Fleeting Flakes

Why Your Kids Kids Won't be Able to Ski at the Mountain You Grew Up Skiing

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On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

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Introduction

A couple of years ago, an email hit my inbox. It was forwarded to me by my dad, about Blandford Ski Area closing permanently. Blandford was a humble hill in Western Massachusetts that had a humble base lodge and a close knit community. It had merely 465 vertical feet, the nearest lodging is 12.2 miles away at the Elm Motel for $79/night, and was peripherally relevant to my childhood because they hosted U12 Tri-State Slalom Championships. Their strong youth racing program was just one example of the community that Blandford Ski Area enabled. This kind of affordable day skiing, rather than "resort skiing", makes up the silent majority of skiing in the United States. The problem is that the United States has been hemorrhaging small ski areas such as Blandford in favor of destination resorts, and many think that is making skiing unsustainable.

In the present analysis, I'll be drawing a distinction between "destination ski resorts" like Sun Valley, Vail, Aspen, or Sunday River and local ski areas like Blandford or the one you grew up skiing. Local ski areas have historically targeted the working, middle, and upper-middle classes. Destination Ski Resorts serve the upper class. For 30 years, skiing has been trending away from local ski hills (which act as communities) and towards grand destination resorts (which act as tourism businesses).

While sustainability often refers to environmental impacts, sustainability in this essay has a broader meaning. The sustainability sought in the present analysis is the ability for an entity to maintain and support itself in general. However, in light of undeniable warming shortening ski seasons everywhere, climate change is intrinsically linked to skiing's durability as snowfall and average highs directly impact the viability of skiing.

This analysis of the ski industry will be based on the Social Construction of Technology (SCOT) framework: the human agency behind a technology's development and usage is responsible for technology's societal impact. SCOT, introduced by Wiebe Bijker and Trevor Pinch in 1987, presents what Bijker and Pinch call a "multidirectional model," where this development can be viewed from a much wider perspective by considering a number of relevant social groups (Bijker et al., 1987). To effectively utilize SCOT as an analysis tool, it is important to identify stakeholders. The ski industry has skiers, destination ski resort companies, local ski hill communities, season workers, and non-skiers.

The ethical argument made in favor of skiing will be substantiated by Utilitarianism. According to Mill, Utilitarianism states that “actions are right in proportion as they tend to promote happiness, wrong as they tend to produce … the privation of pleasure” (Mill, 1861, p.14). It is under this utilitarian framework that I argue that skiing is worth sustaining. You probably know someone who moved to a ski town and committed a large portion of their life to skiing. Many people find enough happiness in skiing to make it their life’s priority. While people retire to live on the edge of a golf course, ski bums make this commitment to sport at the outset of their working life. For many, skiing is a uniquely appealing and successful tool for happiness. Therefore in Mill’s framework, actions to sustain skiing would be “right actions.” Yet, it is the contention of this paper that skiing is heading towards its own collapse in the age of destination resorts: the work force cannot afford to live near the mountain, there aren’t enough new skiers being generated to replace those aging out, and destination ski resorts cause unrecoverable damage to the natural environment that skiing depends upon.

Skiing’s Workforce

Destination ski resorts chronically face a challenge filling their seasonal workforce because they don’t pay their employees enough to live nearby, forcing them into long and dangerous commutes. Resort employees have to commute across passes or through valleys because they cannot afford to live in the basins at the base of the resort. Forcing a two-hour commute, often in blizzard conditions, is not only inconvenient; it is dangerous, irresponsible, and negligent. A question asked on the Jackson Hole Mountain Resort Reddit forum illustrates the commuting problem: “Looks like I’ll need to look into other options like moving to Alpine due to being priced out of the rental market (duh). Major cons to living in Alpine and commuting to Jackson Hole Mountain Resort?”...“The pass is a unique beast. Avalanches are enough of a reason to say you might want to avoid that commute...“(Puzzled_Lock_1428, 2023; approaching-infinity, 2023). Alpine is a town on the Idaho border. In addition to Driggs and Victor (towns in Idaho), Alpine is one of the towns that Jackson Hole Mountain Resort employees commute from. Housing in ski towns is tricky. The biggest ski resorts, the ones that require the most employees to run, are mostly located in mountainous regions with significant geographic limitations on housing. While geography is the major limitation for close affordable employee housing, ski resort management is also directly to blame for prioritizing development of luxury real estate with the scarce land available to them. It's no secret that there's more money in ski resort real estate development than there is in ski resort operations.

When ski companies chose to prioritize luxury real estate development, they changed the face of skiing. Vail Ski Company (which owns dozens of destination ski resorts, not just Vail) chose to make developing luxury real estate and other non-skiing services its key business strategy in 1998 (Vail, 1998). Locals who have seen the changes in Stratton, VT and Park City, UT (towns whose ski resorts have been bought by Vail Ski Company) would probably agree with Hal Clifford, who wrote a book on the ski industry's fall called *Downhill Slide* in 2003: "skiing is no longer an end in itself for those looking to profit from it; instead, skiing has been transformed into a come-hither amenity to sell real estate" (Clifford, 2003, p.2). Jackson Hole Mountain Resort has also prioritized luxury land development over sustainable employee housing. That's why Wyoming's Teton County is the richest county in the nation by median AGI ($312,442) according to data from 2019 tax returns (Skogen, 2022). This trend towards real estate development has pushed resort employees further from their work to make room for multi-million dollar vacation homes left vacant for the majority of the year.

While many of the affected service jobs associated with running a ski resort may not feel essential, this discrepancy between low wages and high costs of living affects medical personnel and law enforcement as well. Ski patrollers – who are as qualified in, experienced in, and necessary for emergency medicine as EMT's – are unionizing to earn a livable wage, but negotiating salaries higher than $13/hr has proved difficult due to the perception of skiing as a luxury: "One downside of working a "dream job" is that workers are often told they're replaceable because their jobs are desirable. But Anderson says this isn't true: familiarity with avalanche terrain, high-angle rescues, and the tricky signs of on-mountain injuries come with time and hard-earned experience." (Hansmann, 2022). Even in 1995, "thirty-nine of Vail's forty-eight policemen and firefighters [could not] afford to live in town," (Coleman, 1996, p.607). Ski areas have prioritized real estate profits over the sustainability of its most essential employees. For less essential work, employees are imported from a different continent.

The ski industry's treatment of employees has been so unacceptable to domestic employees since the late eighties that big resorts have relied on seasonal labor from other countries. The ski industry employs roughly 7000 H2B and J1 visa participants per year (Blevins, 2020). Importing seasonal labor for service jobs is an unsustainable business model, as was shown during the 2020 COVID-19 Pandemic. During the COVID-19 Pandemic, every ski area was scrambling to fill the gaps in their rosters left by temporary international labor. Due to their dependence on international labor, Vermont's Sugarbush was not able to open their Slide Brook chairlift: "However, the reality is at this point we're not optimistic that Slide Brook will spin this year. The main reason for this is predominantly staffing" (Bleh, 2022). While the visas offer great opportunities to the Latin Americans who take advantage of them, ski resorts' employment opportunities need to be more appealing to domestic applicants if they are going to be more sustainable during global crises.

The ski industry also directly and indirectly employs many undocumented Latinos who live in squalor. Hal Clifford had already recognized the conditions that Latinos live under in Colorado: "In Lake County and throughout ski country, as many as twenty newly arrived Latino workers may live in a single trailer or condominium, sleeping in shifts on the floor, saving their money to send home" (Clifford, 2003, p.190). The lives that our undocumented underclass live is a chronic and nationwide problem in the United States, certainly not unique to skiing. However, the inequality between luxury real estate owners and luxury real estate landscapers in destination ski resorts is stark. While one could argue that inequality is not inherently unsustainable, it is ethically deplorable for ski resorts to enable that level of inequality and inequity. Ethically deplorable treatment won't be looked upon kindly upon by the younger, more progressive generations whose discretionary income skiing will rely on.

New Skier Generation

The state of employee housing and living at destination ski resorts is unsustainable, but so long as there is a high enough demand for skiing the destination ski resorts will not fail as a result. However, the demand for skiing itself is also at risk under current conditions. Resort skiing depends on a pre-existing demand for skiing by skiers. People are not born skiers, and it is becoming harder for people to become them. Skiing needs to be more attractive and accessible to non-skiers.

The most concerning statistic for skiing's future is that the National Ski Area Association (NSAA), the American ski area advocacy group that represents resorts and local hills across the country, reports that fewer kids are skiing. They conduct and publish market research with no financial incentive, unlike Vail Resorts or similar entities that depend on direct investment. According to the NSAA (2023), the number of skiers 17-and-under is declining. 'Growing up skiing' for many Generation X Americans (including both of my parents, from Western PA and Northern NM) meant night skiing at the local hill after school. Teenagers generally have agency over where they spend Friday after school but not whether their family can afford to own a condo in Colorado and spend winter break there. Unfortunately, NSAA data shows that many of the ski areas where night skiing in close proximity to population centers were available have closed (NSAA, 2023). School ski clubs cannot negotiate the same discounted ticket prices that they could when there were more and closer ski areas. The 17-and-under skiing population is increasingly populated by kids whose parents enable them to ski with vacations to Colorado rather than kids who just love to ski. It shouldn't be a surprise, then, that there are fewer kids and teenagers skiing in America where skiing is increasingly catered to the upper class. It's also important for kids to be skiing because it's harder, more dangerous, and more expensive to learn as an adult: trust me I know, I just taught my 6'5" friend how to ski and his falls hurt more than my nine-year-old little brother's.

New skiers have less options to try skiing at and they're further away because there are simply fewer ski areas. Local ski areas like Blandford, mentioned in the introduction, make up the vast majority (if not all) of the ski areas the US has lost. The NSAA reports the US is down 66 ski areas (14%) since 1991 and far more in the decade before that, but if anything that number is probably higher because the NSAA didn't include very small ski areas on that list (Isaac, 2023). Quantifying the number of operated ski resorts is more difficult than it seems due to incomplete records and unclear boundaries on what defines a ski area. Going skiing and starting skiing will always have an activation energy, but as the "closest ski area" becomes further away, this activation energy increases. The Canadian Department of Tourism, in a 2000 study, referred to the psychological investment associated with activation energy as "Expedition

Mentality" and found it to be the primary reason Canadian non-skiers were not becoming skiers (Williams & Fidgeon, 2000). Small ski areas play a crucial role in generating new skiers; Dan Grider – General Manager of Great Bear, Sioux Falls, SD's only remaining ski hill – believes his mountain's purpose is to generate new skiers (Winchester & Grider, 2023). Small ski areas have a consistent local clientele that form communities, rather than transient clientele bases renting temporary AirBnBs. Dan Grider's ski area is a fantastic example of the kind of ski learning area enabled by a small ski area. But every other ski area that served the same purpose to Sioux Falls has gone out of business.

The largest contributor to small ski areas going under is an equipment arms race. Small local hills suffer more because the only way to weather the storm (or lack thereof) is to invest in snow-making and grooming machines. Operational costs of snowmaking after installation are costly: "…I was looking at [monthly] electric bills of $300,000, $400,000" (Clifford & Ackland, 2000). That interview was 24 years ago, merely adjusting for inflation would more than double that in today's dollars. However, snowmaking is not the sole technology contributing to an arms race that disadvantages small ski areas while benefiting consolidated corporations. In 2020, Vail Resorts allocated $210 million for lift improvements on three of their mountains (SnowBrains, 2019). Lift improvements can increase crowd capacity by adding more chairs per chairlift, more seats per chair, or faster chair speeds. However, destination ski resorts have sought needlessly expensive chair lifts such as the heated "bubble" chairs made by Dopplmyr. They marginally increase skiing's accessibility but primarily are a marketing tool to differentiate resorts. That is an arms race. It's impossible for local hills to keep pace with that level of spending, and anything that impairs small ski areas indirectly reduces skiing's accessibility and generation of new skiers.

The oligopoly of ski resort management and the duopoly of chairlift development are responsible for unnecessary and counterproductive technological developments such as "bubble chairs". Vail Ski Company, AllTerra, Boyne, and POWDR are corporations that own almost all of the main destination resorts in the US, and the chairlift manufacturing companies Dopplmyr and Leitner-Poma are the sole suppliers for charlifts. Under SCOT, the responsibility for the widespread result of small ski areas closing (in part due to the chairlift arms race) – and therefore fewer new skiers – falls in part on decision-makers at the aforementioned companies.

Destination resorts have also come to depend on a new pricing model to reduce revenue variability: skiing is currently very affordable if the skier buys a multi-day multi-season pass before the season starts, but extremely expensive if the skier tries to buy a day pass the day of. For example, a day pass at Vail costs $299 during peak season and $269 otherwise. However, the 2023-2024 Epic Pass (a season pass that allows skiers to ski at dozens of mountains across three continents including Vail over the entire year) was only $909. This pricing model was created to reduce weather-based crowds and variability. As a side effect, it benefits skiers who plan on skiing at least five days per winter or more and increases the price for new skiers who don't necessarily plan on committing to that. A poster recently surfaced on an online forum that shows 1974 Park City day rates, and it reveals that the price of a daily lift ticket at Park City has increased five-fold since fifty years ago adjusted for inflation (BravoTackZulu, 2022). Corporate profit-making decisions have resulted in skiing that isn't sustainable for the environment, its employees, nor skiers.

Interestingly, Vail and Allterra have identified this problem as well. Allterra's new CEO Jared Smith said in a 2023 interview that "We don't make it easy at all for people to come enjoy our sport" (Winchester & Smith). For better or worse, Jared Smith is the ex-CEO of Ticketmaster, the paragon of siphoning profits out of live music experiences. Vail's CEO also addressed the issue with access to skiing for middle and lower class youth when Rob Krats "announced 11 organizations receiving approximately $560,000 in grants as part of an ongoing commitment to increase youth access to outdoor recreation" in 2021 (Vail, 2021). Although the pricing models haven't changed since those quotes to be more accessible to new skiers, it shows that the companies' leadership fundamentally understands that skiing's sustainability relies on a more accessible pricing model.

Another possible reason that skiing is not attractive enough to non-skiers is the perception of being racially homogenous despite the US becoming increasingly racially diverse. Skiing's lack of racial diversity inhibits prospects of growing the sport: only 11.3% of skiers are non-white, while non-whites make up 42% of the United States (NSAA, 2023). The remainder of ski demographics is split between Latinos and Asians, with Blacks and Natives underrepresented (NSAA, 2023). Considering that Generation Z is the most racially diverse generation (Pichler et al., 2021), for the skiing industy's long term success it's imperative for the ski industry to market themselves better to growing minority demographics. In her W. Turrentine Jackson Prize-winning dissertation at the University of Colorado on the "Unbearable Whiteness of Skiing", Annie Coleman made a convincing argument that the invisibility of blacks in ski advertising despite a clear intention by blacks to spend on skiing demonstrates intentional exclusion: "Only a tenacious attachment to whiteness possibly explain this behavior by such a thoroughly opportunistic industry" (Coleman, 1996, p.606). In order for the ski industry to tap into that vast demographic of potential skiers, the ski industry should reduce its racially homogenous image.

Skiing depends on a demand for skiing. New skier generation comes from small hills, strong communities, and the fun that the sport brings people. It's hard to imagine a ski industry without strong demand for skiing; however, it's even harder to imagine a ski industry without snow.

Environment

An integral ingredient for skiing is the natural environment. Skiing is entirely enabled by a convenient handful of natural phenomena: the primary being snow. That's why the most consequential issue that skiing is facing from a sustainability perspective is environmental. Great Bear in South Dakota had to close prematurely on February 8th - February 8th! - of this year "due to the unseasonably warm weather" according to their official Facebook page (Great Bear Ski Valley, 2024). Unfortunately skiing itself is contributing to environmental destruction and warming temperatures.

Skiing relies on snow and needs to do its part to curb climate change if it's going to sustain itself. Climate change has significantly impacted the feasibility of skiing: "From 1982 to 2021, the snowpack season became shorter at about 86 percent of the sites where snowpack was measured. Across all sites, the length of the snowpack season decreased by about 18 days, on average" (EPA, 2023). A Norwegian study found that the nation's ski areas which depended on natural snow expect at least another 21 day loss to their ski season by the 2030s (Scott et al, 2019).

Fresh natural snow is more fun to ski on than the ice flakes created by snow machines, but snowmaking is problematic for more substantial reasons. In a recent journal publication which has already been cited 13 times, Daniel Scott and his team at the University of Waterloo claim that development of snowmaking systems in water scarce regions is a maladaptation because they “increase risk of adverse climate-related outcomes” (Scott, 2022). Even if snowmaking weren’t intrinsically problematic, it wouldn’t solve the warm weather problem because fake snow melts at 32°F too. Without artificial snow, skiing would probably already be an unsustainable business model at most ski areas; if you look at the snowpack in the woods directly next to most ski runs in the US for most of the ski season there isn’t nearly enough snow to ski.

The shift to destination resorts encourages, or in many cases forces, skiers to travel hundreds of miles to ski. The carbon footprint of that transportation alone is unacceptable. Skiing itself is not nearly as carbon heavy as transportation for skiing is: “73 percent of an average ski resort’s carbon footprint is created by a visitor’s mode of transport while 2 percent of emissions come from lift services and pistes” (Staff, 2023). The energy cost of running a lift is lower than the cost of the resort infrastructure surrounding it, which is far lower than the environmental cost of the transportation. Transportation to ski areas in the United States is mostly done via plane or car because of a limited rail infrastructure. Interestingly, the first destination ski resort in the United States, Sun Valley, ID, was designed and managed by the Union Pacific Railroad as a means to encourage people to use the civilian rail service out west in 1936 where the first chairlift was also invented (Union Pacific Corporate Communications, 2023). If Union Pacific was still America’s primary long-distance people-mover for destination ski resorts rather than United Airlines, skiing would have a much lower carbon footprint. There are some ski trains in operation in the US including Amtrak’s Winter Park Express (Winter Park, 2024). Skiers and destination ski resorts both benefit from these commuter skiing light rails, so the reopening of the Winter Park Express in 2024 is a win for all parties.

A Norwegian study was able to quantify skiers’ demand for green initiatives. The researchers found that skiers were willing to pay 11.5% more for season passes when that money was going to CO_2 compensation (Haugom et al, 2021). That same study considered another alternative season pass wherein skiers would be forced to use a free “ski bus” with designated arrival and departure times to go skiing which would be included in the price of the season pass and respondents reported a willingness to pay of 25% less. However, the authors of this study failed to recognize that some respondents were likely only opposed to a mandatory ski bus because the survey said the bus would only run once and therefore force them to ski the entire day; the survey question should have been phrased more openly because many skiers who purchase season passes don't plan to ski from opening to closing every day they ski. While that study was Norwegian, environmental sentiment in consumer purchases are a priority in the US and I expect a similar domestic study would get similar results.

In addition to the carbon footprint of skiing, skiing directly impacts local ecology. While skiing is more dependent on low temperatures and snowfall than any other natural gifts, some of skiing's demand can be attributed to the natural beauty of the flora and fauna that skiing is surrounded by. A specific example of this is the Jackson Elk Refuge that the short drive from Jackson Airport to Jackson Hole Mountain Resort skirts. Whether or not that was intentionally designed for tourists is beside the point, it's no doubt that the herds of elk within a hundred yards of the road on the way to the mountain add to demand for ski tourism. For that reason, if not any more moral or ethical one, ski companies should be more directly concerned with the wellbeing of their local ecologies. However, there is evidence that the ski industry has put development ahead of ecology to the detriment of the elk population. Skiing's expansion into the limited alpine zones and important valleys of Colorado is in direct conflict with elk wellbeing. Elk rely on the limited alpine regions in the summer and valleys in the winter, but with the growth of skiing and ski towns, they're being forced to compete with neighboring elk herds for land and resources (Peterson & Andree, 2021) – or die trying. The result of prioritizing real estate development is fewer elk, and that is not a decision that a sustainable and responsible ski resort would make.

Summary

Skiing is unsustainable and there are three areas where that is evident: labor, new skier generation, and global warming. This is important because there are fewer ways to optimize the greatest happiness for the greatest number than skiing. Skiing is a uniquely fun activity that human civilization has spent dozens of generations honing and, frankly, fun matters. There isn't a trivial answer to reducing warm winters: the global warming phenomenon hurting skiing is hurting a lot of people and industries besides skiing, and caused by a lot more sources than skiing. However, I have outlined how skiing's biggest stakeholders (Vail and Alterra) are personally responsible for the unsustainable conditions that could lead to skiing's demise.

Destination ski resorts need to lower the cost of a day of skiing. The NSAA should encourage Dopplemyr and Leitner Poma to stop making needlessly advanced ski lifts (like bubble chairs) in favor of reducing the price to produce and maintain functional and simple methods of getting more skiers up more hills. Vail and Allterra should change their pricing model to be more accessible to new skiers and foster relationships with local ski areas near population centers. Skiers should support independent mountains by considering purchasing the Indy Pass and Freedom Pass instead of Vail's Epic Pass or Alterra's Ikon Pass. Lastly, resorts should sponsor more "Ski Trains" like the new route from Denver to Winter Park to reduce their carbon footprint. Many of the most popular ski and outdoor gear companies (Patagonia, Cotopaxi, etc.) have prioritized environmental impact over luxury to meet their demand, and that kind of decision is what we should expect from Vail, AllTerra, and the other key stakeholders of American skiing. I believe in a future where ski companies and skiers make the decisions needed to enable skiing to be sustainable.

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