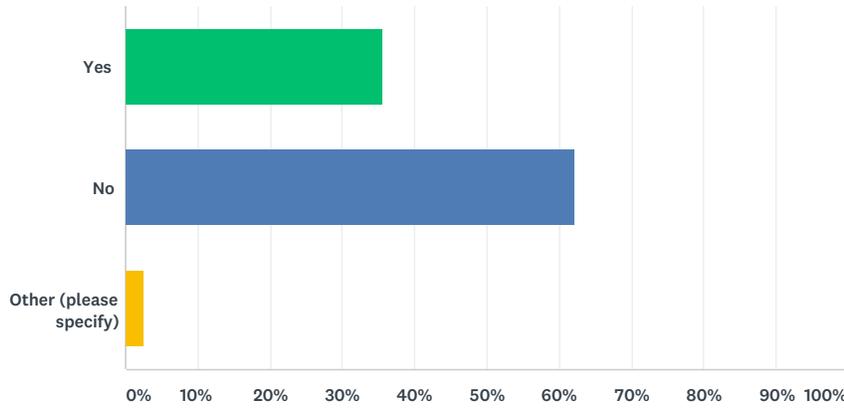
Answered: 124 Skipped: 30



ANSWER CHOICES	RESPONSES
Paper brochure	8.06% 10
Posters around town/in restaurants	8.06% 10
Email update	61.29% 76
Friends/word of mouth	51.61% 64
Instagram	12.90% 16
Facebook	46.77% 58
Other (please specify)	14.52% 18
Total Respondents: 124	

Q23 Do you own apparel (shirts, hats, mugs, stickers, etc) branded with Prospect Ski Area?

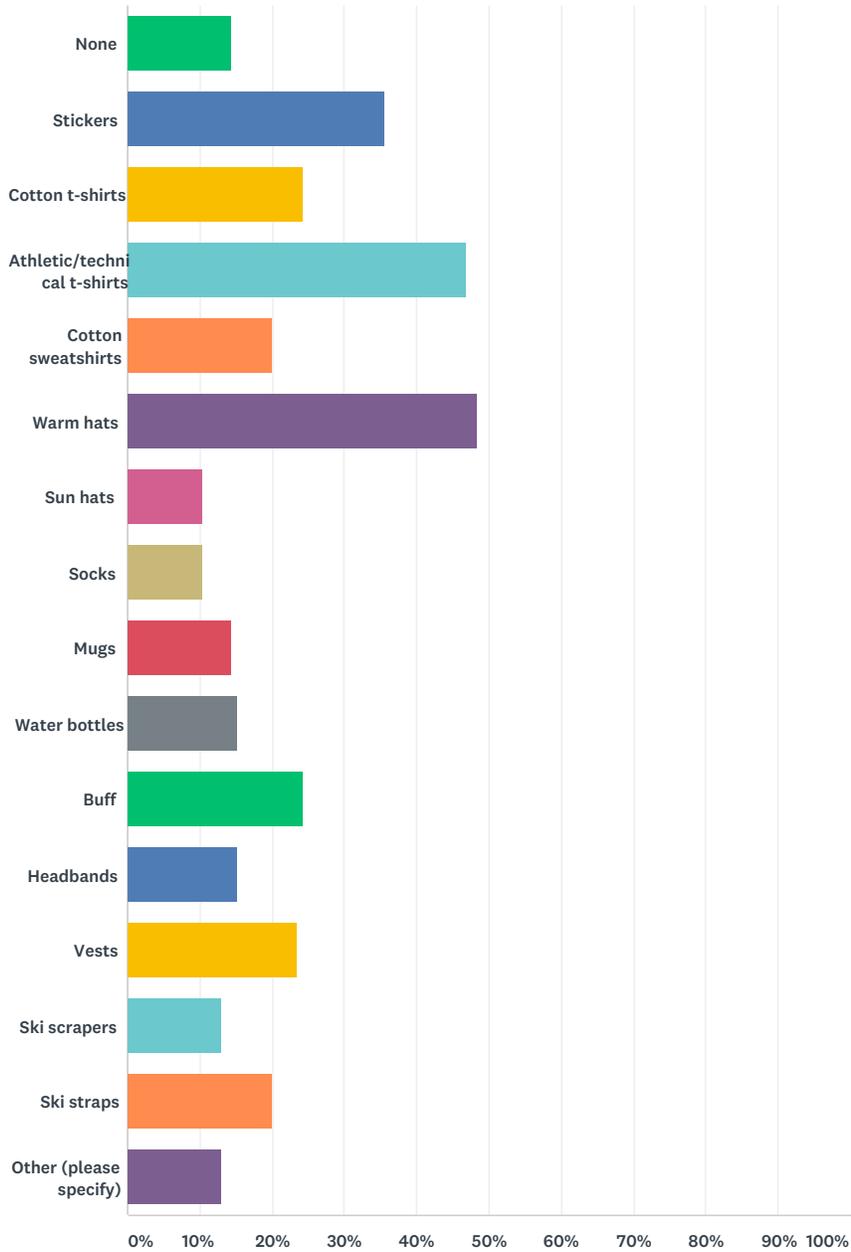
Answered: 124 Skipped: 30



ANSWER CHOICES	RESPONSES
Yes	35.48% 44
No	62.10% 77
Other (please specify)	2.42% 3
TOTAL	124

Q24 Would you be interested in purchasing apparel branded with Prospect Ski Area? (Please check all apparel that interests you. We welcome new ideas!)

Answered: 124 Skipped: 30



ANSWER CHOICES	RESPONSES
None	14.52% 18
Stickers	35.48% 44
Cotton t-shirts	24.19% 30
Athletic/technical t-shirts	46.77% 58
Cotton sweatshirts	20.16% 25
Warm hats	48.39% 60

Sun hats	10.48%	13
Socks	10.48%	13
Mugs	14.52%	18
Water bottles	15.32%	19
Buff	24.19%	30
Headbands	15.32%	19
Vests	23.39%	29
Ski scrapers	12.90%	16
Ski straps	20.16%	25
Other (please specify)	12.90%	16
Total Respondents: 124		

Q25 Do you have any other ideas, suggestions, visions for Prospect Mountain you would like to share with us? If you would like to talk with us about your suggestions, please include your name and contact information and we will get in touch.

Answered: 51 Skipped: 103

(no graphic)

VII. Merchandise

Current Merchandise - Cost/Benefit

[LINK TO SPREADSHEET FOR BETTER VIEWING](#) - CAN MANIPULATE NUMBERS IN SPREADSHEET - even more details in the spreadsheet!

Item	Quantity Ordered	Total Cost (goods + shipping + set-up)	Cost per Item (including shipping)	Selling Price	Profit per Item	Number Need to Sell to Break Even	Potential Revenue (if sold ALL goods)	Potential Profit (if sold ALL goods)
Large vinyl stickers	500	\$455.30	\$0.91	\$3.00	\$2.09	151.76666 67	\$1,500.00	\$1,044.70

Green T-shirts	58	\$518.00	\$8.93	\$20.00	\$11.07	25.9	\$1,160.00	\$642.00
Long sleeve T-shirts	16	\$193.00	\$12.06	\$20.00	\$7.94	9.65	\$320.00	\$127.00
Rocks Glasses	24	\$100.00	\$4.17	\$10.00	\$5.83	10	\$240.00	\$140.00
Mugs	24	\$100.00	\$4.17	\$10.00	\$5.83	10	\$240.00	\$140.00
Skida: Alpine Hat	25	\$585.00	\$23.40		-\$23.40	#DIV/0!	\$0.00	-\$585.00
Skida: Nordic Hat	15	\$370.00	\$24.67		-\$24.67	#DIV/0!	\$0.00	-\$370.00

Suggested Merchandise - Cost/Benefit

[LINK TO SPREADSHEET FOR BETTER VIEWING](#) - CAN MANIPULATE NUMBERS IN SPREADSHEET - even more details in the spreadsheet!

Item	Quantity Ordered	Cost to Order	Set-up fee	Total Cost (goods + shipping + set-up)	Cost per Item (including shipping)	Selling Price	Profit per Item	Number Need to Sell to Break Even	Potential Revenue (if sold ALL goods)	Potential Profit (if sold ALL goods)
Quarter-Zip/Neck-Zip Sweatshirt	24	\$600.00	\$25.00	\$625.00	\$26.04	\$40.00	\$13.96	15.6	\$960.00	\$335.00
Athletic T-Shirt	24	\$192	\$25.00	\$217.00	\$9.04	\$20.00	\$10.96	10.85	\$480.00	\$263.00
Kids T-Shirt	12	\$84	\$25.00	\$109.00	\$9.08	\$15.00	\$5.92	7.2	\$180.00	\$71.00
Hooded Pullover Sweatshirt	24	\$672	\$25.00	\$697.00	\$29.04	\$40.00	\$10.96	17.43	\$960.00	\$263.00
Simple	24	\$120	\$25.00	\$145.00	\$6.04	\$15.00	\$8.96	9.67	\$360.00	\$215.00

Canvas Tote
Bag

Original Designs (background added so the white color is visible).



Sweatshirts:





Athletic T-Shirt:

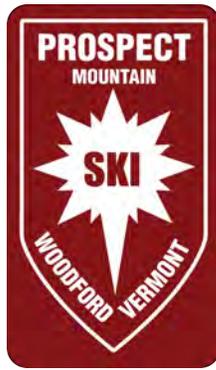




Stickers:



or



Kids T-Shirt:



Tote Bag:



VIII. Menu Cost-Benefit Analysis Spreadsheet Outline

[LINK TO DOWNLOADABLE & EDITABLE COPY OF SPREADSHEET](#)

FOOD ITEMS	Cost per Case (INSERT NUMBER S HERE!)	Quantity per Case (or, # of servings per case) (INSERT NUMBERS HERE!)	Cost per Item	Selling Price	Profit on Each Item	To Break Even on Cost of 1 Case, Need to Sell This Number of Items	Profit Potential if Sold Every Item in Case
DRINKS							
Hot tea			#DIV/0!	\$2.00	#DIV/0!	0	\$0.00
Hot coco			#DIV/0!	\$2.00	#DIV/0!	0	\$0.00
Coffee			#DIV/0!	\$2.00	#DIV/0!	0	\$0.00
Hot cider			#DIV/0!	\$2.00	#DIV/0!	0	\$0.00
Mocha			#DIV/0!	\$2.00	#DIV/0!	0	\$0.00
Soda			#DIV/0!	\$2.00	#DIV/0!	0	\$0.00

Gatorade			#DIV/0!	\$2.00	#DIV/0!	0	\$0.00
SOUP							
Clam chowder			#DIV/0!	\$4.50	#DIV/0!	\$0.00	\$0.00
Black bean			#DIV/0!	\$4.50	#DIV/0!	\$0.00	\$0.00
Chili			#DIV/0!	\$5.00	#DIV/0!	\$0.00	\$0.00
SANDW ICH							
BLT			#DIV/0!	\$5.00	#DIV/0!	n/a	n/a
Bread			#DIV/0!				
Bacon			#DIV/0!				
Lettuce			#DIV/0!				
Tomato			#DIV/0!				
PB & J			#DIV/0!	\$3.50	#DIV/0!	n/a	n/a
Bread			#DIV/0!				
Peanut Butter			#DIV/0!				
Jelly			#DIV/0!				
Bagel			#DIV/0!	\$1.50	#DIV/0!	n/a	n/a
Bagel + cream cheese			#DIV/0!	\$2.00	#DIV/0!	n/a	n/a
Bagel			#DIV/0!				
Cream Cheese			#DIV/0!				

GRILL							
Hot dog			#DIV/0!	\$2.00	#DIV/0!	n/a	n/a
Roll			#DIV/0!				
Hot dog			#DIV/0!				
Grilled cheese			#DIV/0!	\$4.50	#DIV/0!	n/a	n/a
Bread			#DIV/0!				
Cheese			#DIV/0!				
Butter			#DIV/0!				
Hamburger			#DIV/0!	\$6.00	#DIV/0!	n/a	n/a
Roll			#DIV/0!				
Meat			#DIV/0!				
Lettuce			#DIV/0!				
Tomato			#DIV/0!				
Cheese			#DIV/0!				
Turkey burger			#DIV/0!	\$6.00	#DIV/0!	n/a	n/a
Roll			#DIV/0!				
Meat			#DIV/0!				
Lettuce			#DIV/0!				
Tomato			#DIV/0!				
Cheese			#DIV/0!				
Veggie burger			#DIV/0!	\$6.00	#DIV/0!	n/a	n/a
Roll			#DIV/0!				

Veggie burger patty			#DIV/0!				
Lettuce			#DIV/0!				
Tomato			#DIV/0!				
Cheese			#DIV/0!				
Black bean burger			#DIV/0!	\$6.00	#DIV/0!	n/a	n/a
Roll			#DIV/0!				
Black bean burger patty			#DIV/0!				
Lettuce			#DIV/0!				
Tomato			#DIV/0!				
Cheese			#DIV/0!				
Grilled chicken			#DIV/0!	\$6.00	#DIV/0!	n/a	n/a
Roll			#DIV/0!				
Meat			#DIV/0!				
Lettuce			#DIV/0!				
Tomato			#DIV/0!				
Cheese			#DIV/0!				
Teriyaki chicken			#DIV/0!	\$6.50	#DIV/0!	n/a	n/a
Roll			#DIV/0!				
Meat			#DIV/0!				
Lettuce			#DIV/0!				
Tomato			#DIV/0!				

Cheese			#DIV/0!				
SWEET							
Cookies			#DIV/0!	\$2.00	#DIV/0!	\$0.00	\$0.00
Brownies			#DIV/0!	\$2.00	#DIV/0!	\$0.00	\$0.00
Brittle			#DIV/0!	\$3.80	#DIV/0!	\$0.00	\$0.00
Fruit			#DIV/0!	\$1.50	#DIV/0!	\$0.00	\$0.00

IX. Evaluation Matrices

Evaluation matrices were compiled based on research and interviews for those subjects with the most available alternatives.

<u>Type of Energy</u>	<u>No Action</u>	<u>Benefit</u>	<u>Cost</u>	<u>Minimal Impact</u>	<u>Benefit</u>	<u>Cost</u>	<u>Maximum Sustainability</u>	<u>Benefit</u>	<u>Cost</u>
Electricity	From Grid	No added work or new cost	Uses fossil fuels. Long term more expensive	Roof mounted solar(5 kw/hr)	Green energy, pays for itself, marketing	Solar panels, fixing roof	Ground mounted system(22 kw/hr)	Same but Snowmaking on green energy	Solar panels and ground installation. New infrastructure
Oil	Same furnace	No added work or new cost	Inefficient. Uses Fossil Fuels	New more efficient furnaces	Uses less oil. Same infrastructure	New stove and fossil fuel	Install Wood Chip Biomass System	Closer to carbon neutral. Wood chips cheaper than oil	Wood chip fuel, installation and maintenance
Propane	Same stove	No added work or new cost	Using more propane than needed	-	-	-	Replace stove	Saves energy. Lowers operating cost	New stove and installation
Wood for Wood stove	Same stove	No added work or new cost	Using more wood than needed	-	-	-	Replace stove	Uses less wood. More heat.	New Stove and installation

Energy

Snowmaking

Sector	Benefit	Cost
Producers		
PMA	Snow retention rate increases	High monetary costs
	Consistent revenue	Increased regulation of water resources
	Less reliance on weather	Higher CO2 footprint
		Precipitation and temperature risks
PMA Employees	Guaranteed hours	Required work at more times

Consumers		
Recreationalists	Consistent skiing	Possible price increases of ski passes
	Higher focus on racing	Lower focus on non-racing recreation
Wildlife	Retention of normal winter conditions	Increased disturbance
		Wetland disruption (beavers!)

Kitchen

Sector	Benefit	Cost
Producers		
PMA	Possible increase in revenue	Ingredients will be more expensive
	Higher sustainability	
PMA Employees	Higher interest in food	Changes in daily operations
Consumers		
Recreationalists	Better tasting food	Possible increase in prices
	More options for food	Changes in routine

X. Article

The presentation we gave on this report December 5, 2019, was featured in the Bennington Banner on December 6, 2019:

<https://www.benningtonbanner.com/stories/williams-students-present-ideas-for-prospect-mountain,591990>

XI. Photographs



Client David Dethier at Prospect



Clients Donald Campbell and David Dethier with Robey, Rawson, Bruce and Wiseman.



Discussion with mountain manager Steve Whitham in the Prospect Lodge.



Meeting about the report at the Zilkha Center. From left to right: Jason Lemieux (Williams Nordic Ski Coach), David Dethier, Anna Bruce, Hannah Goldstein, Madeline Rawson, Alison Robey, Matthew Wiseman, David Newell (Chair of PMA Board), and Donald Campbell.