

FISHING BRIDGE: 25 YEARS OF CONTROVERSY REGARDING GRIZZLY BEAR MANAGEMENT IN YELLOWSTONE NATIONAL PARK

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Abstract: Scientists and managers want to use the best available information to make decisions that affect natural resources. However, we believe the case history of research and management of the grizzly bear (*Ursus arctos*) in the Fishing Bridge area of Yellowstone National Park typifies the frequent failure of effective information transfer between scientists, managers, and the public. For 25 years, plans to reduce human influences on grizzly bears and their habitat have been revised or postponed, causing grizzly bear advocates to criticize managers' intent and commitment. The time lag between scientific data collection, analysis, and information transfer to decisionmakers as well as changes in both the biological and socio-political environment hindered progress toward what was clearly intended as a benefit to the ecosystem's population of grizzly bears. This case study reaffirms the need for constant monitoring and evaluation of progress toward stated objectives and points to the need for increased flexibility in federal agencies' application of decision-making strategies. We suggest that agencies become familiar with techniques such as adaptive management as a method to adjust to constantly changing conditions.

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Scientists, managers, and interested publics want the best available information used when decisions are made. A common assumption is that better information will lead to better decisions. Unfortunately, the case history of planning and management at Fishing Bridge in Yellowstone National Park (YNP) illustrates how this process sometimes fails to happen. Major plans to reduce human influences on grizzly bears and their habitat were voiced in the 1960s and written in 1972 (Natl. Park Serv. [NPS] 1973); however, these plans failed to include measurable objectives and monitoring methods, and promised management actions have not always been implemented. The results of those actions that were implemented are thus difficult to measure and evaluate. Consequently, as of 1996, grizzly bear advocates both inside and outside the government continue to question the commitment of managers to the goals outlined 25 years ago. In the meantime, the state of biological knowledge, the state of the grizzly bear population and its habitat, and the socio-political climate have changed. We document the original goals, progress toward those goals, and reasons for the perceived—or real—lack of progress on behalf of grizzly bear conservation. We also document the lack of recognition by biologists and managers of adaptive management as a tool to permit flexible decision making.

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STUDY AREA

Yellowstone National Park, established in 1872, encompasses 889,561 hectares and is located primarily in the northwestern corner of Wyoming in the western United States (Fig. 1). The Yellowstone ecosystem, however, encompasses >2.4 million hectares (U.S. Fish and Wildl. Serv. [USFWS] 1993) and is occupied by 280–610 grizzly bears (Eberhardt and Knight 1996). The Fishing Bridge area is a long-established visitor-use area in the core of the greater Yellowstone grizzly bear recovery area. Located on the northwestern shore of Yellowstone Lake, the area is named for the historic bridge that crosses the Yellowstone River (Fig. 1). During the first half of this century, major concession and camping facilities were built at Fishing Bridge. About 3 km southwest of Fishing Bridge is the Lake area, another major development with numerous facilities. Southwest of Lake 3.2 km is Bridge Bay, a 1960s development that includes the park's largest campground (420 sites) and a marina (Fig. 1).

MANAGEMENT AND RESEARCH IN THE 1970s AND 1980s

In the late 1960s, the National Park Service revised its resource management policies based on recommendations of the Secretary's Advisory Board on Wildlife Management in the National Parks (Leopold et al. 1963). The new policies influenced the decision to close

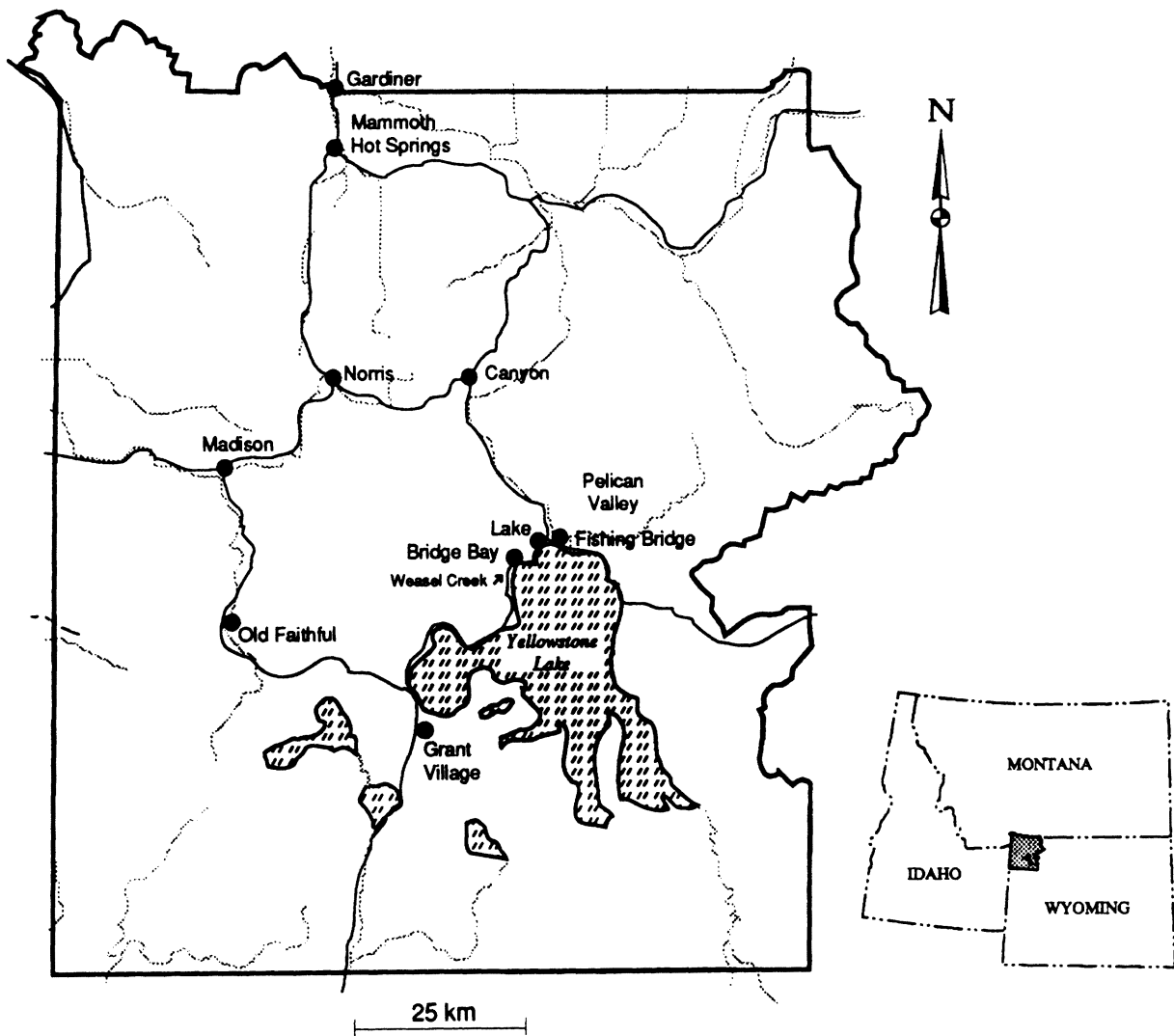


Fig. 1. Study area: Yellowstone National Park.

Yellowstone's garbage dumps where bears had congregated for nearly 70 years. That decision and the resulting scientific and public controversy, as well as the decision's ramifications, have been discussed elsewhere (Cowan et al. 1974, Craighead 1979, Schullery 1980).

In 1972 a master plan for Yellowstone (NPS 1973) outlined general goals for management of park resources and visitor facilities and services. In a number of sensitive resource areas, it was determined that historic developments were inappropriate. Such was the case for Fishing Bridge, which at that time included a visitor center, 285 tourist cabins and associated facilities, a cafeteria, general store, service station and auto repair shop, a 310-site NPS campground, a 360-site concessioner-operated recreational vehicle (RV) park, and employee dor-

mitories and other housing. The master plan (NPS 1973:31) included specific management objectives for Fishing Bridge, although there was no immediate plan to implement this goal:

Because of proximity to choice grizzly bear habitats in the Pelican Valley and in the lake outlet area...overnight facilities should be phased out of the Fishing Bridge area. The area...is superb ecological environment and should be restored to natural conditions.

In 1975 the grizzly bear in the lower 48 states was listed as threatened under the Endangered Species Act (16 U.S.C. 1531–1544), reflecting the high level of concern for this species. Research on Yellowstone's grizzly bears began in 1959, but in the early 1970s this

research was assigned to a newly created independent Interagency Grizzly Bear Study Team (IGBST).

The IGBST initiated a wide variety of scientific studies, many of which had implications for the Fishing Bridge issue. When the team mapped areas used by grizzly bears in the park, the Fishing Bridge region, including Pelican Valley to the east, was determined to be an area of high-density grizzly bear concentration (Knight et al. 1977, 1980). Another study investigated bear use of spawning cutthroat trout (*Oncorhynchus clarki*) in streams tributary to Yellowstone Lake (W.P. Hoskins, IGBST, YNP, Wyo., unpubl. data, 1975). Hoskins found only 11 of 124 tributary streams with a trout spawning run that were fished by bears. Seven streams were in the backcountry, but 4 were in or adjacent to the Grant Village developed area, another park development on the southwestern shore of Yellowstone Lake. Hoskins documented no bear fishing activity in spawning streams along the northwestern shore of Yellowstone Lake except in Pelican Creek, where bears appeared to be attracted by longnose suckers (*Catostomus catostomus*) (Knight et al. 1976). The IGBST, however, identified trout spawning runs as “quite a significant food source for grizzly bears” because of the high protein value that the fish provided bears in the spring and early summer (Knight et al. 1975:40).

The IGBST also examined the high number of bear mortalities and relocations associated with human developments and human food sources (Mattson et al. 1987, Knight et al. 1988). They concluded that decreasing the number of grizzly bear deaths was a priority, especially deaths of females and subadults. Areas where the mortality could be controlled included garbage dumps, unsanitary camps, commercial developments, and improperly placed trails and campgrounds (Knight et al. 1981). In response, most management actions taken in the park and surrounding areas throughout the 1970s were designed to reduce bear-human conflicts. Grizzly bear hunting outside Yellowstone ceased in 1975, and unnatural bear attractants in the park were managed by closing garbage dumps, requiring better food storage, and strictly enforcing rules against humans feeding bears.

In the early 1980s, data suggested that the grizzly population contained as few as 30 breeding females among an estimated 197 bears (Knight et al. 1982) and that the “Yellowstone...population most likely cannot sustain its present level unless female survival rates improve” (R.H. Wauer, Assoc. Dir. Nat. Res., NPS, Washington, D.C., 1982). Considerable public

mistrust of the NPS remained in the aftermath of the 1970s controversial garbage dump closures and subsequent high levels of bear removals (Chase 1986). Consequently, the number of bears and bear deaths dominated the debates over bear management. And, despite scientists’ and managers’ statements that habitat conservation was equally vital to the survival of the bear population, facility development in the park continued while habitat restoration was postponed.

The main park development issue was at Grant Village, where a visitor center, marina, and campground had been developed in the late 1950s and 1960s. The Grant Village plan and accompanying environmental assessment was released in 1979 (NPS 1979) and called for replacing deteriorated concessioner facilities located in other, sensitive resource areas with modern facilities at Grant Village. The USFWS questioned the need for such extensive development in occupied grizzly bear habitat and expressed concern that new facilities at Grant Village would negate any benefits gained from removal of facilities at Fishing Bridge (NPS 1982:App. A). However, they concluded that the proposal would not likely jeopardize the survival of the grizzly bear population. This opinion was based upon the assumption that facilities would be removed from Fishing Bridge and that the area would be restored to natural conditions.

Also in the early 1980s, Yellowstone issued a plan and environmental impact statement (EIS) for its grizzly bear management program (NPS 1983), which was based on data collected prior to and immediately following the closing of the garbage dumps (Craighead and Craighead 1971; Cole 1973, 1974; Cowan et al. 1974; Knight et al. 1975, 1976, 1977, 1978, 1980, 1981). The plan institutionalized management of bear-human conflicts, established a goal “to place greater emphasis on preservation of both the bear population and its habitat” (NPS 1983:1), and reiterated the intent to close facilities at Fishing Bridge. The plan also described visitor-use restrictions in prime grizzly bear habitat, including Pelican Valley. Backcountry-use restrictions were particularly controversial (Beck and Junkin 1984), and, among some of the public, sentiment grew that the park was more concerned about bears than about people.

In 1983, NPS began the environmental analysis necessary to remove facilities at Fishing Bridge and to examine possible replacement facilities at Lake and Bridge Bay. Under the 1979 Grant Village consultation agreement with the USFWS, the NPS campground at Fishing Bridge was to close by 1985 and the RV park by 1986. (Most

concessioner cabins had already been removed from Fishing Bridge by the early 1980s because of their deteriorated condition.) However, external factors continued to influence previous commitments made by the NPS and expected by the USFWS.

During public meetings about the development plan, park representatives faced public outrage and anger about the Fishing Bridge part of the proposal. For the first time, people seemed to understand that NPS truly meant to remove this long-established development. The plan for Fishing Bridge, Lake, and Bridge Bay stalled while NPS resource managers summarized the scientific evidence of the ecological importance of the area, particularly to grizzly bears, for the NPS Director (NPS 1984). Ostensibly prepared to "build a better biological justification" (C. Servheen, quoted in O'Gara 1984:3) for removing the historic and traditionally popular visitor facilities at Fishing Bridge, this document tried to sell proposed management actions to the public and high-level politicians. The report included a history of grizzly bear control actions and focused on bear habitat analysis. Despite the close proximity of the Lake, Bridge Bay, and Fishing Bridge developments, these areas were separately analyzed with regard to their relative contributions to bear management actions and habitat (NPS 1984). This separation of the 3 developed areas would assume more importance as the planning process dragged on.

The report concluded that the Fishing Bridge area was the highest single mortality sink for grizzly bears in Yellowstone National Park (NPS 1984). The habitat data demonstrated that vegetative diversity was significantly greater in the Fishing Bridge area than in most other areas of the park. Although the report points out that a study of vegetation does not fully indicate ecological diversity (NPS 1984:34), the added value of trout spawning streams was treated inconsistently. The importance of fish spawning runs in the Fishing Bridge and Pelican Creek areas was highlighted (in contradiction to Hoskins' findings), and although data were available, the report did not address spawning streams in the Lake, Bridge Bay, or Grant Village areas. The report concluded that Fishing Bridge was ecologically important to bears and that the area should be restored to natural conditions. The report went on to state that "it was unlikely that bears attracted to Fishing Bridge would simply go next door" (i.e., to the Lake or Bridge Bay areas) if Fishing Bridge facilities were removed because the habitat surrounding those areas was not high quality grizzly habitat "nor was the area known to be on a travel route" for bears (NPS 1984:109).

Despite park management's efforts to promote the biological justification for removing facilities from Fishing Bridge, public outcry against the plan continued. Managers abandoned the comprehensive planning effort for the entire northwestern corner of the lake and focused instead on Fishing Bridge alone. Along with widespread opposition to closing the campground, the local public was concerned about adverse economic impacts on the gateway community of Cody, Wyoming (Beck and Junkin 1984). Discussions among park managers, the NPS Director, and the Wyoming congressional delegation resulted in another delay while NPS assessed the socio-economic effect of removing the Fishing Bridge development. The NPS also agreed to consider specific alternatives in an environmental impact statement, including relocating the Fishing Bridge campground to a comparable area nearby along the northwestern lakeshore. This commitment resulted in the Weasel Creek alternative that would later become a focus of the continuing debate.

These delays meant that NPS could not fulfill its plan that the Fishing Bridge camping facilities would be closed by 1986. Consequently, NPS reentered consultation with the USFWS and prepared an interim management plan for operations at Fishing Bridge and Grant Village (NPS 1986). The USFWS stated that they considered the plan a temporary action and *not* a long-term solution to bear-human conflicts at Fishing Bridge (NPS 1986:App.). They also encouraged NPS to proceed with analyzing the cumulative effects of park facilities on grizzly bears.

In retrospect, it is clear that park managers were caught between user groups wishing to retain the Fishing Bridge facilities and grizzly bear advocates wishing to see the facilities removed. While the managers likely felt it prudent and reasonable to modify their original proposal of total facility removal, biologists and conservation groups pressured NPS to stick to the original plans and commitments.

Preparation of the Fishing Bridge plan began in 1985. The NPS claimed use of the best available technology in the environmental analysis (NPS 1987) by using a cumulative effects model (CEM) to predict outcomes of various alternative actions (Weaver et al. 1986). The complex model was in the early stages of development when used for the Fishing Bridge plan. The CEM assessment predicted 2 outcomes: the number of grizzly bear mortalities associated with the proposed alternatives and prime equivalent acres of habitat that would be lost, altered, or restored as a result of each alternative. This impressive-looking analysis reinforced the suggestion

that the Fishing Bridge area was superior to all other areas of the park, even those as close as Lake and Bridge Bay, in its positive value as grizzly bear habitat and its negative impact (mortalities) on bears (NPS 1988:222–223).

Meanwhile, Reinhart and Mattson (1990) repeated Hoskins' study between 1985 and 1987. They found that grizzly bear use of cutthroat trout spawning streams had increased significantly around Yellowstone Lake. Ten spawning streams used by bears were located between Fishing Bridge and Weasel Creek, just south of Bridge Bay. Unfortunately, this research went unnoticed by planners and managers working on the draft Fishing Bridge plan.

The draft plan was released in 1987, and more than 3,000 public comments were received voicing a variety of opinions (NPS 1988). Subsequently, NPS's final plan (NPS 1988) was a compromise: certain Fishing Bridge facilities, most controversially the NPS campground, would be removed, while other facilities (store, RV campground, visitor center) would remain. The plan also directed the replacement of the 310-site Fishing Bridge campground if, based on multi-year occupancy formula at the remaining Yellowstone campgrounds, more campsites were needed. Replacement would most likely be at an undeveloped site 3.2 km south of Bridge Bay next to Weasel Creek—recently identified by Reinhart and Mattson (1990) as a trout spawning stream used by bears. Managers also concluded that facilities such as employee housing and the service station and auto repair shop could be replaced in the Lake area without affecting grizzly bears. Unfortunately, the CEM analysis that led to this decision lacked the added habitat value of trout spawning streams, elk (*Cervus elaphus*) calving areas, or other high protein food sources for bears.

Not surprisingly, few people were satisfied with the compromise. Residents of Cody, Wyoming, and their congressional delegation claimed that the park was placing bears before people, while environmentalists and bear biologists expressed frustration that prime grizzly habitat at the core of the Yellowstone ecosystem would still be shared by millions of park visitors. The USFWS, in their biological opinion on the Fishing Bridge plan, agreed that the modified plan would not jeopardize the grizzly bear population, but insisted that NPS agree to complete (in a detailed timetable) a number of mitigating actions, including additional restoration of grizzly bear habitat. The decisions and promises made in the 1988 document continued the Fishing Bridge controversy into the 1990s.

THE 1990s

Although the NPS campground at Fishing Bridge was closed following the 1989 camping season, promised removals of other facilities were placed on hold until the park could complete the planning for the Lake and Bridge Bay areas that began in 1988 but was delayed due to that year's major wildfires. Because of the fires, commitments made by NPS in 1988 for restoration of grizzly bear habitat were no longer park operational priorities.

In 1991 we were assigned the responsibility for completing plans and ensuring environmental compliance for the developments at Lake and Bridge Bay and for replacement of the Fishing Bridge campground (as the occupancy formula at remaining campgrounds had been met). As we were not previously involved with the Fishing Bridge issue, we reviewed current scientific knowledge and management actions that were in place or promised. Recent data indicated that the Yellowstone grizzly population was stable to slightly increasing in numbers, as opposed to the decreasing trend reported in the early 1980s (Eberhart et al. 1994); however, scientists called for caution in interpreting this trend as it could be short-term. We found that data on bear-human conflicts and associated bear removals from the Fishing Bridge area were neither collected or recorded separately from those in the Lake and Bridge Bay areas. Records (NPS annual bear management summary reports, YNP, Wyo., unpubl. data) showed that nuisance bears were often associated with >1 development, and trapping sites were chosen primarily for human safety reasons and expediency rather than location of conflicts. Data indicated that bears foraged throughout the Fishing Bridge, Lake, and Bridge Bay areas, regularly traveled the lakeshore, and were particularly attracted in the spring by spawning cutthroat trout (Reinhart and Mattson 1990). We concluded that the 1984 separation of the 3 developments for analysis was subjective; biologically they were 1 area. Gunther (1994) documented a shift in the type and location of bear-human conflicts from food-conditioned bears in developed areas before 1983 to bears who were habituated to human activity, but not food-conditioned, in backcountry areas after 1983. Park records also suggested that the total number of bear trappings and removals had been reduced. Together, these data suggested that continued emphasis on bear management actions and bear mortalities, although important, was disproportionate to what we believe is the equally important need to conserve and restore habitat necessary for preserving the grizzly bear population.

We found that the CEM analysis used in the Fishing Bridge plan (NPS 1987, 1988) to compare grizzly bear habitat quality among various areas was based only on vegetative quality and, thus, undervalued areas with spawning streams. Additionally, Mattson (IGBST, pers. commun., 1991) stressed that habitat capability is just one part of a cumulative effects assessment. Such an assessment should evaluate total and interacting effects of human activities on the bear population and, most importantly, how those total effects relate to allowable thresholds for bear habitat and mortalities—thresholds that have yet to be established for grizzly bears in the greater Yellowstone (or any other) ecosystem. Also, the model was designed for landscape-scale use for bear management units (Winn and Barber 1986). It appeared to us that managers did not understand this, and there was (and continues to be) pressure to use the model for site-specific comparisons and incremental analyses.

The team we established to finish the plan for the Lake and Bridge Bay areas reexamined data and determined that between 1986–90 the Lake and Bridge Bay areas had become the park's largest source of bear–human conflicts and associated bear management actions and removals (NPS annual bear management summary reports, YNP, Wyo., unpubl. data). The draft Lake and Bridge Bay plan (NPS 1992) reiterated plans to move facilities from Fishing Bridge to Lake, illogically suggesting that activities detrimental to bears at Fishing Bridge were acceptable at nearby Lake. This contradiction was noted by both park staff and the public (NPS 1993). Both biologically and in the public's perception, the situation had changed, but NPS was again hampered by the rigidity of previous decisions and consultations with the USFWS on the threatened grizzly bear population. To mitigate ongoing effects of human use on bears and their habitat, the park proposed additional measures to separate bears and people in lakeshore developed areas (NPS 1993:30–34) and agreed to restore several abandoned service areas to natural conditions. The USFWS concurred with the park's plans, but again stated that they expected commitments made by NPS in the 1988 Fishing Bridge plan (habitat restoration, in particular) to be completed. The USFWS once again expressed concern over the long-term juxtaposition of humans and high-quality grizzly bear habitat along the shore of Yellowstone Lake (NPS 1993:App. F).

While incremental implementation of both the Fishing Bridge and Lake and Bridge Bay plans occurred, we began the planning process for replacement of the Fishing Bridge campsites. Because the fires of 1988 had altered vegetation, wildlife habitats, and the aesthetics of other potential campsite replacement areas mentioned in the

1988 Fishing Bridge plan, we reexamined the entire park to find a location where campsites would affect grizzly bears and other resources less, yet still serve park visitors. The planning team used GIS (geographic information system) data to map superior quality grizzly bear habitat and other sensitive resources, delineating a number of areas to consider. The areas were inspected by a team of biologists, including a member of the IGBST; this team suggested that park managers reject a new Weasel Creek campground, now recognized as located on a trout spawning stream used by grizzly bears, in favor of adding campsites to locations within or adjacent to existing park campgrounds. This approach would result in no new developments, thus avoiding new point sources for bear displacement and potential mortality (Mattson et al. 1987) and minimizing bear habitat loss. Park managers agreed and directed us to proceed.

As we prepared the EIS for the new Fishing Bridge campsite replacement plan, we reviewed many of the long-standing commitments related to park operations and habitat restoration outlined in the 1988 Fishing Bridge plan (NPS 1988). We reexamined the rationale behind those commitments, many of which had resulted from the CEM and its prediction of positive environmental effects—hectares of habitat restored and bears gained. However, because many of the promised actions had not occurred, the gains were on paper only. We reevaluated the existing data on grizzly bears and their habitat use and assessed the results of management actions that had been implemented. We also reentered formal consultation with the USFWS and had detailed discussions with them, park staff, and various publics about the long trail of connected actions and promises associated with Grant Village, Fishing Bridge, Lake, Bridge Bay, and Pelican Valley.

In 1994, nearly 25 years after the closure of park garbage dumps and outlining intentions for Fishing Bridge in the park's master plan (NPS 1973), the NPS released the draft EIS for Fishing Bridge campsite replacement (NPS 1994). The plan attempted to finalize the remaining restoration goals at Fishing Bridge and to replace campsites. Updated bear data were used to refine the proposals to enhance grizzly bear habitat effectiveness at Fishing Bridge and in Pelican Valley. The plan reiterated the commitment to relocate the Fishing Bridge service station and employee housing to Lake and to monitor the effects of the facilities remaining at Fishing Bridge. In many cases, actions were already underway or tied to specific funding sources, enhancing their likelihood of happening.

Public comment on the plan was minimal, and controversy was nearly non-existent. While we would like to

believe that a rational and adaptive approach, incorporating up-to-date information with political and economic realities, resulted in the lack of controversy, we doubt this was the case. In the intervening years the Yellowstone grizzly population had increased in numbers (Eberhardt et al. 1994), and ecosystem managers began discussing delisting the grizzly bear. New and more pressing controversies—limiting visitor use, wolf (*Canis lupus*) reintroduction, bison (*Bison bison*) management, and a proposed gold mine on the park's border—dominated Yellowstone issues. Still, some park and USFWS staff and others in the environmental community continue to express dismay that park managers have strayed from the original proposal to remove all facilities from Fishing Bridge.

Park managers may be rationally and appropriately adapting their original management goal to the changing biological and socio-political situation, but critics are legitimately concerned that adaptive management (Walters 1986) may be used as an excuse not to proceed with plans and commitments previously determined in a fair and objective process of environmental assessment and public input, as required by the National Environmental Policy Act (NEPA [42 U.S.C. 4321–4347]). As of 1996, the campsite replacement plan had not been finalized.

DISCUSSION AND RECOMMENDATIONS

This case study reviews common challenges to planning and management theory. A primary goal of research is to enhance scientific understanding by testing hypotheses in an objective manner. Management, on the other hand, is the art of minimizing conflict between constituencies with admitted biases and subjective desires. Thus, wildlife researchers and managers are key players in both creating and resolving controversial resource management issues, and these issues must be resolved within agencies as well as through public debate. The public takes its role in agency decision making (through the NEPA process) seriously and expects its voice to be heard. The public also seems to view agency decisions like judicial rulings and expects decisions to be implemented quickly and exactly. Because geographic and institutional separation often hinders communication, we recommend that scientists and managers seek better ways to communicate frequently and repeatedly about their plans, objectives, and progress, not only among themselves but also with the public.

This case study is an example of how the lag time between data collection, analysis, and publication of research

results can lead to decisions made without current knowledge. It is clear to us that planners and decisionmakers, operating on data from the 1960s and early 1970s plus public angst about dead bears, continued to act through 1988 on the premise that the primary need was to eliminate sources of human-related food attractants for grizzly bears, even though subsequent analysis of the data showed this problem to be largely resolved by 1983 (Gunther 1994). Scientists' understandable reluctance to release results or recommend actions based on studies still in progress contributes to this time lag. Managers, on the other hand, are often unwilling to change management alternatives or direction based on new data when it appears to contradict previously published work (or dogma) upon which they have based previous decisions.

We believe that major policy changes should be accompanied by testable hypotheses. Such hypotheses could help focus managers' understanding of the ramifications of their decisions. We agree with the recommendation of Hollings (1978) that use of tools such as the cumulative effects model are to be encouraged as a means of incorporating newer technology and research into management strategies. However, we are concerned that managers, biologists, and other interested parties fail to understand the limitations of the CEM when used as a predictive tool. Participants in a public decision-making process must develop an understanding of what such tools can and cannot do. Use of the CEM and similar tools, especially in early applications, should also be accompanied by scientists' best interpretation of other data, which may be less quantitative.

This case study reaffirms that the costs of changing management direction are many, and they are not just financial. Loss of time and institutional reputation are legitimate concerns of managers. External and internal forces may make it impossible for managers to change course once some decisions are made. However, American laws and public policies continue to make the loss of an endangered species a serious, undesirable outcome. Certainly there are conflicts between the adaptive management approach and the traditional institutional rigidity of federal land and wildlife management agencies responsible for maintaining grizzly bears in the Yellowstone ecosystem. However, we believe adaptive management is underused due to lack of awareness and lack of experience with implementation.

We believe that at the heart of the Fishing Bridge issue is the dilemma of whether to follow through with plans as originally determined or to correct the course in the face of more data, new interpretations of that data, or changing public priorities. Clearly bear-human conflicts

and associated bear mortalities have decreased in Yellowstone National Park (Gunther 1994). Restoration of prime grizzly habitat at Fishing Bridge has been partially accomplished, and NPS maintains that it intends to proceed with more. Debate continues over whether management at Fishing Bridge has accomplished enough. The NPS mandate to provide for both public enjoyment and resource protection will continue to result in debate over the proper balance. The complexity of the natural world does not lend itself to quick or static answers about how to manage for grizzly bears and humans. But if we hope to share the same ecosystem with bears over the long term, we must continually strive to find ways for scientists, managers, and the public to work together more effectively to meet common goals.

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