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CHALLENGING THE 2013 RULE IMPLEMENTING REGULATIONS ON OVERSNOW VEHICLE USE IN YELLOWSTONE NATIONAL PARK

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Abstract: In 2013, the National Park Service (“NPS”) promulgated a new rule to regulate the use of snowmobiles and snowcoaches in Yellowstone National Park during the winter months. The innovation and development of such “oversnow” vehicles increased park visitors’ access to Yellowstone’s majestic wonders throughout winter. Unfortunately, because such vehicles emitted noise and air pollution and created safety hazards, their unfettered use throughout the winter season posed an ever-increasing threat to the natural integrity of Yellowstone and to visitors. To mitigate the negative effects of oversnow vehicles on Yellowstone, the NPS began restricting their use by placing fixed limitations on the number of oversnow vehicles permitted to operate within the park. These early regulations were met with various legal challenges, advanced by oversnow vehicle proponents and opponents alike. In response, the NPS created a new framework for limiting use in the 2013 rule structured around the “transportation event,” as opposed to setting fixed limitations. This Note engages in an analysis of this novel framework and argues that utilization of the transportation event scheme strikes the appropriate balance between conservation interests and allowing access to the park’s resources. Nevertheless, the rule remains vulnerable to potential legal attack.

INTRODUCTION

Yellowstone National Park (“Yellowstone” or the “park”) offers visitors the opportunity to witness a variety of natural phenomena and wildlife, including grizzly bears, wolves, elk, Old Faithful, and the world’s largest collection of geysers.¹ Meadows of wildflowers attract visitors in the summer months,² as do activities such as hiking, boating, and bicycling.³

* Executive Comment Editor, BOSTON COLLEGE ENVIRONMENTAL AFFAIRS LAW REVIEW, 2015–2016.

¹ *World’s Greatest Concentration of Geysers*, NAT’L PARK SERV., <http://www.nps.gov/yell/index.htm> [perma.cc/HKD7-AYMZ].

² NAT’L PARK SERV., YELLOWSTONE NATIONAL PARK: TRIP PLANNER 2015, at 15 (2014) [perma.cc/4956-YTAN] (original hyperlink no longer active).

³ *Id.* at 7.

The park is also a wonderful place to visit in the winter, when visitors have the unique chance to explore a “winter wonderland” complete with “frosted ghost trees” and highly visible wildlife along the park’s roads and rivers.⁴ Technological advances of the mid-twentieth century allowed winter recreationists to conquer the harsh winter temperatures and high snowfalls that had previously discouraged people from visiting Yellowstone during the winter.⁵ In fact, winter visitation at the park has steadily increased since motorized oversnow vehicles, such as snowmobiles and other related winter recreational vehicles, first entered the scene in the winter of 1948.⁶

Prior to the innovation of motorized oversnow vehicles, the few individuals traversing Yellowstone in the winter did so on snow shoes or cross-country skis.⁷ This select group was primarily made up of the park’s Army protectors, National Park Service (“NPS”) rangers, and a few tourists.⁸ Things changed forever when the first powered snow machines entered the park in the late 1940s.⁹ The first vehicles were wingless “snowplanes,” which were followed by the tractor-like “snowcoaches.”¹⁰ Finally, the precursor to the modern “snowmobile” entered Yellowstone in 1963.¹¹ These personal snow machines enabled thousands of visitors to flock to the park during the winters of the 1960s.¹²

Local business owners and politicians began to see the increase in winter visitors brought on by the invention of oversnow vehicles as an opportunity for greater revenues and profits from previously untapped winter tourism.¹³ Furthermore, the use of oversnow vehicles improved the experience of those traveling to Yellowstone in the winter by providing visitors with a convenient and practical mechanism through which almost anyone could enjoy the park.¹⁴

⁴ Michael J. Yochim, *The Development of Snowmobile Policy in Yellowstone National Park*, 7 YELLOWSTONE SCI. 2, 2 (1999).

⁵ *Id.*

⁶ *Id.*; *Yellowstone in Winter: A History of Winter Use*, NAT’L PARK SERV. [hereinafter *A History of Winter Use*], <http://www.nps.gov/yell/parkmgmt/timeline.htm#timeline> [<https://perma.cc/VCC3-X9QK>].

⁷ *A History of Winter Use*, *supra* note 6.

⁸ *Id.* The U.S. Army took over the operation and protection of Yellowstone in 1886. *Id.*

⁹ *Id.*

¹⁰ *Id.*

¹¹ Yochim, *supra* note 4, at 3; *A History of Winter Use*, *supra* note 6.

¹² See Yochim, *supra* note 4, at 3. “By the late 1990s, 150,000 winter visitors a year were flocking into Yellowstone.” *A History of Winter Use*, *supra* note 6.

¹³ Yochim, *supra* note 4, at 2.

¹⁴ See *Yellowstone in Winter: The Role of Snowmobiles and Snowcoaches*, NAT’L PARK SERV. [hereinafter *The Role of Snowmobiles and Snowcoaches*], <http://www.nps.gov/yell/parkmgmt/role.htm> [perma.cc/52R6-4PUH]. In contrast, the use of skis and snowshoes required a measure of athleticism that not everyone possessed, and confinement to paved roads greatly limited the ability of passengers to experience nature firsthand. See *id.*

Despite the increased access to the park's majestic beauty and vast resources that resulted from oversnow vehicle transportation, the use of these machines was accompanied by several significant negative externalities.¹⁵ The most notable of these unanticipated problems were air and noise pollution, wildlife harassment, and conflicts between users.¹⁶

As the problems with increased oversnow vehicle use became more apparent, park management began to address the issues in the 1970s by regulating winter use.¹⁷ Although the administrators of several other national parks responded to these same issues by implementing outright bans on the use of snowmobiles,¹⁸ Yellowstone administrators took a more moderate approach by requiring snowmobiles to remain on snow-covered roads.¹⁹

Since their implementation, various administrative reports have scrutinized Yellowstone's lenient regulation of oversnow vehicle use, which began in the 1970s.²⁰ In the early 2000s, stricter management policies promulgated by the NPS placed fixed limits on the number of machines allowed to operate in the park,²¹ and imposed emissions standards.²²

After researching several alternative regulatory approaches, in October 2013 the NPS issued a final rule implementing a new approach to regulating oversnow vehicle use in Yellowstone.²³ The final rule manages oversnow vehicle use by limiting transportation events, tightening air and sound emission standards for oversnow vehicles, and requiring snowmobile trips to be guided.²⁴ Additionally, the final rule implements a complex, phased transition that seeks to reduce negative externalities while encouraging winter recreation, as well as technological innovation in the manufacturing of oversnow vehicles.²⁵

This Note argues that the final rule strikes the delicate balance necessary between protecting Yellowstone's resources and accommodating appropriate winter recreation.²⁶ Furthermore, recognizing that controversies have risen in

¹⁵ See NAT'L PARK SERV., YELLOWSTONE NATIONAL PARK: WINTER USE PLAN/SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT, at i (2013), <http://www.nps.gov/yell/learn/management/currentmgmt.htm> [<https://perma.cc/EXC4-F2S2>] (follow link to full text); Yochim, *supra* note 4, at 5.

¹⁶ NAT'L PARK SERV., *supra* note 15.

¹⁷ *The Role of Snowmobiles and Snowcoaches*, *supra* note 14.

¹⁸ Yochim, *supra* note 4, at 6. For example, Glacier National Park formalized a ban in 1977. *Id.*

¹⁹ *Id.* at 5.

²⁰ NAT'L PARK SERV., *supra* note 15.

²¹ *The Role of Snowmobiles and Snowcoaches*, *supra* note 14.

²² Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. 63,069, 63,072 (Oct. 23, 2013) (codified at 36 C.F.R. pt. 7).

²³ *Id.* at 63,069–70.

²⁴ *Id.* at 63,070–71.

²⁵ See *id.* at 63,069, 63,071–72.

²⁶ See *infra* notes 222–264 and accompanying text.

the past from placing restrictions on winter use of the park, this Note anticipates challenges to the National Park Service's promulgation of its most recent final rule, namely the new emissions standards that it establishes.²⁷

I. THE USE OF OVERSNOW VEHICLES IN YELLOWSTONE NATIONAL PARK

A. Technological Adaptations to Yellowstone's Harsh Winters

Although mass access to Yellowstone National Park during the winter season did not become a practical or convenient reality until the latter half of the twentieth century, enjoyment of the park's winter majesty was nonetheless possible before the production of motorized oversnow vehicles.²⁸ To do so in these early days, park keepers and visitors utilized the relatively simplistic technologies of snowshoes and skis.²⁹ In addition to the athleticism required to safely engage in snowshoeing and skiing,³⁰ the harsh temperatures, high snowfalls, and generally extreme weather conditions created barriers that discouraged the average American from visiting Yellowstone during the winter.³¹ "After World War II, however, Americans' interest in winter recreation surged, and their ability to cope with the extreme conditions improved with technological advances."³² The introduction of oversnow vehicles revolutionized access to the park in the winter months.³³

An "oversnow vehicle" is defined in the Code of Federal Regulations as "a snowmobile, snowcoach, or other motorized vehicle that is intended for travel primarily on snow and has been authorized by the Superintendent [of the park] to operate in the park."³⁴ The first of these oversnow vehicles was actually the "snowplane," which initially entered the park in 1948 and remained the exclusive oversnow vehicle operating in the park until 1955.³⁵ As the name implies, these novel machines were cockpits on skis.³⁶ Mounted on the back side of the cockpit was an airplane propeller that blew the machine across the park's snow-covered roads.³⁷

Following closely behind the Everglades airboat-like snowplanes were the "snowcoaches."³⁸ Entering the park for the first time in January of 1955,

²⁷ See *infra* notes 265–287 and accompanying text.

²⁸ See *The Role of Snowmobiles and Snowcoaches*, *supra* note 14.

²⁹ *Id.*

³⁰ See *id.*

³¹ Yochim, *supra* note 4, at 2.

³² *Id.*

³³ *A History of Winter Use*, *supra* note 6.

³⁴ 36 C.F.R. § 7.13 (2015).

³⁵ Yochim, *supra* note 4, at 2–3; *A History of Winter Use*, *supra* note 6.

³⁶ *A History of Winter Use*, *supra* note 6.

³⁷ Yochim, *supra* note 4, at 2.

³⁸ *A History of Winter Use*, *supra* note 6.

snowcoaches were large vehicles capable of transporting ten people in a heated interior.³⁹ More suitable for groups than the two-person snowplane, the snowcoach opened the door to mass transit on the snow-covered roads of Yellowstone in winter.⁴⁰

Finally, the first personal snow machines made their debut in 1963, eight years after snowcoaches arrived in Yellowstone.⁴¹ Essentially, these vehicles were toboggans powered by motors.⁴² Although noisier and smokier, they were the precursors to today's modern snowmobiles.⁴³

B. *The Unanticipated Rise of Oversnow Vehicles*

While local businessmen and politicians recognized the economic advantages that could potentially flow from increased winter visitation at Yellowstone, they were more concerned with improving access to their own communities than with facilitating access to the park.⁴⁴ Their initial efforts to lobby Yellowstone administrators were aimed at plowing and snow removal of the park's roadways.⁴⁵ The theory on which these ambitions were premised was "that plowing the roads through Yellowstone would stimulate traffic on the same highways in their communities" and increase business.⁴⁶

Time and time again, the businessmen's and politicians' calls for plowing park roads were rejected by park administrators.⁴⁷ Given the technological constraints of the time, such extensive plowing was initially infeasible.⁴⁸ Even after plowing was recognized as feasible in 1958, it was still not considered a practical undertaking.⁴⁹

Furthermore, extensive plowing in the park would result in several foreseeable problems.⁵⁰ In particular, there were two specific issues.⁵¹ First,

³⁹ Yochim, *supra* note 4, at 3. The Bombardier Company of Quebec, Canada manufactured these vehicles. *Id.*

⁴⁰ *See id.* at 2–3. "Snowcoach" is defined as "a self-propelled mass transit vehicle intended for travel on snow, having a curb weight of over 1,000 pounds (450 kilograms), having a capacity of at least eight passengers and no more than 32 passengers, plus a driver." 36 C.F.R. § 7.13 (2015).

⁴¹ *A History of Winter Use, supra* note 6.

⁴² Yochim, *supra* note 4, at 3.

⁴³ *See id.*; *A History of Winter Use, supra* note 6. "Snowmobile" is defined as "a self-propelled vehicle intended for travel solely on snow, with a maximum curb weight of 1,000 pounds (450 kilograms), driven by a track or tracks in contact with the snow, and which may be steered by a ski or skis in contact with the snow." 36 C.F.R. § 7.13.

⁴⁴ *See* Yochim, *supra* note 4, at 2–4.

⁴⁵ *Id.* at 2.

⁴⁶ *See id.* at 3.

⁴⁷ *See id.* at 2–3. Formal pleas were rejected in 1949, 1958, and 1967. *See id.*

⁴⁸ *See id.* at 2.

⁴⁹ *Id.* at 3. In addition to the lack of feasibility due to the high level of snowfall at Yellowstone, plowing was simply too dangerous, and it was therefore considered impractical. *See id.* at 2.

⁵⁰ *See id.* at 4.

⁵¹ *See id.*

plowing created “snow canyons” with tall snow banks, which posed a danger to automobile travelers who could not see over these trenches.⁵² Such trenches also threatened wildlife by creating obstacles that would trap animals, preventing them from either leaving or traversing the roads.⁵³ Second, clear roads would allow drivers to travel right on through Yellowstone without stopping, which would cause economic hardships, as opposed to prosperity.⁵⁴

Seeking a compromise that would encourage and accommodate winter enjoyment of all the resources Yellowstone had to offer—while simultaneously preventing highways from becoming busy thoroughways—park administrators settled on allowing the use of oversnow vehicles.⁵⁵ As the term “oversnow vehicle” suggests, these vehicles travel over snow, therefore eliminating the need for plowing and avoiding the negative effects incident to such an undertaking.⁵⁶

C. Problems of Their Own

From the outset, the problems caused by early oversnow vehicles were apparent;⁵⁷ however, because few people operated such vehicles in the 1950s and 1960s, those drawbacks were considered minor.⁵⁸ Nonetheless, for those that witnessed these early vehicles in action, snowcoaches and snowmobiles were sources of obnoxious noise and air pollution that affected other visitors’ enjoyment of the park and its wildlife.⁵⁹

Early snowmobiles were much noisier than today’s machines.⁶⁰ In fact, in the 1970s, snowmobiles produced sounds similar to jets.⁶¹ Reduction of this blatant noise pollution depended on manufacturers and their ability and willingness to incorporate mechanical improvements.⁶²

Snowmobiles were also dirty and emitted large amounts of smoke.⁶³ Not only was this exhaust foul-smelling, but it was also dense, identified by an early spectator as a “blue pall of smoke” that would linger for hours.⁶⁴

⁵² *Id.*

⁵³ *Id.*

⁵⁴ *See id.*

⁵⁵ *Id.*

⁵⁶ *See id.*

⁵⁷ *See id.* at 5.

⁵⁸ *The Role of Snowmobiles and Snowcoaches*, *supra* note 14.

⁵⁹ *See* Yochim, *supra* note 4, at 5. “With more snowmobiles came more reports from park visitors and staff of problems such as noise, air pollution, and effects on park wildlife.” *Id.*

⁶⁰ *The Role of Snowmobiles and Snowcoaches*, *supra* note 14.

⁶¹ Yochim, *supra* note 4, at 5.

⁶² *See id.*

⁶³ *See id.*; *The Role of Snowmobiles and Snowcoaches*, *supra* note 14.

⁶⁴ Yochim, *supra* note 4, at 5.

The use of oversnow vehicles in Yellowstone also significantly disturbed park vegetation and wildlife.⁶⁵ Snowcoaches and snowmobiles trampled vegetation, and the noise created by the vehicles spooked wild animals.⁶⁶ Snowmobile movement throughout the park further harassed wildlife by displacing animals and inhibiting their movement across trails.⁶⁷

II. LEGAL BACKGROUND: THE LAW APPLICABLE TO OVERSNOW VEHICLE USE IN YELLOWSTONE

A. *The Organic Act of 1916*

The National Park Service (“NPS”) was established under the National Park Service Organic Act of 1916 (the “Organic Act” or the “Act”), which was later codified as 16 U.S.C. §§ 1–4.⁶⁸ Section 1 of Title 16 of the United States Code asserts: “There is created in the Department of the Interior a service to be called the National Park Service, which shall be under the charge of a director who shall be appointed by the President, by and with the advice and consent of the Senate.”⁶⁹ The purpose of the NPS is twofold: the Organic Act mandates that the agency “conserve the scenery and the natural and historic objects and the wild life therein and . . . provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.”⁷⁰ Accordingly, the NPS has a duty to provide for enjoyment of the park’s resources, but always in a manner consistent with the conservation goals of the Organic Act.⁷¹

⁶⁵ *See id.*

⁶⁶ *Id.*

⁶⁷ *Id.*

⁶⁸ *Organic Act of 1916*, NAT’L PARK SERV., <http://www.nps.gov/grba/learn/management/organic-act-of-1916.htm> [perma.cc/KK8T-3CS2]. The National Park Service Organic Act consists of the Act of August 25, 1916, and amendments thereto. National Park Service Organic Act, ch. 408, 39 Stat. 535 (1916) (codified as amended at 16 U.S.C. § 1 (2012)); *Organic Act of 1916*, *supra*.

⁶⁹ Organic Act of 1916, 16 U.S.C. § 1 (2006). The 2006 codification of the Organic Act is cited here because it is the edition used by the court in *Greater Yellowstone Coalition v. Kempthorne*, litigation that centered around the sometimes conflicting purposes of the NPS. 577 F. Supp. 2d 183 (D.D.C. 2008). Public Law 113-287, enacted on December 19, 2014, recodified the Organic Act in Title 54 of the U.S. Code. National Park Service and Related Programs Act, Pub. L. No. 113-287, § 3, 128 Stat. 3094, 3096 (2014) (codified as amended in scattered sections of 54 U.S.C.).

⁷⁰ 16 U.S.C. § 1. Public Law 113-287 retains essentially the same language as the Organic Act to articulate the dual purposes of the NPS:

[T]o conserve the scenery, natural and historic objects, and wild life in the [National Park] System units and to provide for the enjoyment of the scenery, natural and historic objects, and wild life in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

§ 3, 128 Stat. at 3096.

⁷¹ *See* 16 U.S.C. § 1.

The NPS articulated its interpretation of the Organic Act's conservation mandate in its 2006 Management Policies (the "NPS Policies").⁷² Section 1.4.3 of the NPS Policies suggests that the conservation mandate is not an absolute prohibition on adverse impacts to the park, rather, "the laws . . . give the [National Park] Service the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, so long as the impact does not constitute impairment of the affected resources and values."⁷³ Additionally, the NPS Policies clarify that when the Organic Act's mandate that the NPS conserve "resources and values" conflicts with the Act's mandate to provide for the enjoyment of those resources, conservation must take priority.⁷⁴

Elaborating on these interpretations, the United States District Court for the District of Columbia in *Greater Yellowstone Coalition v. Kempthorne* emphasized that in order for the NPS to allow an adverse impact to occur, it must find and explain why those impacts are necessary and appropriate, given the purposes of the park.⁷⁵ In other words, when allowing an adverse impact, the NPS cannot justify it with an arbitrary determination that the impact is necessary and appropriate, and therefore acceptable.⁷⁶ Instead, it must support that conclusion with reasoning that is consistent with its overarching conservation duty.⁷⁷

B. The National Environmental Policy Act

The National Environmental Policy Act ("NEPA") regulates the behavior of federal administrative agencies and mandates that an agency prepare an environmental impact statement whenever the agency is contemplating an action likely to significantly affect the environment.⁷⁸ The environmental

⁷² NAT'L PARK SERV., MANAGEMENT POLICIES 2006, at 10–11 (n.d.), <http://www.nps.gov/policy/mp2006.pdf> [perma.cc/P6QQ-WWHD]; see *Greater Yellowstone Coal.*, 577 F. Supp. 2d at 191.

⁷³ NAT'L PARK SERV., *supra* note 72, at 10.

⁷⁴ *Id.* at 11. "[W]hen there is a conflict between conserving resources and values and providing for enjoyment of them, conservation is to be predominant." *Id.*

⁷⁵ *Greater Yellowstone Coal.*, 577 F. Supp. 2d at 193. Discussing the NPS's statutory obligations, the district court stated:

[W]hile NPS has the discretion to balance the sometimes conflicting policies of resource conservation and visitor enjoyment in determining what activities should be permitted or prohibited . . . that discretion is bounded by the terms of the Organic Act itself. NPS cannot circumvent this limitation through conclusory declarations that certain adverse impacts are acceptable, without explaining why those impacts are necessary and appropriate to fulfill the purposes of the park.

Id. (internal quotation marks omitted) (citations omitted).

⁷⁶ *See id.*

⁷⁷ *See id.*

⁷⁸ National Environmental Policy Act of 1969 § 102, 42 U.S.C. § 4332 (2012).

impact statement must include an analysis of alternatives to the proposed action and also meet other requirements.⁷⁹ Absent identification and consideration of alternatives, the agency's proposed action will fail to comply with NEPA's explicit requirements, and may be halted by a court.⁸⁰

C. The Clean Air Act

The Clean Air Act ("CAA") was enacted to achieve the prevention and control of air pollution that threatens public health and the welfare of the nation's population.⁸¹ The mechanism set in place by the CAA for achieving these goals combines federal oversight and enforcement with localized state planning and implementation.⁸² It begins with the federal government's establishment of National Ambient Air Quality Standards ("NAAQS") for six criteria pollutants: sulfur dioxide, particulate matter, nitrogen dioxide, carbon monoxide, ozone, and lead.⁸³ The CAA then goes on to delegate to the states the responsibility of designing plans to achieve NAAQS within each state.⁸⁴

The CAA's initial framework failed to address the issue of pollution in attainment areas—areas where air quality was already at or below the NAAQS.⁸⁵ The 1977 amendments included the establishment of the Prevention of Significant Deterioration program (the "PSD program"), codified at 42 U.S.C. §§ 7470–7492.⁸⁶ The explicit purpose of the PSD program is to prevent harm from air pollution, notwithstanding attainment.⁸⁷ Under these

⁷⁹ See *id.* § 4332(2)(C)(iii).

⁸⁰ See *id.* § 4332; *Int'l Snowmobile Mfrs. v. Norton*, 340 F. Supp. 2d 1249, 1266 (D. Wyo. 2004); *Fund for Animals v. Norton*, 294 F. Supp. 2d 92, 111 (D.D.C. 2003).

⁸¹ See 42 U.S.C. § 7401(b)–(c).

⁸² See *id.* §§ 7409–7410.

⁸³ See JAMES E. MCCARTHY, CLEAN AIR ACT: A SUMMARY OF THE ACT AND ITS MAJOR REQUIREMENTS, at CRS-3 (2005), <http://fpc.state.gov/documents/organization/47810.pdf> [perma.cc/277V-PJH5]; see also 42 U.S.C. §§ 7409–7410.

⁸⁴ See 42 U.S.C. § 7410(a)(1).

⁸⁵ See ZYGMUNT PLATER ET AL., ENVIRONMENTAL LAW AND POLICY: NATURE, LAW, AND SOCIETY 468 (2010).

⁸⁶ See 42 U.S.C. §§ 7470–7492.

⁸⁷ See *id.* § 7470(1). The purpose of this provision is:

(1) to protect public health and welfare from any actual or potential adverse effect which in the Administrator's judgment may reasonably be anticipate[d] to occur from air pollution or from exposures to pollutants in other media, which pollutants originate as emissions to the ambient air) [sic], notwithstanding attainment and maintenance of all national ambient air quality standards

provisions of the CAA, national parks are designated as “class 1,”⁸⁸ which requires the strictest of emissions standards.⁸⁹

Although the PSD program was established to protect attainment areas from harmful emissions, it does so only in a limited capacity, through regulating the construction of “major emitting facilities.”⁹⁰ Therefore, this portion of the CAA only applies to a certain category of emitters.⁹¹ Clause (a) of 42 U.S.C. § 7475 explicitly prohibits the construction of major emitting facilities in any of the three classified air sheds,⁹² unless a permit has been issued and the operator complies with a list of enumerated requirements, including the emissions standards identified in § 7473.⁹³ The definition of “major emitting facility” is limited to “stationary sources” of air pollutants.⁹⁴ A national park would not be considered a stationary source of air pollutants within the term “major emitting facility” for purposes of applying the PSD program.⁹⁵

D. Regulation of Oversnow Vehicles and the Early Evolution of Winter Use Policy

Initially, the policy action taken by Yellowstone Superintendent Craig Anderson in the 1970s to address the concerns produced by the increased use of oversnow vehicles was relatively moderate compared to the responses of other national park administrators.⁹⁶ Whereas several parks implemented wholesale bans on the use of oversnow vehicles within park boundaries,⁹⁷ the approach adopted at Yellowstone was to restrict operation of

⁸⁸ *Id.* § 7472(a)(4).

⁸⁹ *See id.* § 7473(b)(1)–(3).

⁹⁰ *See id.* § 7475(a); PLATER ET AL., *supra* note 85, at 472.

⁹¹ *See* 42 U.S.C. § 7475(a).

⁹² An air shed is “a region in which the atmosphere behaves in a coherent way with respect to the dispersion of pollutants; the air supply of a given geographical or administrative region.” *Airshed*, OXFORD DICTIONARIES, http://www.oxforddictionaries.com/us/definition/american_english/airshed [perma.cc/CP3W-QLHJ].

⁹³ 42 U.S.C. § 7475(a)–(a)(8). Section 7475(a)(3) specifies the requirement:

[T]he owner or operator of such facility demonstrates, as required pursuant to section 7410(j) of this title, that emissions from construction or operation of such facility will not cause, or contribute to, air pollution in excess of any (A) maximum allowable increase or maximum allowable concentration for any pollutant in any area to which this part applies more than one time per year, (B) national ambient air quality standard in any air quality control region, or (C) any other applicable emission standard or standard of performance under this chapter.

Id. § 7475(a)(3).

⁹⁴ *Id.* § 7479(1).

⁹⁵ *See id.*

⁹⁶ *See* Yochim, *supra* note 4, at 5–6.

⁹⁷ *Id.* at 6.

snowmobiles and snowcoaches to the snow-covered roads of the park.⁹⁸ At the time, discrepancies between the policies of different national parks were not uncommon, as administrators of individual parks had no binding obligation to follow the policies of their peers.⁹⁹

In contrast to the moderately restrictive policies implemented in Yellowstone during the early 1970s, the later 1970s and early 1980s saw an expansion of oversnow vehicle use.¹⁰⁰ To mitigate the impact of expanded winter use, administrators increased maintenance of the park's snow-covered roads.¹⁰¹

In 1983, the first formal "Winter Use Plan" was commissioned by the Superintendent of Yellowstone, and was followed by the "Winter Use Management Guidelines, Inventory & Needs" in 1989 and the NPS's "Winter Use Plan Environmental Assessment" in 1990.¹⁰² The Winter Use Plan, which sought to formalize on paper an approach to deal with the concerns incident to oversnow vehicle use within the park, arguably failed to meet its goal.¹⁰³ Despite failing to adequately address environmental concerns, the Winter Use Plan continued to guide Yellowstone's winter policy into the 1990s.¹⁰⁴

1. NPS Oversight and Active Involvement

Although the enforcement of winter policy at Yellowstone was previously exercised primarily by individual park administrators acting independently of the administrators of other parks, in more recent decades the NPS has demonstrated a more proactive role in enforcing Yellowstone policy.¹⁰⁵ This was likely the product of the 1970 amendments to the Organic Act of 1916, which established "that the national park system was a unified system, with relevant park system laws and regulations applied consistently throughout the entire system regardless of whether a park is designated as a national park, monument, recreation area, seashore, or lakeshore."¹⁰⁶ Con-

⁹⁸ *Id.* at 5.

⁹⁹ *Id.* at 6. This period stands in contrast to the period between the 1990s and present where "park managers have not only a suite of national environmental laws but also extensive policy direction from the [National Park Service] itself to follow and use." *Id.* at 8.

¹⁰⁰ *See id.* at 6–7.

¹⁰¹ *See id.* at 6.

¹⁰² *Id.* at 7.

¹⁰³ *See id.*

¹⁰⁴ *Id.*

¹⁰⁵ *See* Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. 63,069, 63,069 (Oct. 23, 2013) (codified at 36 C.F.R. pt. 7); Yoachim, *supra* note 4, at 8.

¹⁰⁶ *See* M. Steven O'Neill, Comment, *The Appropriate Use and Enjoyment of National Parks: Personal Watercraft and the Organic Act of 1916's "Enjoyment" Mandate*, 21 TEMP. POL. & C.R. L. REV. 245, 252 (2011) (discussing the Organic Act of 1916's dual mandates for conservation

sistent with these amendments, the NPS enacted a “default rule” in 1974 prohibiting the use of snowmobiles—except for use on specifically designated routes—in all national parks.¹⁰⁷

Throughout the first decade of the twenty-first century, the NPS has promulgated numerous rules seeking to manage winter use in Yellowstone.¹⁰⁸ These rules have been successfully and unsuccessfully challenged in the United States District Courts for the District of Wyoming and the District of Columbia.¹⁰⁹ These challenges arose following the promulgation of an NPS rule governing winter use in Yellowstone in 2001 (the “2001 rule”).¹¹⁰ This 2001 rule permitted snowmobile use on designated routes to continue, but sought to effectuate a complete phase-out of snowmobiles in the park after the 2003–2004 winter season.¹¹¹ Challenges to the 2001 rule’s restrictiveness brought by snowmobile proponents in the United States District Court for the District of Wyoming resulted in settlement and the promulgation of a new NPS rule in 2003 (the “2003 rule”).¹¹²

In contrast to the phase-out approach embraced by the 2001 rule, the 2003 rule allowed up to 950 snowmobiles per day.¹¹³ In *Fund for Animals v. Norton*, decided by the United States District Court for the District of Columbia in 2003, environmental groups challenged the 2003 rule.¹¹⁴ Because the NPS failed to explain the reasons for, or offer evidence in support of, its seemingly contradictory course, the court knocked down the NPS’s promulgation of the 2003 rule as violating NEPA’s mandate that the NPS identify and consider impacts of the proposed action and alternatives.¹¹⁵ Accordingly, the court ordered the reinstatement of the 2001 rule.¹¹⁶

and enjoyment in the wake of a perceived shift from NPS policies that favor conservation to those that favor enjoyment).

¹⁰⁷ *Wyoming v. U.S. Dep’t of Interior*, 587 F.3d 1245, 1248 (10th Cir. 2009) (citations omitted) (finding moot an appeal by winter use proponents who challenged an interim order that restricted the number of snowmobiles per day in the park to 720). This rule has been referred to as the “closed unless opened” rule. *Id.* Because the NPS originally designated routes for snowmobiles in Yellowstone, the volume of their use was not limited until 2001, when a rule was promulgated that sought to eliminate snowmobiles entirely from parks by the 2004–2005 winter. *Id.*

¹⁰⁸ NAT’L PARK SERV., *supra* note 15.

¹⁰⁹ *Wyoming*, 587 F.3d at 1248–50.

¹¹⁰ *Id.* at 1248. The unrestrictive winter use policy, prior to the implementation of the 2001 rule, yielded a challenge in the United States District Court for the District of Columbia by snowmobile opponents. *See id.* The case resulted in a settlement; therefore, no decision was reached on the merits. *See id.*

¹¹¹ Special Regulations, Areas of the National Park System, 66 Fed. Reg. 7260, 7265 (Jan. 22, 2001) (codified at 36 C.F.R. pt. 7); *see Wyoming*, 587 F.3d at 1248.

¹¹² *Wyoming*, 587 F.3d at 1248.

¹¹³ Special Regulations; Areas of the National Park System, 68 Fed. Reg. 69,268, 69,284 (Dec. 11, 2003) (codified at 36 C.F.R. pt. 7); *see Wyoming*, 587 F.3d at 1248.

¹¹⁴ *Fund for Animals v. Norton*, 294 F. Supp. 2d 92, 96–97, 105 (D.D.C. 2003).

¹¹⁵ *See id.* at 110–11.

¹¹⁶ *Id.* at 115.

Reinstatement of the 2001 rule, which would have eliminated snowmobiles in the park by the 2004–2005 winter season, provoked snowmobile proponents to revive their earlier challenge to that rule.¹¹⁷ In 2004, the United States District Court for the District of Wyoming sided with the snowmobile proponents, invalidating the 2001 rule.¹¹⁸ In that case, *International Snowmobile Manufacturers v. Norton*, the court found that the NPS failed to consider alternatives to the phase-out method.¹¹⁹ Accordingly, the NPS's promulgation of the 2001 rule restricting snowmobile use violated NEPA's explicit requirement that an agency whose action is likely to adversely impact the environment identify alternatives.¹²⁰

In 2004, the NPS promulgated another rule (the "2004 rule"), which favored conservation much more than the 2003 rule.¹²¹ This rule reduced the number of snowmobiles allowed per day from 950 (proposed by the 2003 rule) to 720; and, because all route designations would expire after the 2006–2007 winter season, snowmobile use after that date would be prohibited absent further NPS regulation allowing for winter use.¹²² This 2004 rule survived challenges from snowmobile opponents in the District of Columbia and snowmobile proponents in Wyoming District Court.¹²³

The NPS's promulgation of a rule in 2007 (the "2007 rule") allowing for 540 snowmobiles per day in Yellowstone resulted in multiple challenges.¹²⁴ In 2008, the United States District Court for the District of Columbia decided *Greater Yellowstone Coalition v. Kempthorne*.¹²⁵ The court sided again with environmental groups.¹²⁶ Reasoning that the NPS Organic Act imposed a conservation mandate on the NPS, the court concluded that the NPS violated that provision by failing to provide evidence to support its decision to treat

¹¹⁷ *Int'l Snowmobile Mfrs. Ass'n v. Norton*, 340 F. Supp. 2d 1249, 1256 (D. Wyo. 2004). The earlier challenge ended in settlement. See *supra* note 112 and accompanying text.

¹¹⁸ *Int'l Snowmobile Mfrs.*, 340 F. Supp. 2d at 1259, 1264.

¹¹⁹ *Id.* at 1259.

¹²⁰ *Id.* at 1264.

¹²¹ See *Wyoming v. U.S. Dep't of Interior*, 587 F.3d 1245, 1248 (10th Cir. 2009).

¹²² See *Special Regulations; Areas of the National Park System*, 69 Fed. Reg. 65,348, 65,348–49 (Nov. 10, 2004) (codified at 36 C.F.R. pt. 7); *Wyoming*, 587 F.3d at 1248.

¹²³ *Wyoming*, 587 F.3d at 1248; see *Wyo. Lodging & Rest. Ass'n v. U.S. Dep't of Interior*, 398 F. Supp. 2d 1197, 1220–22 (D. Wyo. 2005) (rejecting a challenge to the 2004 rule brought by snowmobile proponents under NEPA and the Administrative Procedures Act); *Fund for Animals v. Norton*, 390 F. Supp. 2d 12, 15 (D.D.C. 2005) (rejecting environmental organizations' challenge to 2004 rule).

¹²⁴ *Special Regulations; Areas of the National Park Service*, 72 Fed. Reg. 70,781, 70,798 (Dec. 13, 2007) (codified at 36 C.F.R. pt. 7); see *Wyoming*, 587 F.3d at 1249; see also *Greater Yellowstone Coal. v. Kempthorne*, 577 F. Supp. 2d 183, 193–95 (D.D.C. 2008) (invalidating the 2007 rule).

¹²⁵ *Greater Yellowstone Coal.*, 577 F. Supp. 2d at 191–93, 195.

¹²⁶ *Id.* at 186, 195.

the impacts of such oversnow vehicle use (i.e., up to 540 snowmobiles each day) as acceptable.¹²⁷

At the time this decision was reached in the District of Columbia, an action brought by snowmobile proponents to challenge the 2007 rule was pending in the Wyoming District Court.¹²⁸ As a result of the D.C. District Court's invalidation of the 2007 rule in *Greater Yellowstone Coalition*, the Wyoming District Court issued a temporary order authorizing up to 720 snowmobiles per day in Yellowstone.¹²⁹ Snowmobile proponents appealed that order in the United States Court of Appeals for the Tenth Circuit, arguing that the order was still too prohibitive.¹³⁰ The Tenth Circuit, however, never reached the merits of the snowmobile proponents' claims.¹³¹ While the appeal was pending, the NPS promulgated an interim rule in 2009 (the "2009 rule"), rendering the appeal moot.¹³²

The 2009 rule restricted use by limiting the number of snowmobiles to 318 per day.¹³³ Furthermore, the 2009 rule was only effective through the 2010–2011 winter season, effectively eliminating oversnow vehicle use thereafter, absent subsequent authorizing regulation from the NPS.¹³⁴ In 2010, the Wyoming District Court dismissed a challenge to the 2009 rule brought by the state of Wyoming and snowmobile proponents who alleged that the 2009 rule was arbitrary and capricious under the Administrative Procedure Act.¹³⁵ Without invalidating the 2009 rule, the district court dismissed the case for lack of subject matter jurisdiction, which was affirmed on appeal.¹³⁶ Despite these challenges, the 2009 rule was reinstated for the 2011–2012 winter and extended through the 2012–2013 season.¹³⁷

2. Alternatives Reviewed

Just prior to the promulgation of the NPS's most recent final rule, the agency issued a final "Winter Use Plan/Supplemental Environmental Im-

¹²⁷ *Id.* at 193, 195.

¹²⁸ *Wyoming*, 587 F.3d at 1249–50.

¹²⁹ *Id.* at 1247.

¹³⁰ *Id.* at 1250.

¹³¹ *Id.* at 1247.

¹³² *Id.* at 1252.

¹³³ Special Regulations; Areas of the National Park System, 74 Fed. Reg. 60,159, 60,160 (Nov. 20, 2009) (codified at 36 C.F.R. pt. 7).

¹³⁴ *See id.*

¹³⁵ *Bd. of Cty. Comm'rs of Cty. of Park v. U.S. Dep't of Interior*, Nos. 09-CV-262J, 09-CV-272J, 2010 WL 6429153, at *5, *18 (D. Wyo. Sept. 17, 2010), *aff'd in part, rev'd in part sub nom. Wyoming v. U.S. Dep't of Interior*, 674 F.3d 1220 (10th Cir. 2012).

¹³⁶ *Bd. of Cty. Comm'rs of Cty. of Park*, at *18.

¹³⁷ NAT'L PARK SERV., *supra* note 15, at i–ii.

pact Statement” in February of 2013.¹³⁸ This plan “analyzes a range of alternatives for the management of winter use at Yellowstone National Park.”¹³⁹ Specifically, four primary alternatives are discussed.¹⁴⁰

The first of the four alternatives was a no-action alternative.¹⁴¹ This alternative would prohibit public oversnow vehicle use in Yellowstone.¹⁴² Basically, it would be an absolute ban on the use of snowmobiles and snowcoaches.¹⁴³ The second alternative would manage use of oversnow vehicles instead of prohibiting it.¹⁴⁴ It would do so by setting fixed daily limits for oversnow vehicle use at 318 commercially guided snowmobiles and seventy-eight snowcoaches.¹⁴⁵ The third alternative would maintain these same limits initially, but would incorporate greater restrictions over a three-year transition period by gradually eliminating the use of snowmobiles.¹⁴⁶ Unlike any of the other analyzed alternatives or preceding winter use management policies, the fourth alternative proposed to manage oversnow vehicle use by limiting units called “transportation events.”¹⁴⁷ In October 2013, this alternative was chosen to be implemented by the final rule.¹⁴⁸

3. The Chosen Plan

Finding that managed motorized winter use is an appropriate activity in Yellowstone, the NPS promulgated the final rule on managing winter use on October 23, 2013.¹⁴⁹ This rule authorizes the use of oversnow vehicles in the park, but it manages such use within a novel and flexible management framework.¹⁵⁰ In utilizing this framework, the NPS seeks to “strike[] a com-

¹³⁸ Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. 63,069, 63,069–70 (Oct. 23, 2013) (codified at 36 C.F.R. pt. 7). *See generally* NAT’L PARK SERV., *supra* note 15 (providing in-depth review of four possible approaches to winter use management in Yellowstone and their environmental effects).

¹³⁹ NAT’L PARK SERV., *supra* note 15, at i.

¹⁴⁰ *Id.*

¹⁴¹ *See id.* at vii.

¹⁴² Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,070.

¹⁴³ *See id.*

¹⁴⁴ *See id.*; NAT’L PARK SERV., *supra* note 15, at ix.

¹⁴⁵ NAT’L PARK SERV., *supra* note 15, at ix. These were the same limits implemented in the 2009 interim rule. *Id.*

¹⁴⁶ *Id.* Upon elimination of snowmobiles, snowcoach allowances would increase to 120 per day. Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,070.

¹⁴⁷ Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,070.

¹⁴⁸ *Id.*

¹⁴⁹ *See id.* at 63,069–70.

¹⁵⁰ *See id.* at 63,069.

mon-sense balance between allowing adequate access and protecting park resources.”¹⁵¹

The final rule adopts a phased approach that will be implemented over the course of four winter seasons.¹⁵² Several key management components make up this final rule.¹⁵³ The first of these important elements—and a major difference from previous winter use management policies—is the management of oversnow vehicle use by limiting transportation events, as opposed to restricting the overall number of vehicles.¹⁵⁴ Generally, the final rule allows for 110 transportation events per day, no more than fifty of which may consist of snowmobiles.¹⁵⁵

The final rule also imposes air and sound emissions standards that are more stringent than previous policies.¹⁵⁶ Furthermore, the rule retains the requirement that all snowmobile trips be guided.¹⁵⁷

III. MANAGED USE OF OVERSNOW VEHICLES UNDER THE 2013 FINAL RULE

Rather than attempting to re-implement questionable oversnow vehicle policies of the past, the National Park Service (“NPS”) chose to incorporate effective aspects of the previous policies into an innovative and novel framework aimed at flexibility and long-term benefit for both the environment and winter tourism at Yellowstone National Park (“Yellowstone”).¹⁵⁸ The “Yellowstone National Park: Winter Use Plan/Supplemental Environmental Impact Statement” (the “Winter Use Plan” or the “Yellowstone Winter Use Plan”) evidences the NPS’s willingness to conduct an informed analysis of the effectiveness of past approaches and those yet to be tested.¹⁵⁹ Of the four main alternatives discussed in that report, three imitated approaches of the past that were either knocked down in court or proved insuffi-

¹⁵¹ *Id.*

¹⁵² *Id.* at 6,3071.

¹⁵³ *See id.* at 63,069.

¹⁵⁴ *Id.* at 63,070. Section 7.13 of Title 36 of the Code of Federal Regulations defines a “snowcoach transportation event” as a “snowcoach that does not meet enhanced emission standards traveling in Yellowstone National Park on any given day, or two snowcoaches that both meet enhanced emission standards traveling together in Yellowstone National Park on any given day.” 36 C.F.R. § 7.13 (2015). A “snowmobile transportation event” is defined as “a group of 10 or fewer commercially guided snowmobiles traveling together in Yellowstone National Park on any given day or a non-commercially guided group, which is defined separately” *Id.*

¹⁵⁵ Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,070.

¹⁵⁶ *Id.* at 63,071.

¹⁵⁷ *Id.*

¹⁵⁸ *See id.*; NAT’L PARK SERV., *supra* note 15, at iii (stating objectives for management of winter use at Yellowstone).

¹⁵⁹ *See* NAT’L PARK SERV., *supra* note 15, at i, ix–xi.

cient.¹⁶⁰ In addition to articulating new noise and emissions standards, the fourth alternative utilized a mechanism for managed use of oversnow vehicles not previously explored—the transportation event.¹⁶¹ Designed around this new unit used to manage oversnow vehicle use, the final rule promulgated in 2013 (the “2013 final rule” or the “final rule”) implements the fourth alternative identified in the Winter Use Plan over a four-year period.¹⁶²

A. The Transportation Event as a Management Tool

A transportation event, as defined under the 2013 final rule, is essentially a unit comprised of either a group of snowmobiles or a single snowcoach.¹⁶³ More specifically, a snowmobile transportation event is a group of no more than ten commercially operated snowmobiles.¹⁶⁴ The NPS utilizes the transportation event unit to manage oversnow vehicle use in several ways.¹⁶⁵

First, the NPS gives “transportation events” a restrictive definition.¹⁶⁶ A transportation event is not just a group of any number of snowmobiles or a group of multiple snowcoaches.¹⁶⁷ Rather, a snowmobile transportation event is a group of no more than ten snowmobiles, and a single snowcoach makes up a snowcoach transportation event.¹⁶⁸ This limited definition provides the foundation for the regulatory mechanism implemented by the 2013 final rule.¹⁶⁹

Second, the NPS creates a maximum limit on the overall number of transportation events allowed to occur in the park each day during the winter season.¹⁷⁰ The final rule caps transportation events at 110 per day, no more than fifty of which may be snowmobile transportation events.¹⁷¹

¹⁶⁰ See *id.*; see also Special Regulations; Areas of the National Park System, 74 Fed. Reg. 60,159, 60,160 (Nov. 20, 2009) (codified at 36 C.F.R. pt. 7) (setting a fixed daily cap of 318 snowmobiles); Special Regulations, Areas of the National Park System, 66 Fed. Reg. 7260, 7265 (Jan. 22, 2001) (codified at 36 C.F.R. pt. 7) (phasing out use of snowmobiles).

¹⁶¹ See Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,069; NAT’L PARK SERV., *supra* note 15, at ix–xi.

¹⁶² Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,069.

¹⁶³ See *id.* at 63,090–91.

¹⁶⁴ *Id.*

¹⁶⁵ See *id.* at 63,069–70.

¹⁶⁶ See 36 C.F.R. § 7.13 (2015).

¹⁶⁷ See *id.*

¹⁶⁸ *Id.*

¹⁶⁹ See *id.*

¹⁷⁰ See Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,091.

¹⁷¹ *Id.*

Third, the final rule also imposes an average seasonal limitation on the number of snowmobiles that make up a snowmobile transportation event.¹⁷² Specifically, “Snowmobile transportation events conducted by a commercial tour operator may not exceed an average of [seven] snowmobiles, averaged over the winter season.”¹⁷³ Because a snowcoach transportation event is defined as a single snowcoach, an average seasonal limitation would be redundant.¹⁷⁴

There are, nonetheless, exceptions to the above-referenced limitations, and perhaps it is through these exceptions that the ingenuity and flexibility of the final rule really shines.¹⁷⁵ If commercial operators voluntarily choose to use vehicles—both snowmobiles and snowcoaches—that meet certain enhanced noise and air emission standards, snowmobiles may increase from a seasonal average of seven to eight, while the maximum number of snowcoaches that make up a snowcoach transportation event may increase from a single snowcoach to two.¹⁷⁶ When a commercial operator uses a snowcoach that meets enhanced emission standards, the seasonal average must then be limited to one and a half snowcoaches.¹⁷⁷

The NPS’s use of transportation events to manage the operation of oversnow vehicles within Yellowstone is somewhat more complicated than the park policies of the past.¹⁷⁸ The policies of the past generally resulted in bans on oversnow vehicle use and fixed limits on the number of operating vehicles.¹⁷⁹

Similarly, each of the other alternatives contemplated in the Yellowstone Winter Use Plan were structurally more straightforward.¹⁸⁰ Those alternatives would have either resulted in an outright ban on oversnow vehi-

¹⁷² *See id.*

¹⁷³ *Id.* Although the final rule defines a transportation event as having a ten-snowmobile limit, the additional seasonal average limitation ensures that tour operators do not reach that cap every day. *See id.*

¹⁷⁴ *Id.*

¹⁷⁵ *See id.* at 63,070, 63,091.

¹⁷⁶ *Id.* at 63,069. The maximum number of snowmobiles that may make up a transportation event remains fixed at ten, despite a commercial operator’s voluntary decision to use snowmobiles with enhanced emission standards. *See id.* at 63,090.

¹⁷⁷ *Id.* at 63,091.

¹⁷⁸ *See id.* at 63,069; Yochim, *supra* note 4, at 8; *see also* Special Regulations; Areas of the National Park System, 74 Fed. Reg. 60,159, 60,160 (Nov. 20, 2009) (codified at 36 C.F.R. pt. 7) (setting a fixed daily cap of 318 snowmobiles); Special Regulations, Areas of the National Park System, 66 Fed. Reg. 7260, 7265 (Jan. 22, 2001) (codified at 36 C.F.R. pt. 7) (phasing out use of snowmobiles).

¹⁷⁹ Yochim, *supra* note 4, at 6; *see* Special Regulations; Areas of the National Park System, 74 Fed. Reg. at 60,160; Special Regulations, Areas of the National Park System, 66 Fed. Reg. at 7265.

¹⁸⁰ *See* NAT’L PARK SERV., *supra* note 15, at vii, ix.

cle use,¹⁸¹ or in fixed limits on the number of snowmobiles and snowcoaches allowed to operate in the park each day.¹⁸² Although the second and third action alternatives start off in the same place—with the same fixed cap on the daily number of snowmobiles and the same fixed cap on the number of snowcoaches—the third alternative differed in that it reduced the daily cap number over the course of several seasons.¹⁸³ According to the third action alternative, in fact, snowmobiles would have been completely phased out of Yellowstone by the 2020–2021 winter season.¹⁸⁴

B. Air and Noise Standards

1. Snowmobiles

The main air pollutants emitted by oversnow vehicles are carbon monoxide, hydrocarbons, and particulate matter.¹⁸⁵ While retaining during the 2014–2015 season the air emission standards for snowmobiles originally implemented by the NPS in 2004, the 2013 final rule enhanced these standards for the 2015–2016 winter season.¹⁸⁶ The standards for snowmobiles in 2004 “called for emission levels no greater than 120 grams per kilowatt hour of [carbon monoxide] and 15 [grams per kilowatt hour] for hydrocarbons.”¹⁸⁷ The enhanced standards under the final rule continue to limit hydrocarbon emissions to fifteen grams per kilowatt hour for the 2015–2016 season, but they increase the limitation on carbon monoxide from 120 grams per kilowatt hour to ninety grams per kilowatt hour.¹⁸⁸ Operation of a snowmobile within Yellowstone subjects the operator to periodic and unannounced inspections to measure emissions.¹⁸⁹

Although a significant problem in the past, when the average number of oversnow vehicles operating within Yellowstone during a winter season was close to 800 per day, particulate matter emissions are not limited under the final rule.¹⁹⁰ According to the NPS, “[M]onitoring [particulate matter emissions] over the past several winter seasons has indicated that [particulate matter] levels are extremely low and therefore not concerning at this

¹⁸¹ *Id.* at vii.

¹⁸² *Id.* at ix.

¹⁸³ *See id.*

¹⁸⁴ *Id.*

¹⁸⁵ Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. 63,069, 63,072 (Oct. 23, 2013) (codified at 36 C.F.R. pt. 7).

¹⁸⁶ *Id.*

¹⁸⁷ *Id.*

¹⁸⁸ *Id.*

¹⁸⁹ *Id.* at 63,073.

¹⁹⁰ *See id.* at 63,072.

time.”¹⁹¹ Because of the effectiveness of previous regulations on particulate matter levels, the NPS felt comfortable not imposing restrictions on such emissions in the final rule.¹⁹²

As for noise emission standards, snowmobiles were permitted to operate at or below seventy-three decibels while at full throttle during the 2014–2015 winter season.¹⁹³ Thereafter, allowable noise emissions for snowmobiles dropped from seventy-three to sixty-seven decibels.¹⁹⁴ Additionally, beginning in 2015, the testing procedure for measuring snowmobile noise emissions also changed.¹⁹⁵ Instead of calculating the noise output of a snowmobile operating at full throttle, noise emissions are now measured while the snowmobile is operating at cruising speed.¹⁹⁶ Because snowmobiles only operate within the park at full throttle on rare occasions, the NPS concluded that calculating the noise emissions output of a snowmobile operating at cruising speed is more representative of actual operational conditions, and therefore a more relevant and accurate testing procedure.¹⁹⁷

2. Snowcoaches

Air emission standards under the NPS’s 2013 final rule apply both to purpose-built snowcoaches and snowcoaches that have been converted from other types of vehicles.¹⁹⁸ In setting the standards, the final rule distinguishes between diesel-fueled and gasoline-fueled snowcoaches and among vehicles based upon their individual weights.¹⁹⁹ Lighter diesel-fueled snowcoaches must meet emission standards equivalent to those set by the U.S. Environmental Protection Agency (EPA) for certain 2010 engine models, while heavier diesel-fueled snowcoaches must meet more stringent standards equivalent to those established by EPA for other 2010 engine models.²⁰⁰ Lighter gasoline-fueled snowcoaches, however, must meet emissions standards equivalent to standards set by EPA for certain 2007 engine models, while heavier gasoline-fueled snowcoaches must meet standards that mimic those imposed by EPA on certain 2008 engine models.²⁰¹ Implicit in these requirements is the recognition that gasoline-fueled vehicles do less

¹⁹¹ *Id.*

¹⁹² *See id.*

¹⁹³ *Id.* at 63,073.

¹⁹⁴ *Id.*

¹⁹⁵ *See id.* at 63,073–74.

¹⁹⁶ *Id.* at 63,074.

¹⁹⁷ *See id.*

¹⁹⁸ *Id.* at 63,073.

¹⁹⁹ *See id.*

²⁰⁰ *Id.*

²⁰¹ *Id.*

damage to the air than diesel-fueled vehicles.²⁰² The rule flatly prohibits the operation of snowcoaches that have had their original pollution control equipment modified or disabled.²⁰³ Recognizing that implementation of these stricter standards will result in the decommissioning of existing snowcoaches, the NPS concluded that meeting these standards “can be accomplished through the typical turnover of snowcoach fleets.”²⁰⁴ Furthermore, investigation has informed the NPS that the technology necessary for achieving these standards is available and some snowcoaches operating in the current fleet already meet them.²⁰⁵

With respect to sound standards, the NPS has limited the average decibel output of snowcoaches to seventy-five decibels.²⁰⁶ This output is measured when the snowcoach is traveling at twenty-five miles per hour.²⁰⁷

C. Phases of Implementation of the 2013 Final Rule

As opposed to requiring all of the aspects of the 2013 final rule to be implemented in the 2013–2014 winter season, the final rule adopts a phased approach that is to take place over the course of several winter seasons.²⁰⁸

1. Phase I

This gradual approach to managing oversnow vehicle use in Yellowstone began with a transitional preparatory phase that lasted for the duration of the 2013–2014 winter season.²⁰⁹ During this initial phase, operation of oversnow vehicles was not yet managed according to transportation events.²¹⁰ Furthermore, noise and air emission standards remained at their pre-final rule levels.²¹¹

²⁰² *See id.*

²⁰³ *Id.* “Operating a snowcoach that has its original pollution control equipment modified or disabled is prohibited.” *Id.*

²⁰⁴ *Id.*

²⁰⁵ *Id.*

²⁰⁶ *Id.* at 63,074.

²⁰⁷ *Id.* For snowcoaches that have a maximum cruising speed of less than twenty-five miles per hour, their decibel outputs are evaluated at their respective maximum cruising speeds. *Id.*

²⁰⁸ *See id.* at 63,071; NAT’L PARK SERV., *supra* note 15, at x. “The new management paradigm under the final rule will be phased in over four winter seasons to provide the park and commercial tour operators sufficient time to adjust to the new emission requirements and the management of [oversnow vehicles] by transportation events.” Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,071.

²⁰⁹ Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,071.

²¹⁰ *See id.*

²¹¹ *See id.*

2. Phase II

The second phase was comprised of two winter seasons: 2014–2015 and 2015–2016.²¹² It is during this phase that management of oversnow vehicle use by the “transportation event” parameter began.²¹³ Transportation events are allocated to commercial operators according to the definitions and limitations referenced above.²¹⁴ Although transportation events can be traded amongst commercial operators, the total number of transportation events allowed in the park each day is capped at 110, and no more than fifty of those events may be comprised of snowmobiles.²¹⁵

Although snowcoaches already in operation by the beginning of 2014–2015 winter season were not subject to the mandatory enhanced sound and air emission standards during that season, “Sound and air emission requirements [applied] to all new snowcoaches brought into service starting in the 2014–2015 winter season.”²¹⁶ Snowmobiles were not required to meet the enhanced noise and air emission standards implemented by the final rule until the 2015–2016 winter season.²¹⁷ As mentioned above, commercial operators of snowmobiles and snowcoaches who voluntarily choose to comply with the enhanced emission standards benefit from relaxed transportation event limitations.²¹⁸

3. Phase III

Finally, the third phase will begin during the 2016–2017 winter season.²¹⁹ The thrust point of this phase is that all oversnow vehicles legally operating in the park, regardless of whether or not they were in operation prior to the issuance of the 2013 final rule, must meet the enhanced sound and air emission standards.²²⁰

D. Transportation Event Guide Requirement

All transportation events must be guided.²²¹ The 2004 regulations first required that snowmobile and snowcoach tours be guided.²²² The NPS

²¹² *Id.*

²¹³ *Id.*

²¹⁴ *See id.* For example, a snowmobile transportation event may not exceed ten snowmobiles or exceed a seasonal average of seven snowmobiles per transportation event. *See id.*

²¹⁵ *See id.* at 63,071, 63,077.

²¹⁶ *See id.* at 63,071.

²¹⁷ *See id.*

²¹⁸ *See id.*

²¹⁹ *See id.* at 63,072.

²²⁰ *Id.*

²²¹ *Id.* at 63,075.

maintained a slightly modified version of this requirement when it imposed the 2013 final rule to fit within the transportation event framework.²²³ In order “[t]o mitigate impacts to wildlife air quality, natural soundscapes, and visitor and employee safety,” the rule requires that all transportation events be guided.²²⁴ This implies that formally monitoring and organizing users while they operate oversnow vehicles minimizes adverse threats posed by those vehicles to the environment and other users.²²⁵

IV. STRIKING A BALANCE: THE 2013 RULE’S HARMONIZATION OF ACCESS AND CONSERVATION

While implementing one of the four major alternative approaches to managing oversnow vehicle use in Yellowstone National Park (“Yellowstone” or the “park”), the National Park Service (“NPS”) asserted that, through the implementation of its final rule promulgated in 2013 (the “2013 final rule” or the “final rule”), it intends to resolve the tension between allowing adequate access to the park and protecting park resources.²²⁶ The policies outlined in the 2013 final rule, with the exception of minor vulnerabilities, strikes that balance.²²⁷

A. Transportation Events

Rather than place fixed limitations on the overall number of oversnow vehicles allowed to operate in the park, the final rule manages the use of such vehicles by placing variable caps on transportation events.²²⁸ The NPS has explicitly endorsed this innovation because it “gives snowcoach and snowmobile commercial tour operators greater flexibility, allows for higher

²²² Special Regulations; Areas of the National Park System, 69 Fed. Reg. 65,348, 65,348 (Nov. 10, 2004) (codified at 36 C.F.R. pt. 7).

²²³ Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,075. The NPS has clarified the importance of tour guides: “Guides have proven effective at keeping groups under speed limits, staying on the groomed road surfaces, reducing conflicts with wildlife, and ensuring other behaviors that are appropriate for visitors to safely and responsibly visit the park.” *Id.* As a result, vehicular accidents and incidents with law enforcement have both decreased. *Id.*

²²⁴ *Id.*

²²⁵ *See id.*

²²⁶ *See id.* at 63,069.

²²⁷ *See id.*; Shi-Ling Hsu, *What Is a Tragedy of the Commons? Overfishing and the Campaign Spending Problem*, 69 ALB. L. REV. 75, 77 (2005) (constraining resource users may be the only way to protect them from over-exploitation of resources); Allen R. Sanderson, *Incentives, Incentives*, LIBRARY OF ECON. & LIBERTY (Mar. 3, 2008), <http://www.econlib.org/library/Columns/y2008/Sandersonincentives.html#> [perma.cc/8B7V-DCWE] (emphasizing the importance of understanding incentive structures to effectuate positive changes in behavior).

²²⁸ *See* Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,069.

numbers of visitors, and is designed to make the park cleaner and quieter than what has been allowed during the previous four winter seasons.”²²⁹ The final rule’s first aim—flexibility—has been achieved, especially in comparison to a “fixed limit” rule, but only time will tell whether the latter two goals are accomplished.²³⁰

1. The Inflexibility of Setting Fixed Limitations

Setting a maximum limit on the overall number of oversnow vehicles is relatively inflexible for several reasons.²³¹ First, by its own terms, a maximum limit is fixed, and therefore inflexible because it does not waiver.²³² Should visitor demand on a particular day exceed the maximum limitation, commercial operators are left unable to accommodate the larger number of visitors.²³³ This results in both dissatisfied customers, who cannot experience the park, and dissatisfied operators, who consequently incur the opportunity cost of foregone profits that they would have otherwise realized.²³⁴

Furthermore, setting fixed maximum daily limits effectively eliminates commercial operator autonomy because of the incentives structure it creates.²³⁵ Commercial operators are economic agents, producers motivated to maximize profits.²³⁶ Under fixed daily limitations, individual commercial operators are motivated to authorize as many vehicles as possible up to that limit.²³⁷ Operators who do not act in this way forego potential profits—

²²⁹ *Id.* at 63,070.

²³⁰ *See id.* at 63,069.

²³¹ *See* Special Regulations; Areas of the National Park System, 69 Fed. Reg. 65,348, 65,348–49 (Nov. 10, 2004) (codified at 36 C.F.R. pt. 7) (setting maximum limit of 720 snowmobiles per day).

²³² *See id.* at 65,349.

²³³ *See id.*

²³⁴ *See Opportunity Cost*, BUSINESSDICTIONARY.COM, <http://www.businessdictionary.com/definition/opportunity-cost.html> [<https://perma.cc/26HX-92EW>] (defining opportunity cost as a benefit that must be given up to achieve something else). Here, achieving compliance with the final rule is accomplished at the expense of foregoing profits from accommodating additional visitors. *See* Special Regulations; Areas of the National Park System, 69 Fed. Reg. at 65,349.

²³⁵ *See* Hsu, *supra* note 227, at 78–79 (asserting that self-interested economic behavior motivated by perverse incentives may lead to detrimental results in the long-run); Sanderson, *supra* note 227 (arguing that the restructuring of the underlying incentives structure may be the only way to modify behavior); E. Roy Weintraub, *Neoclassical Economics*, CONCISE ENCYCLOPEDIA OF ECON., LIBRARY OF ECON. & LIBERTY, <http://www.econlib.org/library/Enc1/NeoclassicalEconomics.html> [perma.cc/N576-YRQM] (discussing the roles and behavior of various economic agents according to neoclassical economic theory).

²³⁶ *See* Weintraub, *supra* note 235 (noting that producers attempt to maximize profit by increasing production). Commercial operators are producers in the sense that they facilitate visitor access to the park by authorizing oversnow vehicle use. *See id.* Operators’ production is the facilitation of visitation through the authorization of oversnow vehicle tours. *See id.*

²³⁷ *See* Hsu, *supra* note 227, at 100–01 (explaining the tragedy of the commons in the open fishery context, where individuals catch as many fish—a fixed resource—as possible until the indi-

which other operators will usurp—and therefore incur a significant short-term opportunity cost.²³⁸ Accordingly, under rigid fixed daily vehicle limits, commercial operators have little flexibility because, in seeking to realize short-term profits, the only real choice they have is to authorize as many vehicles as possible.²³⁹

Unfortunately, this unbounded self-interested behavior directly results in the over-exploitation of park resources through damage to wildlife, plants, and the aesthetic appeal of the park.²⁴⁰ Such damage diminishes the value and appeal of the park to potential visitors, thereby decreasing the incentive for tourists to visit.²⁴¹ Therefore, fixed limitations facilitate vehicle authorization strategies that not only directly damage park resources and indirectly reduce tourism, but also consequently decrease opportunities for commercial operators to realize profits, because fewer visitors means fewer oversnow vehicle trips.²⁴² Moreover, adverse impacts to the environment compel the NPS to promulgate harsher regulations regarding oversnow vehicle use in the park.²⁴³ Accordingly, the fixed limitations management mechanism is a loss for the environment, visitors, and commercial operators.²⁴⁴

2. Flexibility of Utilizing the Transportation Event Framework

Although the transportation event framework under the 2013 final rule does not eliminate adverse environmental impacts, this flexible approach to managing oversnow vehicle use reduces impacts to a level that resolves the tension between conservation and access.²⁴⁵ To remedy the shortcomings of managing use by fixed daily vehicle limits, the transportation event framework restructures the underlying incentives that motivated commercial op-

vidual fishermen have collectively depleted the resource). Applying that reasoning to oversnow vehicle use, individual commercial operators will authorize as many vehicles as possible until they have reached the maximum allowable under the daily limit. *See id.*; *see also* Garrett Hardin, *The Tragedy of the Commons*, 162 *SCI.* 1243, 1248 (1968) (suggesting that individuals, motivated by short-term self-interest, over-exploit resources to a level that decreases communal wealth in the long-run).

²³⁸ *See Opportunity Cost*, *supra* note 234 (defining opportunity cost).

²³⁹ *See Hsu*, *supra* note 227, at 80–81, 100–01; Weintraub, *supra* note 235.

²⁴⁰ *See Hsu*, *supra* note 227, at 80–81.

²⁴¹ *See id.*

²⁴² *See id.* Short-term self-interest motivates behavioral strategies that reduce communal well-being in the long-run. *Id.*

²⁴³ *See* Organic Act of 1916, 16 U.S.C. § 1 (2012); NAT'L PARK SERV., *supra* note 72, at 10–11. Although the NPS is required to facilitate access, it is nonetheless bound by obligations to protect and conserve park resources, first and foremost. *See* NAT'L PARK SERV., *supra* note 72, at 10–11.

²⁴⁴ *See Hsu*, *supra* note 227, at 80–81.

²⁴⁵ *See* Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. 63,069, 63,069 (Oct. 23, 2013) (codified at 36 C.F.R. pt. 7).

erator behavior in previous seasons.²⁴⁶ It does so through flexibility and increasing, to a degree, operator autonomy.²⁴⁷

In contrast to effectively eliminating choice, the transportation event allows commercial operators to authorize any number of vehicles within a defined range.²⁴⁸ This will provoke operators to engage in thoughtful decision-making, allowing them to factor in demand and other considerations that would have been neglected if the operators were left to blindly authorize as many vehicles as possible.²⁴⁹

3. Finding the Balance Between Incentives to Conserve and Maximize Access

If the transportation event framework consisted only of the defining of a transportation event as a permissible range of vehicles, then the result would be the same as the result under fixed daily vehicle limits: operators would have the incentive to simply authorize the maximum number of vehicles permissible within the allotted range.²⁵⁰ The final rule, however, avoids this result through several additional mechanisms within the transportation event framework: seasonal average limitations, voluntary compliance with enhanced emissions standards, and allowing for the trading of event allocations.²⁵¹ First, seasonal average limitations on transportation event size eliminate the perverse incentive for operators to blindly authorize the maximum number of vehicles permitted within each event.²⁵² In fact,

²⁴⁶ See *id.*; Sanderson, *supra* note 227 (suggesting that, in order to modify behavior, it is important to understand and address the underlying incentives that motivate such behavior).

²⁴⁷ See Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,069; Sanderson, *supra* note 227.

²⁴⁸ See Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,070.

²⁴⁹ See *id.*; Hsu, *supra* note 227, at 80–81 (constraining behavior of economic agents may be the only way to compel them to consider factors other than short-term benefit).

²⁵⁰ See Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,070; Hsu, *supra* note 227, at 78–79, 100–01 (explaining the tragedy of the commons at play in the context of open fisheries). The result would be a tragedy of the commons within another tragedy of the commons: at the first level, operators would authorize oversnow vehicles up to the maximum of the permissible range; and at the second level, operators would authorize as many transportation events as possible within the permissible range. See Hsu, *supra* note 227, at 100–01.

²⁵¹ See Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,070; Sanderson, *supra* note 227 (asserting that restructuring incentives lead to modified behavior).

²⁵² See Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,070; Hsu, *supra* note 227, at 80–81; Sanderson, *supra* note 227. For example, if the number of permissible snowmobiles within a single transportation event is ten, the seasonal average limitation of seven snowmobiles per event prevents operators from authorizing ten snowmobiles for each and every event. See Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,070.

these constraints protect operators from themselves by forcing them to hesitate before authorizing vehicles to consider the long-term effects of each authorization.²⁵³ Hence, the altered incentives structure under the final rule motivates critical thinking and encourages moderate authorizations.²⁵⁴

Additionally, meeting voluntary enhanced emission standards improves the position of operators, visitors, and the park.²⁵⁵ Voluntary compliance results in more lenient transportation event limitations for operators, allowing them to authorize more vehicles, thus facilitating greater access to the park for visitors.²⁵⁶ Despite the slight increase in vehicles, these vehicles are environmentally less adverse and cause less damage and disturbance to park wildlife, resources, and visitors.²⁵⁷ Implicitly, this leads to more satisfied and happier visitors who will subsequently wish to return.²⁵⁸

Furthermore, operators are incentivized to engage in this behavior sooner rather than later.²⁵⁹ The incentive to implement enhanced emission technology—a conservation-oriented incentive—is similar to the incentives underlying technology-forcing legislation.²⁶⁰ Technology-forcing legislation “intend[s] to push the regulated industry to develop new and improved ways of reducing pollution.”²⁶¹ Similarly, the 2013 final rule encourages operators to adopt improved emission technology for oversnow vehicles.²⁶²

Further facilitating the speedy transition to less destructive vehicles is the fact that larger transportation event allocations were only available until the 2015–2016 winter season, when stricter emission standards became

²⁵³ See Hsu, *supra* note 227, at 80–81.

²⁵⁴ See *id.*; Sanderson, *supra* note 227. Under the quantitative limitations in the final rule, no more than an average of 342 snowmobiles (or 388 enhanced snowmobiles) can operate within the park each day. Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,078. This is only slightly more than the daily limit under the final rule promulgated in 2009, which permitted no more than 318 snowmobiles per day. See Special Regulations; Areas of the National Park System, 74 Fed. Reg. 60,159, 60,160 (Nov. 20, 2009) (codified at 36 C.F.R. pt. 7).

²⁵⁵ See Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,070–71.

²⁵⁶ See *id.*

²⁵⁷ See *id.*

²⁵⁸ See *id.*

²⁵⁹ See Sky Stanfield, Note, *The Mobile Source Air Toxics Rule: How Does the Greatest Reduction Become No Reduction?*, 31 *ECOLOGY L.Q.* 563, 573 (2004) (defining technology-forcing legislation, its approach, its purpose, and what it requires); see also Adam Babich, *A New Era in Environmental Law*, 20 *COLO. LAW.* 435, 438 (1991) (arguing against command and control statutes and regulations while discussing incentives structures created—or not created—therein).

²⁶⁰ See Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,070–71; Stanfield, *supra* note 259.

²⁶¹ Stanfield, *supra* note 259.

²⁶² See *id.* Moreover, the NPS has asserted that the enhanced emission control technology is already available. Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,073.

mandatory.²⁶³ Because this added benefit was only available for a limited duration, operators had the incentive to comply sooner rather than later to offset increasing the cost of compliance with revenue from increased transportation event allocations.²⁶⁴

Finally, commercial operators can exchange transportation event allocations under the final rule, and this also helps constrain operators' incentives to blindly authorize as many events as possible.²⁶⁵ By providing operators with alternatives to authorization, the final rule increases operator autonomy while simultaneously compelling operators to consider the long-term consequences of authorization.²⁶⁶ When commercial operators experience increased flexibility through the transportation event framework—a flexibility that remains checked by the additional limiting mechanisms referenced above—their incentives are much more consistent with the conservation obligations of the NPS than the incentives associated with fixed daily vehicle limits.²⁶⁷ The result is a balance between conservation and enjoyment through reductions in adverse environmental impacts and increased access to park resources.²⁶⁸

²⁶³ Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,071; see Stanfield, *supra* note 259, at 580–81. Stanfield explains that setting a deadline for achieving a particular technological innovation is essential for the success of technology-forcing legislation. See Stanfield, *supra* note 259, at 580–81.

²⁶⁴ See Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,071; Stanfield, *supra* note 259, at 578. Stanfield further suggests that the purpose of technology-forcing legislation is to overcome the potentially high costs associated with the regulated industry. Stanfield, *supra* note 259, at 578. Such legislation achieves emissions reductions by creating incentives for industries to develop innovative pollution reduction technologies. *Id.*

²⁶⁵ See Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,070; Hsu, *supra* note 227, at 80–81.

²⁶⁶ See Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,070; Hsu, *supra* note 227, at 80–81. For example, instead of wasting an entire transportation event on authorizing just two snowmobiles on a low-demand day, the operator may consider trading that event to another commercial operator—who faces more demand—which would allow the first operator to facilitate higher demand when his operation is more crowded on a future date. See Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,070. Additionally, accumulating surpluses cannot get out of hand because of the average seasonal limitations on event sizes discussed above. See *id.*

²⁶⁷ See Organic Act of 1916, 16 U.S.C. § 1 (2012); NAT'L PARK SERV., *supra* note 72, at 10–11 (elaborating on the dual obligations of the NPS to conserve park resources and facilitate access to them); see also Hsu, *supra* note 227, at 80–81; Sanderson, *supra* note 227.

²⁶⁸ See 16 U.S.C. § 1; Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,069.

B. Noise and Air Standards

The noise and air standards identified in the final rule appear to be the only aspects of the 2013 final rule where policy problems are identifiably problematic and vulnerable to attack.²⁶⁹ According to the phased approach of the rule, previous air standards are retained for the first two seasons following implementation and are thereafter enhanced for carbon monoxide output.²⁷⁰

1. The Absence of Particulate Matter Limitations

There is one major exception to this framework: emissions limitations for particulate matter—a criteria pollutant under the Clean Air Act (“CAA”) of 1970—are conspicuously absent from the final rule.²⁷¹ The NPS, in fact, explicitly concedes that particulate matter emitted from snowmobiles was a major source of air pollution in the 1990s; however, it justifies its decision not to impose limitations on particulate matter emissions simply by stating that such emissions have significantly declined over the past several years.²⁷²

Although reductions have been realized, absent explicit restrictions, particulate matter emissions may not remain at those low levels.²⁷³ The problem with the incentives created for oversnow vehicle manufacturers is that, to offset the increased costs of designing a snowmobile capable of achieving the enhanced carbon monoxide standards, they may choose to

²⁶⁹ See Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,072; see also *Sierra Club v. Ruckelshaus*, 344 F. Supp. 253, 255 (D.C. Cir. 1972), *aff’d by an equally divided court* *Fri v. Sierra Club*, 412 U.S. 541 (1973); PLATER ET AL., *supra* note 85, at 468.

²⁷⁰ Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,072.

²⁷¹ See *id.*; MCCARTHY, *supra* note 83, at CRS-3 (identifying particulate matter as a criteria pollutant under the CAA).

²⁷² Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,072.

²⁷³ See *id.*; Hsu, *supra* note 227, at 80–81 (emphasizing that constraining conduct of economic agents may be necessary to protect them from themselves); Sanderson, *supra* note 227 (emphasizing the importance of incentives structures in motivating behavior of economic agents). On the contrary, given the regulatory framework put in place by the 2013 final rule, particulate matter emissions may actually increase again as commercial oversnow vehicle operators encourage manufacturers to produce snowmobiles that meet the 2015–2016 carbon monoxide standards in order to reap the benefits of the final rule. See Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,070, 63,072; Sanderson, *supra* note 227. The final rule creates an incentive for operators to put into circulation oversnow vehicles that comply with the enhanced emissions standards so that they can expand their transportation event groups from an average of seven snowmobiles per event to eight and an average of one snowcoach per event to one and a half. See Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,071.

skip the control devices that filter particulate matter.²⁷⁴ The result is a vehicle that may reduce emissions of some regulated pollutants while simultaneously increasing the emissions of other, unregulated pollutants.²⁷⁵

2. Potential Legal Implications

Unfortunately, these shortcomings may leave the final rule vulnerable to legal attack.²⁷⁶ In *Sierra Club v. Ruckelshaus*, plaintiff-environmental organizations sought to enjoin the U.S. Environmental Protection Agency (EPA) from approving certain state implementation plans that might allow pollution levels to rise in areas where the air was relatively clean.²⁷⁷ Because the maintenance of existing clean air is a congressionally articulated goal of the CAA, the United States District Court for the District of Columbia granted a preliminary injunction enjoining EPA from approving portions of state implementation plans that allowed pollution levels in clean air areas to rise.²⁷⁸ Arguing that the NPS's 2013 final rule threatens the maintenance of clean air with respect to particulate matter emissions, a plaintiff with

²⁷⁴ See Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,072; Stanfield, *supra* note 259, at 578 (explaining that offsetting the cost of compliance in the short-term, when benefits may be realized, is a motivation for achieving technological improvements).

²⁷⁵ See Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,072.

²⁷⁶ See *Sierra Club v. Ruckelshaus*, 344 F. Supp. 253, 256 (D.C. Cir. 1972), *aff'd by an equally divided court* *Fri v. Sierra Club*, 412 U.S. 541 (1973) (reviewing environmental organizations' challenge of EPA approval of state implementation plans under the CAA on the policy basis that the plans facilitated degradation of air that was already cleaner than that required by the National Ambient Air Quality standards ("NAAQS") imposed by the CAA); PLATER ET AL., *supra* note 85, at 468. Discussing a critical aspect of the Clean Air Act born out of litigation, Professor Zygmunt Plater of Boston College Law School observed:

In a remarkable decision based on quite cryptic statutory language, a citizen suit in 1972 won a decision that the preamble to the 1970 [Clean Air] Act, which declared that one purpose of the Act was 'to protect and enhance the quality of the Nation's air resources,' prohibited EPA from approving [state implementation plans] in relatively clean areas that would allow such areas to pollute their air to the level of the NAAQS. Thus was born the Prevention of Significant Deterioration (PSD) program.

PLATER ET AL., *supra* note 85, at 468.

²⁷⁷ *Sierra Club*, 344 F. Supp. at 253.

²⁷⁸ *Id.* at 256. With respect to states' obligations under the CAA to maintain the quality of air that is already fairly clean, the court elaborated:

It is our judgment that the [CAA] is based in important part on a policy of non-degradation of existing clean air and the 40 C.F.R. § 51.12(b), in permitting the states to submit plans which allow pollution levels of clean air to rise to the secondary standard level of pollution, is contrary to the legislative policy of the Act and is, therefore, invalid.

standing may be able to challenge the final rule based on the reasoning used by the district court in *Sierra Club*.²⁷⁹

On its face, the Prevention of Significant Deterioration permitting program (the “PSD program”) under the amended CAA might seem like a good basis to challenge the NPS’s latest rule’s withdrawal of particulate matter emissions standards.²⁸⁰ Consistent with the reasoning in *Sierra Club*, the PSD program was “[b]orn of a simple notion—that air quality in pristine areas of the nation should not be degraded to the levels otherwise permitted by national ambient air quality standards.”²⁸¹ Unfortunately, because neither Yellowstone nor the snowmobiles emitting particular matter can seriously be considered “major emitting facilit[ies]” within the meaning of the CAA, the PSD program cannot attach to the emissions of snowmobiles operating within the park.²⁸² Despite similarities between the justifications for maintaining particulate matter emissions and the policies underlying the PSD program, the simple fact is that the PSD program is inapplicable to oversnow vehicle use in Yellowstone.²⁸³

Despite the shortcomings of a challenge based on the CAA’s PSD program, one premised on the District Court for the District of Columbia’s decision in *Greater Yellowstone Coalition v. Norton* might have more success.²⁸⁴ The NPS’s Organic Act contains a conservation mandate requiring the NPS to favor conservation over adverse environmental impact.²⁸⁵ Siding with environmental groups challenging the plan, the court found that the NPS violated its conservation mandate when it failed to provide evidence for its assertion that the adverse environmental impacts of over 500 oversnow vehicles per day were acceptable impacts.²⁸⁶ Applying that same reasoning, environmental groups might be able to challenge the 2013 final

²⁷⁹ See *id.* A court may find that the potential increase in particulate matter emissions under the 2013 final rule threatens to degrade already-clean air in Yellowstone, and is therefore inconsistent with a purpose of the CAA. *Id.*

²⁸⁰ See Clean Air Act, 42 U.S.C. §§ 7470–7492 (2012); John-Mark Stensvaag, *Preventing Significant Deterioration Under the Clean Air Act: New Facility Permit Triggers*, 38 ENVTL. L. REP. NEWS & ANALYSIS 10,003, 10,003–04 (2008) (discussing in detail the framework of the PSD program under the CAA).

²⁸¹ See *Sierra Club*, 344 F. Supp. at 256; Stensvaag, *supra* note 280, at 10,003–04.

²⁸² See Stensvaag, *supra* note 280, at 10,006. The PSD permitting requirements are only triggered by the construction or modification of a “major emitting” facility in an attainment or unclassified area already meeting the NAAQS established under the CAA. *Id.*

²⁸³ See *id.*

²⁸⁴ See *Greater Yellowstone Coal. v. Kempthorne*, 577 F. Supp. 2d 183 (D.D.C. 2008) (invalidating a proposed NPS winter use plan that, without sufficient explanation, allowed over 500 snowmobiles and eighty-three snowcoaches to operate within the park each day, in violation of the NPS Organic Act).

²⁸⁵ See Organic Act of 1916, 16 U.S.C. § 1 (2006); *Greater Yellowstone Coal.*, 577 F. Supp. 2d at 191; NAT’L PARK SERV., *supra* note 72, at 10–11.

²⁸⁶ *Greater Yellowstone Coal.*, 577 F. Supp. 2d at 191–93.

rule by arguing that NPS failed to sufficiently explain and evidence why the quantity of transportation events allocated to Yellowstone's operators under the rule results in an acceptable adverse impact on the environment.²⁸⁷

Additionally, challengers may advance National Environmental Policy Act ("NEPA") claims against the 2013 final rule, alleging that the NPS's "Winter Use Plan" failed to sufficiently identify alternatives that may be less adverse to the environment.²⁸⁸ Despite representing opposing interests, both environmental groups and snowmobile manufacturers have succeeded in challenging NPS rules on this basis.²⁸⁹ That said, in addition to elaborating on the reasoning behind the use of transportation events and heightened emissions standards, the NPS provided an informed analysis that included quantitative and qualitative data with respect to at least three alternatives in the Winter Use Plan.²⁹⁰ A court would likely find that this meets the standards imposed on the NPS by NEPA.²⁹¹

CONCLUSION

The National Park Service's ("NPS") 2013 final rule (the "final rule") adopts a novel and flexible approach to regulating oversnow vehicle use in Yellowstone National Park ("Yellowstone") that strikes the delicate balance between use and protection. It is a moderate policy compared to some of the other approaches to regulating oversnow vehicles that have been implemented in national parks across the country. As opposed to issuing an outright prohibition on oversnow vehicle use or setting fixed limits on the number of such vehicles allowed to operate on a given day, the final rule implements a paced approach spanning four winter seasons that encourages technological innovation and adaptation. Whereas the prohibitive regula-

²⁸⁷ See *id.*

²⁸⁸ See National Environmental Policy Act of 1969 § 102, 42 U.S.C. § 4332 (2012); Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. 63,069, 63,069 (Oct. 23, 2013) (codified at 36 C.F.R. pt. 7); NAT'L PARK SERV., *supra* note 15; see also *Int'l Snowmobile Mfrs. v. Norton*, 340 F. Supp. 2d 1249, 1259 (D. Wyo. 2004); *Fund for Animals v. Norton*, 294 F. Supp. 2d 92, 108–09 (D.D.C. 2003).

²⁸⁹ See *Int'l Snowmobile Mfrs.*, 340 F. Supp. 2d at 1259; *Fund for Animals*, 294 F. Supp. 2d at 108–09.

²⁹⁰ See Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,069; NAT'L PARK SERV., *supra* note 15.

²⁹¹ See 42 U.S.C. § 4332; see also Special Regulations; Areas of the National Park System; Yellowstone National Park; Winter Use, 78 Fed. Reg. at 63,069; *Int'l Snowmobile Mfrs.*, 340 F. Supp. 2d at 1259 (discussing depth of analysis required by NEPA with respect an agency's consideration of alternatives to proposed action that will adversely impact the environment and finding NPS failed to meet that standard); *Fund for Animals*, 294 F. Supp. 2d at 108–09 (invalidating NPS's 2003 rule regulating winter use at Yellowstone because NPS failed to take a hard look at alternatives to proposed rule that would adversely impact the environment, thereby violating the agency's obligation to consider alternatives under NEPA).

tions of the past have been attacked as arbitrary and over-intrusive, the NPS's regulations under the 2013 final rule allow little room for such challenges because they leave operational discretion in the hands of park administrators. Additionally, the policies embodied by the final rule are the result of an informed analysis that has taken account of adverse environmental impacts and considered at least three alternatives. Perhaps learning from the wide array of oversnow vehicle use policies that have saturated the past several decades, the NPS's implementation of the 2013 final rule provides an innovative framework that allows park operators and the oversnow vehicle industry to align their own policies with the environmentally-conscious policies of park officials, at minimal costs, spread over the course of several years.

As with the NPS rules and winter use plans promulgated in the past, this 2013 final rule will likely face challenges of its own. Although it would be impossible to extend the application of the Clean Air Act's Prevention of Significant Deterioration program to the managed use of oversnow vehicles at Yellowstone, challenges based on federal district court decisions finding earlier NPS rules to be in violation of the NPS's Organic Act or the National Environmental Policy Act may have a better chance of success. Arguably, any permitted use of oversnow vehicles has a significant adverse environmental impact, raising the issue of whether allowing such uses can be consistent with the NPS's conservation mandate, as well as whether consideration of alternatives has truly informed NPS's action. Nevertheless, this final rule is a fresh approach and one that seeks to make up for the shortcomings of its predecessors.

