A Sustainable Winter Use Plan for Yellowstone? Steps to End 17 Years of Debate

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Yellowstone National Park is a place of serenity and stillness in winter. As wintertime sets in, the world's first national park becomes blanketed under a thick cloak of snow and ice. Elk and bison concentrate along river bottoms to forage. Geysers vent superheated water into the air. Yet this serene landscape was the backdrop to one of the most enduring and contentious issues in National Park Service (NPS) history, a 17-year-long controversy regarding winter use access to the park: specifically, the appropriateness of various motorized oversnow vehicles (snowmobiles and snowcoaches) and the extent of their impacts on the park's resources (Yochim 2009).

On October 23, 2013, NPS published a final rule to govern winter use in Yellowstone. Only this time there were no lawsuits, no posturing or scathing letters from special interest groups, and no threats of legislation from elected officials. After almost two decades of planning, including numerous rounds of NEPA (National Environmental Policy Act) reviews, federal lawsuits, and public comment solicitations, the Yellowstone winter use policy debate appears settled. This article summarizes five key steps park administrators and planners took to bring the controversy to a successful conclusion.

History of the winter use debate

The winter use access controversy can be traced to the early 1930s when gateway communities began asking NPS to plow Yellowstone's roads year-round. NPS opposed these requests, citing harsh weather conditions, insufficient snow removal equipment, and non-winterized buildings. In the mid-1950s, and perhaps in response to the Park Service's unwillingness to plow the roads, visitors began accessing the park using various forms of oversnow vehicles.

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> ... we do not intend to carry out any winter sports activities in Yellowstone National Park this winter for the visiting public.
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> *—Edmund B. Rogers, Superintendent, Yellowstone National Park, December 1, 1943*

Snowcoaches, which are multi-passenger tracked vehicles, first operated in the park in 1955 and snowmobiles were introduced in 1963. From these modest beginnings oversnow vehicle use increased; by the 1990s, over 2,000 snowmobiles entered the park on peak weekend days, and the daily average for the entire winter season approached 800 (Yochim 2009).

The park was sued by the Fund for Animals in May 1997 over issues related to the impacts of winter use on the park. The rounds of planning, rulemaking, and litigation that followed were all aimed at creating a special rule to explicitly authorize and set limits on oversnow vehicle use in Yellowstone. The need for such a special rule stems from Executive Orders 11644 and 11989, which essentially prohibit snowmobiling in national parks unless a specific rule is in place to allow it. The principal concerns surrounding snowmobile use in Yellowstone during this era focused on air pollution, noise, and the harassment and displacement of wildlife. Snowmobiles of the day were equipped with two-stroke engines that emitted high levels of air pollution. These engines also were loud and their noise carried vast distances in wintertime air. Compounding these problems, many snowmobilers who lacked the knowledge or skills necessary to minimize disturbance to bison and other wildlife in the travel corridors operated without guides in the park.

From 1997 through late 2013, the Park Service undertook seven NEPA reviews in a series of attempts to publish a final rule to authorize winter use in the park. NPS received over 1.1 million public comments on the various planning and rulemaking documents, and the park was also challenged ten times in federal court over proposed rules and agency processes. Three long-term plans and one special rule were nullified by federal courts. The consistent focal point for criticism and controversy was the number of snowmobiles to be authorized, with proposed rules along the way calling for everything from a complete ban (the 2000 environmental impact statement and the 2001 proposed final rule) up to a maximum of 950 in the park per day (2003 supplemental environmental impact statement [SEIS] and rule). It seemed as long as the winter use plan focused on the number of snowmobiles, no resolution would be possible.

Elements and reception of the 2013 final rule

Yet a resolution was eventually found. As noted earlier, a final special rule authorizing winter use in Yellowstone was published on October 23, 2013 (NPS 2013). Under the new rule, oversnow vehicles are not managed according to the daily number of snowmobiles allowed, but rather by the daily number of *transportation events,* which are defined as either a single trip on any given day by a snowcoach or else by a group of up to ten snowmobiles, with seasonal average group sizes of no more than seven. A transportation event is essentially a

discrete tour group of varying size. In addition to being more consistent with the science of winter use impacts, this new approach allows oversnow vehicle commercial tour concessioners to use their allocated transportation events interchangeably, operating either snowmobile or snowcoach trips depending on market demand. Additionally, the rule requires more stringent exhaust and air pollution standards (referred to as *best available technology,* or BAT) for snowmobiles and establishes BAT standards for snowcoaches. The rule also allows authorizes one non-commercially guided group of up to five snowmobiles for each of the park's entrances per day and commits to an adaptive management program to ensure continued high-quality park resources and public engagement.

The 2013 winter use rule experienced a very different reception than previous attempts: the agency found itself publicly supported, albeit reservedly, by previous litigants. What changed? What steps and actions contributed to the different outcome? Here are five key steps park administrators and planners undertook.

Key step #1: Engaged stakeholders to build coalitions

Early and frequent engagement with stakeholders, opinion leaders, and Obama administration officials was critical. In mid-2011, four key stakeholder groups were identified: (1) oversnow vehicle concessioners and other business interests; (2) organizations promoting motorized access (including the Wyoming governor's office); (3) environmental non-governmental organizations such as the National Parks Conservation Association, Greater Yellowstone Coalition, Sierra Club, and Coalition of National Park Service Retirees (now known as the Coalition to Protect America's National Parks); and (4) Department of the Interior leadership and Obama administration officials. Members of the general public seemed less engaged in this, the most recent planning process, perhaps reflecting some fatigue from the extended debate. However, individuals and organizations from the above-mentioned groups remained highly engaged through publication of the final rule and beyond.

Park administrators sought out conversations with any individual or entity interested in talking about winter use planning. The park superintendent and management assistant (who served as park lead for the plan) traveled frequently (e.g., to Washington, DC; Cheyenne, Cody, and Jackson, Wyoming; and West Yellowstone and Bozeman, Montana) to meet face-to-face with elected officials, opinion leaders, and stakeholders. From these conversations a foundation of respect began to form, facilitating increased trust as the planning process moved forward. The park also made a habit of responding, in detail, to inquiries from stakeholders and others on issues related to the developing winter use plan or supporting scientific analyses. In addition to helping advance stakeholders' understanding of any given aspect of winter use, their inquiries were utilized by NPS staff to help inform and refine the plan, modeling assumptions and analyses, and the strategic communications process (more on which below). As a local oversnow vehicle business owner put it, "We really appreciate the fact that Dan [Wenk, the superintendent] and his people came and visited with us and gave us the opportunity to have input. In the past, that hasn't always been the case. It's not our preferred plan, but at least it lets us stay in business" (Bill Howell, quoted in *Yellowstone Quarterly*, 2013).

Throughout the recent past, politics have affected the winter use planning processes to varying degrees (Yochim 2009). For example, under the Clinton administration NPS published a rule that would phase out snowmobiles within three years with visitor access provided by a park-managed mass-transit snowcoach system. Under the succeeding Bush administration, NPS proposed a final rule that allowed up to 950 snowmobiles daily. Both were vacated by federal courts. State- and county-level politics have also attempted to influence the outcome of various planning efforts or elements of individual plans. In contrast to the two immediately preceding administrations, the Obama administration (and specifically Ken Salazar, who served as secretary of the interior during the formulation of most of the final winter use plan) took a more hands-off approach. Throughout the process, the park kept staff at the agency and departmental levels informed at key junctures. In return, senior officials in NPS headquarters, the Department of the Interior, and the Obama administration were supportive of most aspects of the final rules and were content to let the park seek a mutually agreeable solution to the controversy. Frequent face-to-face briefings were used to help inform agency and administration leadership of the plan's current direction and refine key aspects. These frequent meetings and briefings also helped enhance trust in both the park and the foundational elements of the winter use plan itself.

Key step #2: Used the best available science

As noted, over the years the winter use policy debate concentrated principally on the maximum number of snowmobiles allowed in the park on any given day—a number which varied widely. Unfortunately this focus encouraged stakeholders to defend their preferred number instead of seeking solutions that would address their varied interests. The debate also engendered an atmosphere of mistrust and polarization, and put the park in an untenable situation: no matter what number was chosen, it would always be too high for some and too low for others. It was also, as planners would discover, inconsistent with the scientific evaluation of winter use effects.

Ultimately park managers are concerned about minimizing adverse impacts of oversnow vehicles to park resources such as air quality, natural soundscapes, and wildlife while maintaining opportunities for high-quality visitor experiences. Yet impacts to park resources, particularly natural soundscapes and wildlife, don't stem from individual snowmobiles or snowcoaches *per se,* as implied by the previous focus on the absolute number of vehicles. Rather, impacts are primarily determined by the number of transportation events. This is particularly true for impacts to the natural soundscape—a finding that was supported by extensive noise modeling performed by the NPS Natural Sounds and Night Skies Office and from data collected within the park.

Park planners discovered that packaging traffic into transportation events (i.e., tour group trips) and then limiting the total number of these group trips produced two complementary benefits. First, it enabled the park to permit wintertime visitor access each day while potentially increasing the number of visitors who could experience the park. Second, it reduced disturbances to wildlife and natural soundscapes. So rather than focusing on absolute numbers of oversnow vehicles, park planners began exploring the viability of a management

plan framed around discrete transportation events. By focusing on the aggregate impacts of oversnow vehicles in a transportation event regardless of vehicle type, the park could manage this use at a group level while providing meaningful incentives to further improve environmental quality as well as the visitor experience. This approach also affords tour operators increased flexibility to adjust group sizes or interchange event types (snowmobile or snowcoach) throughout the season. Importantly from the operators' perspective, it also gives them the potential to increase the number of snowmobiles or snowcoaches per transportation event if the vehicles used meet more stringent exhaust and air pollution standards (described as "Enhanced-BAT" in the 2013 final rule).

Another advantage of using best available science was that planners were able to dispel long-held, deeply ingrained assumptions about the relative impacts of each type of oversnow vehicle, namely that snowmobiles are dirty (in terms of exhaust emissions) and snowcoaches are clean. Doing so helped stakeholders get past an issue that previously had seemed intractable.

Key step #3: Reframed the discussion using strategic communications

Strategic communication is defined as the "purposeful use of communication by an organization to fulfill its mission" (Hallahan et al. 2007: 3). Such communications focus on big-picture as well as very specific outcomes, design outreach materials to help achieve them, and attempt to measure the efficacy of outreach efforts so they can be continually refined.

Park staff began using strategic communications to support the development of the winter use plan in early 2012 after participating in a two-day workshop on the topic led by faculty members from the University of Southern California's Annenberg School for Communication and Journalism and the Naval Postgraduate School. Through this process the park identified two goals for winter use plan strategic communications:

1. Maintain and enhance the park's credibility with all stakeholders; and
2. Ensure all of the park's communications regarding winter use planning are articulate and purposeful.

A principal outcome of this effort was to educate stakeholders about transportation events and reframe the debate around this concept. Central to the discussion was an analysis of stakeholder groups and their placement on a four-quadrant matrix (Figure 1) that became a cognitive map used to inform planners' understanding of various stakeholder groups. The quadrants were defined by how park planners perceived each group's "Impact" (i.e. the relative political power, high to low, of an organization or individual) and "Attitude" (i.e. the relative attitude, negative to positive, of an organization or individual) regarding the winter use plan for Yellowstone. This cognitive map of stakeholders' relative positions on the issue provided a chessboard for park planners as they sought both actions and communication points to advance the effort and build support.

Utilizing strategic communication tactics to reframe the policy discussion around transportation events began to have the desired effect by early 2013. For example, in late 2012 the Greater Yellowstone Coalition's public position on winter use in Yellowstone was to "phase

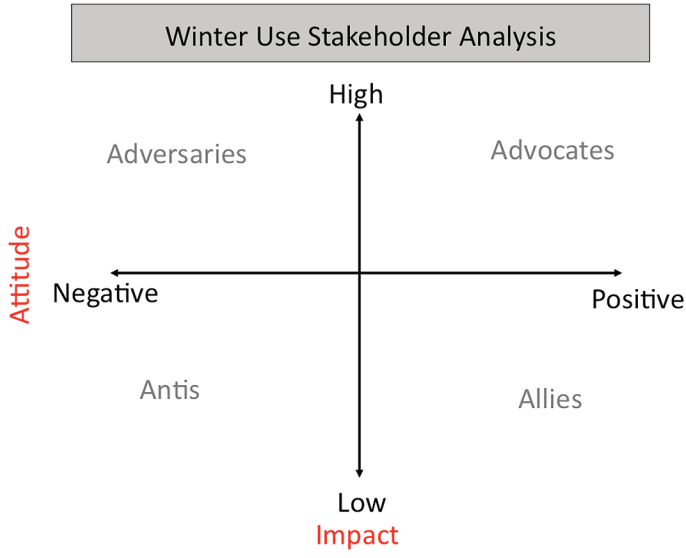

Figure 1. Winter use stakeholder analysis matrix

out snowmobiles in Yellowstone in favor of cleaner, quieter, more efficient snowcoaches that still provide ample access for visitors to explore and enjoy Yellowstone's remarkable wildlife and geysers in winter." But by March of 2013, the organization had changed its position to: "protect Yellowstone's wildlife, air quality, and natural soundscapes while allowing ample access for visitors to explore and enjoy Yellowstone's remarkable wildlife and geysers in winter." The activities and steps undertaken as part of the overall strategic communications process are detailed in Srimushnam (2013).

Key step #4: Addressed most stakeholders' concerns

There were a number of key elements in the new plan that were instrumental in ensuring that it addressed most stakeholders' concerns as well as met the legal, regulatory, and policy mandates of NPS. For example, several motorized-access-oriented organizations advocated for opportunities for non-commercially guided snowmobiling in the park. In response, the final rule authorized, as a pilot program, a non-commercially guided snowmobile access program (36 CFR 7.13 (l)(2)). NPS made the commitment to manage this so that non-commercially guided snowmobile transportation events would have no more impact on park resources than commercially guided ones. Another example is the establishment of "New BAT" standards for snowmobiles. During the formulation of the 2013 SEIS and plan, several conservation-oriented organizations advocated for cleaner and quieter air and noise emission standards for snowmobiles, contending that many of the snowmobile models being used in Yellowstone in 2010 were actually more polluting (air emissions) and noisier than earlier

BAT snowmobiles (such as those used in 2005). These and other key elements of the final rule are summarized in Table 1, and their reception by various stakeholder groups in Table 2.

Key step #5: Implemented an adaptive management program

As noted above, a principal component of the final rule is an adaptive management program (AMP) that seeks to meaningfully involve stakeholders in the creation of a long-term adaptive management and monitoring plan for park resources and the visitor experience. *Adaptive management* is an iterative science-based process that allows land managers to reduce uncertainty and risk by repeatedly collecting data and making changes to management plans based upon new information. In Yellowstone, creating the AMP involved the formulation of several subgroups who worked on identifying topics and measures of interest that could be used to gauge the impacts of oversnow vehicle use on park resources. The AMP specifically calls for revising the winter use policy over time based on changes in desired outcomes, implementation challenges, and information. By design, this approach is very different from the traditional top-down regulatory style of decision-making, which tends to be static and only includes stakeholder concerns at the margins via public comment. The winter use AMP has three main objectives:

1. Evaluate the impacts of oversnow vehicle use and help managers implement actions that keep impacts within the range predicted under the final SEIS and plan.
2. Gather additional data regarding the relative impacts from a group of snowmobiles versus a snowcoach.
3. Reduce the impacts on park resources after implementation of the final rule by gathering additional data regarding the overall social and ecological impacts of winter use and using those data to guide future management decisions.

Park officials will measure the impacts of oversnow vehicle use on park resources and the visitor experience. If any of the measures exceeds the allowable limits described in the final

Table 1. Key elements of the final rule.

- Makes the park cleaner, quieter, and less disruptive to wildlife than under the conditions previously authorized.
- Provides greater flexibility for oversnow vehicle commercial tour operators by allowing a variety of business models.
- Rewards oversnow vehicle innovations and clean technologies.
- Allows for increases in public visitation.
- Required New BAT for snowmobiles by 2015 and BAT for snowcoaches by 2016.
- Authorizes a non-commercially guided snowmobile access pilot program.
- Commits to an adaptive management program with significant stakeholder involvement.

Table 2. Reception of the final rule by three stakeholders: organizations focused on access to Yellowstone, businesses, and conservation groups. The characterization of the reception (green = positive, red = negative, gray = neutral) is generalized, reflecting the perceptions of park planners, and should be treated as subjective.

Key element of the final rule	Access	Business	Conservation
Management by transportation events			
Interchangeability of transportation events			
Cleaner and quieter than previously authorized			
Increases in visitation			
Phased transition for key elements of final rule, including:			
One-year transition period to transportation events			
New BAT for snowmobiles (within 2 years)			
BAT for snowcoaches (within 3 years)			
Availability of E-BAT for oversnow vehicles			
Remains 100% guided			
Non-commercially Guided Snowmobile Access Program (pilot)			
Access over Sylvan Pass maintained			
Stakeholder-centric adaptive management program			

SEIS and plan, the plan or management actions will be adjusted accordingly. Adaptive management therefore provides for both continued stakeholder involvement as well as a failsafe should impacts exceed levels predicted in the plan. Through rule-based incentives, it also encourages the continued adoption of innovations and technologies as related to oversnow vehicles.

Conclusion

The final rule on winter use in Yellowstone National Park was published on October 23, 2013. Constituents representing a wide array of interests, including elected officials, environmental groups, businesses, and snowmobile advocates, have all expressed their support for the plan. And while most stakeholders say there are still minor issues they would like to see resolved in the coming years, this effort demonstrated how public and stakeholder engagement, the best available science, and out-of-the-box thinking can be used to move what was largely considered to be an intractable problem to a sustainable solution.

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