

Federal lands: agencies need to assess the impact of personal watercraft and snowmobile use

BRIAN ESTES, U.S. General Accounting Office, Seattle Field Office, 701 Fifth Avenue, Suite 2700, Seattle, Washington 98104; estesb@gao.gov

Many of our national parks, forests, wildlife refuges, and other federal lands are a potential source of recreational opportunities for the estimated 14 million adults who used (in 1999) a personal watercraft, such as a jet ski, or a snowmobile. However, the recreational use of these vehicles is often criticized as causing damage to plants, wildlife, and other resources, as well as creating safety problems and conflicts with other visitors to federal lands. Determining the extent to which these vehicles should be allowed to operate on these lands is a contentious and challenging issue faced by federal land managers.

Although this issue draws considerable attention, relatively little reliable information has been assembled about the extent to which personal watercraft and snowmobiles are used on federal lands, the process by which decisions about their use are made, or the extent of monitoring being done in areas where their use is allowed. As a result, U.S. Representatives Bruce Vento and George Miller asked the U.S. General Accounting Office (GAO) to examine the following questions:

- To what extent are personal watercraft and snowmobiles used in federal units?
- What are the bases for agency decisions to authorize or prohibit the use of these vehicles?
- In federal units where their use is allowed, do restrictions exist on operations, and how are these restrictions enforced?
- To what extent have these federal agencies assessed the impact of such use?

The study reviewed use of personal watercraft and snowmobiles on lands managed by four major federal land management agencies—the Bureau of Land Management, the U.S. Fish and Wildlife Service, and the National Park Service in the Department of the Interior, and the U.S. Forest Service in the Department of Agriculture. To respond to these questions, GAO asked managers from each of nearly 1,200 federal units within the four agencies to answer a questionnaire via the Internet. These units include the lands and waters in such areas as national parks and monuments, national forests and recreation areas, wildlife refuges, and grasslands. Managers from more than 85% of these units responded. The questionnaire asked, among other things, about whether lands or bodies of water in their unit had the capacity for personal watercraft or snowmobile use; if so, whether prohibitions or restrictions were in place; and what information, if any, was available on the impacts of recreational use of these vehicles. In our questionnaire, we defined “capacity for use” as follows: for snowmobiles, it meant having suitable terrain and sufficient snow depth in an average year to operate these vehicles within a federal unit; for personal watercraft, it meant having any water on or adjacent to the lands administered by the federal unit that support or could potentially support their use. The resulting information, while not inclusive of every unit, is nonetheless more comprehensive than any other information available.

Background

In 1999, an estimated 10 million adults used a personal watercraft and an estimated 4 million adults used a snowmobile in the USA. Personal watercraft—often called by such names as “jet ski” and “waverunner”—are high-performance watercraft operated by a person sitting, standing, or kneeling on the vessel rather than sitting within the confines of a hull. The watercraft are highly maneuverable and are often used to perform stunt-like maneuvers. Some personal watercraft are capable of speeds exceeding 60 miles per hour. Snowmobiles allow users to travel across the snow into remote areas; some are capable of speeds exceeding 80 miles per hour.

The use of personal watercraft and snowmobiles has raised concerns about their impacts on the environment, public safety, and conflicts with other users. For example, according to studies by the U.S. Environmental Protection Agency and other federal and state agencies, both types of vehicles discharge up to 25-30% of their fuel (a combination of oil and gas containing numerous toxic compounds) unburned into the environment. Other studies have shown that the rapid movement and noise from these vehicles stresses wildlife. For example, researchers at Great White Heron National Wildlife Refuge in the Florida Keys noted that disturbances by personal watercraft contributed to poor reproductive success of nesting ospreys. Concerns have also been raised about the safety record of both personal watercraft and snowmobiles. For example, while personal watercraft make up less than 10% of the motorized boating vessels registered in the USA, they constitute approximately 40% of the vessels involved in accidents. Furthermore, on average, over 13,000 people are treated in emergency rooms for snowmobile injuries each year. In addition, some federal units have reported that the use of personal watercraft and snowmobiles has caused conflicts with other users of federal lands. For example, at the Deschutes National Forest in Oregon, Forest Service officials noted that a dramatic increase in both snowmobile use and nonmotorized uses, such as cross-country skiing and snowshoeing, created a conflict between these users for access to forest trails.

According to industry representatives, personal watercraft and snowmobiles currently being manufactured meet existing noise standards and either meet existing air quality standards or are only small contributors to air pollution nationwide. These representatives noted that manufacturers are also attempting to further address pollution and noise concerns through technological developments in engine design—producing more efficient, cleaner, and quieter machines. Furthermore, according to industry representatives, manufacturers are promoting safer vehicle operation. For example, representatives of the Personal Watercraft Industry Association said the association is promoting safety standards, including a minimum age requirement of 16 years old to operate personal watercraft. Similarly, the International Snowmobile Manufacturers Association has led campaigns to educate users on the safe operation of snowmobiles. In addition, both associations support buffer zones or trail designs that help to protect sensitive environmental areas and wildlife.

Principal findings

In fiscal year 1999, personal watercraft, snowmobiles, or both were used for recreation in 475 of the 1,018 (47%) federal units that responded to our questionnaire. This rate varies by agency, from 31% of the units managed by the National Park Service to 82% of units managed by the Forest Service. Personal watercraft are used in more federal units than are snowmobiles. Although personal watercraft and snowmobile users constitute a relatively small portion of total visitors to most units, during some seasons they may represent a significant portion of the total number of visitors to some units. For example, in Yellowstone National Park, snowmobile users make up more than 43% of the park’s winter visitors (Table 29.1).

Several factors determine whether personal watercraft or snowmobile use is permitted in a particular federal unit, including specific provisions in law and an

agency's regulations and policies. Specific provisions in federal law prohibit the use of these vehicles in some locations, such as wilderness areas, and specifically authorize their use in others, such as national recreation areas. If no laws specifically prohibit or authorize use, the federal agency responsible for managing the land and water makes such a determination, generally on a unit-by-unit basis. Regulations and policies for these use determinations differ substantially among the four agencies. The Park Service and the Fish and Wildlife Service generally disallow the recreational use of these vehicles unless it can be demonstrated that no harm would be likely to result to the unit's resources and environment. In contrast, the Forest Service and the Bureau of Land Management generally allow their use unless the unit manager clearly demonstrates potential harm. These contrasting policies result in markedly different percentages of units in which usage is prohibited (Table 29.2).

Agency / number of units responding to survey	Number of units reporting use			
	PWC only	SNMB only	PWC & SNMB	Total / Percentage
Bureau of Land Management (n=103)	23	21	35	79 (77%)
USFWS (n=419)	93	49	16	158 (38%)
NPS (n=328)	52	37	12	101 (31%)
U.S. Forest Service (n=168)	28	26	83	137 (82%)
Total (n=1,018)	196	133	146	475 (47%)

PWC = personal watercraft; SNMB = snowmobiles. "Use" includes both authorized and unauthorized use.

National Park Service officials noted that the number of units reporting use of snowmobiles exceeded the number of parks where such use is authorized for a number of reasons, including use on nonfederal lands, such as county and state roads, located within a unit. Furthermore, in the case of personal watercraft, NPS officials noted that the units reported use that occurred prior to the Park Service's April 2000 regulation that prohibited, pending further evaluation, personal watercraft in all but 21 parks.

Table 29.1. Extent of use, by agency and vehicle type, Fiscal Year 1999.

Agency / number of units with capacity	Number of units reporting total prohibitions			
	PWC only	SNMB only	PWC & SNMB	Total / Percentage
Bureau of Land Management (n=90)	2	0	0	2 (2%)
USFWS (n=350)	127	37	56	220 (63%)
NPS (n=182)	66	33	13	112 (62%)
U.S. Forest Service (n=155)	28	4	1	33 (21%)
Total (n=777)	223	74	70	367 (47%)

PWC = personal watercraft; SNMB = snowmobiles. Agencies may not have clear authority to prohibit use in all areas of their units where the capacity for use exists.

Table 29.2. Total prohibitions of use by agency and vehicle type.

Other factors also determine whether use will be allowed or not. For example, in certain cases, federal agencies defer, primarily to states, the decision about whether or not to allow personal watercraft or snowmobile use in all or part of an individual federal unit. In other cases, a state may have some authority to make this decision, such as through an easement or right-of-way agreement. In all, entities other than the federal agency make the decision in more than half of the units on which usage is allowed (Table 29.3).

Agency / number of units with use	Number of units reporting lack of authority			
	PWC only	SNMB only	PWC & SNMB	Total / Percentage
Bureau of Land Management (n=79)	48	5	6	59 (75%)
USFWS (n=158)	74	11	24	109 (69%)
NPS (n=101)	28	11	4	43 (43%)
U.S. Forest Service (n=137)	67	3	19	89 (65%)
Total (n=475)	217	30	53	300 (63%)

PWC = personal watercraft; SNMB = snowmobiles.

Table 29.3. Units reporting the lack of authority to control use.

Approval for recreational use of personal watercraft or snowmobiles on federal lands generally comes with restrictions. For example, use might be limited to certain times or areas, and operators might have to meet certain age requirements or observe certain speed limits. In most cases the restrictions come from state laws and regulations that have been adopted by the federal agency or an individual unit. In many cases, enforcement actions are a shared responsibility among federal, state, and local officials. Even with this shared responsibility, however, a significant number of federal units reported that enforcement activity was limited because of personnel shortages.

Managers of individual federal units often do not have any information on the impacts of personal watercraft and snowmobiles on their unit's resources and environment. A variety of laws and executive orders authorize the federal land management agencies to monitor the impact of using recreational vehicles on natural resources, safety, and other users of federal lands and waters. However, about 60% of the federal units that have use reported that they have not collected information on the effects of that use. In addition, of the remaining 40% that have collected such information (Table 29.4), about half said the information was not adequate for determining how personal watercraft and snowmobile use should be managed. When federal land management agencies and others have completed studies on the impact of personal watercraft and snowmobile use, the results have raised concerns about their adverse effect on the environment, public safety, and conflicts with other users. Agency officials generally attributed this lack of information to the low priority the agencies have given to monitoring the effects of these vehicles. According to officials of all four agencies, monitoring has received a low priority because, historically, only a few units have experienced intensive use of these vehicles.

Conclusions

Among the four major federal land management agencies, the National Park Service has done the most to control the use of personal watercraft and snowmobiles within its units. Recently, the Park Service has issued stricter policies on where personal watercraft and snowmobiles can and cannot be used within its units. Also, the Park Service (for both types of vehicles) and the Forest Service (for snowmobiles) have recently emphasized that existing executive orders, regulations, and laws require the monitoring of these vehicles' impacts where use is allowed. However, each of the four land management agencies has continued to allow the use of these vehicles in many of its units with little or no information on the effects, if any, these vehicles have been having on its units' resources and environment. While we recognize that the agencies have limited resources, in our opinion it is difficult to properly manage the use of these vehicles if units have no or inadequate information on their impact. Furthermore, without such information, these agencies are not in compliance with the monitoring requirements of existing executive orders concerning snowmobiles and, concerning personal watercraft, are not assured that they are fulfilling their responsibility to protect the lands and waters they manage from adverse impacts. Because the type and extent of information needed to adequately monitor the use of these vehicles is not clearly defined in existing executive orders, regulations, and laws, federal land management agencies have the flexibility to design monitoring requirements that fit the needs of their individual units. These requirements can range from detailed scientific studies that could be applied to all units (such as studies of vehicle emissions) to individual staff observations. However, it is essential that each agency and its unit managers have enough information to make knowledgeable decisions about the recreational use of these vehicles.

Agency / number of units with use	Number of units reporting some information collected		
	Studies at the unit or elsewhere	Personal observations only	Total / Percentage
Bureau of Land Management (n=79)	4	20	24 (30%)
USFWS (n=158)	9	43	52 (33%)
NPS (n=101)	25	30	55 (54%)
U.S. Forest Service (n=137)	26	54	80 (58%)
Total (n=475)	64	147	211 (44%)

Table 29.4. Information on impacts, by agency and by type of information.

Recommendations

GAO recommended that the Secretaries of the Interior and of Agriculture ensure that, where snowmobile and personal watercraft use occurs on federal lands, agencies under their jurisdiction monitor such use to determine what impact, if any, these recreational vehicles are having on natural resources, public safety, and the visiting public. This monitoring should be designed to provide sufficient information to make knowledgeable decisions on the impact of these vehicles in individual units. In addition, once this information is collected, it should be used in any future decisions on whether personal watercraft and snowmobiles are to be allowed on federal lands and waters, and if so, how their use should be managed.